

Behaviour change initiatives to promote a healthy diet and physical activity in European countries

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Summary

The health benefits of physical activity and a healthy diet are well known, yet large proportions of modern societies do not meet recommended guidelines for these behaviours. Intervention programmes aimed at changing activity and eating behaviours, ranging from individual-level approaches to community-wide campaigns in effects on physical activity, diet and weight loss (Norman *et al.* 2007). A first step in healthy behaviour promotion aimed at behaviour change is to identify the health problems of a population that are serious and/or prevalent enough to justify spending time, money and other resources (Brug *et al.* 2005). Many behaviour change interventions aim to tackle obesity, the prevalence of which is still rising in many European countries, which is positively associated with chronic diseases affecting the health and wellbeing of Western populations. But other common risk factors for chronic disease, such as high intakes of salt or saturated fatty acids, are also the targets of health intervention programmes in a number of European countries.

This paper provides examples of intervention programmes, conducted by government and other organisations, from eight European countries that aim to change behaviour in relation to diet and physical activity. It summarises the outcomes of a workshop held during a meeting of the European Nutrition Foundations (ENF) Network in London, UK, on 25 June 2012.

Keywords: behaviour change, diet, European Nutrition Foundations, health, physical activity

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Austria

The Austrian Nutrition Action Plan (NAP.e) and its activities

The Austrian National Nutrition Action Plan (NAP.e), which was launched in 2011 by the Ministry of Health, follows a 'health in all policies' strategy (bmg.gv.at/home/Schwerpunkte/Ernaehrung). It combines Austria's nutrition policies and strategies for the first time and is designed to establish and maintain a structured, continuous dialogue on nutrition among the general public. It aimed to implement effective measures to reverse the trend of over-, under- and malnutrition, to reduce the rising overweight and obesity rates by 2020, and to lower the prevalence of nutrition-associated chronic diseases.

It is believed that setting oriented and targeted measures will lead to sustainable changes in the food consumption patterns of Austrian citizens. The aim was that the healthier choice will become the easier choice through a planned implementation of the NAP.e, which addresses both individual behaviour and the wider environment. The NAP.e sets food policy goals for Austria by offering an overview of international and European developments and identifying primary target areas. The NAP.e is not a static document, but a rolling strategy and action catalogue. The goals and issues covered in the NAP.e are regularly adapted (*i.e.* on an annual basis) and existing measures are continuously reviewed and updated.

After publication of the first draft of the action plan in early 2010, stakeholders and the general public had the opportunity to send their comments to the Ministry of Health during a consultation process. This consultation identified the urgent need for targeted and congruent measures in nurseries, kindergartens and schools. As a result, current national activities with regard to nutrition education and information provision specifically target the population groups of infants, children, adolescents, and pregnant and nursing women, as well as the socially disadvantaged and elderly people. The NAP.e is also focusing on the settings where these groups can readily be reached and on the preparation and development of tools to support information provision.

NAP.e activities

Food pyramid

In 2009, a new national food pyramid for Austria, designed to help consumers improve their eating habits, was agreed. This version for the general public was adapted for pregnant women following approval

by the National Nutrition Commission (NEK, see later) in 2011, and in the same year, a comic style illustration of the food pyramid was published for children. A national food pyramid for adolescents and elderly people will be published shortly (bmg.gv.at/home/Schwerpunkte/Ernaehrung/Empfehlungen/DIE_OeSTERREICHISCHE_ERNAeHRUNGSPYRAMIDE).

School catering

An important project within the NAP.e has been the development of uniform, feasible guidelines for school catering. Since the beginning of 2012, the implementation of these guidelines has taken place as part of the initiative 'Our School Catering' ('Unser Schulbuffet'), a cooperation between the Federal Ministry of Health and the Austrian Agency for Health and Food Safety (www.unerschulbuffet.at).

Eat right from the Beginning

The project 'Eat Right from the Beginning' – a cooperation between the Ministry of Health, the Federation of Austrian Social Insurance and the Austrian Agency for Health and Food Safety has also been implemented. This is the first time that consensus guidelines for complementary foods for young children have been published (www.richtigessenvonanfangan.at).

Salt Reduction

An initiative of the Ministry of Health, together with the Industrial Bakers of Austria to improve the nutrition of the Austrian population, is the Salt Reduction Program 'Less Salt is Healthier' ('Weniger Salz ist g'sünder'). This initiative aims to reduce the salt content in bakery products by 15% until 2015 (bmg.gv.at/home/Schwerpunkte/Ernaehrung/Kampagne_Weniger_Salz_ist_g_suender).

National Nutrition Commission [Nationale Ernährungs Kommission (NEK)]

NEK was set up in November 2010 to advise the Federal Minister of Health in all aspects of health and consumer-related food policy. The members act as important disseminators to ensure a direct flow of nutrition and health information to the relevant target groups. They give nutrition policy actions and issues in Austria 'a face' for the first time. This commission provides scientific advice for the development of strategic measures and actions, and monitors their progress.

France

Diet and health: evidence and recommendations

In France, as in many other developed countries, the link between food behaviour and health emerged as a public concern during the late 1970s and early 1980s. The first nutritional dietary guidelines were published in 1981 (Dupin 1981).

Following national surveys based on household food purchases, large surveys of the food consumption of individuals were introduced in the late 1990s [Association Sucre Produits sucrés Communication Consommation (ASPCC), Etude Individuelle et Nationale sur les Consommations Alimentaires (INCA)] to assess dietary habits of the French population, followed by more surveys in the 2000s (INCA 2, Étude Nationale Nutrition Santé (ENNS), Comportements et Consommations Alimentaires en France (CCAF)). The latest food survey of individuals initiated in France is an Internet-based survey (Nutrinet-santé), which aimed to follow a cohort of 500 000 individuals. It considers:

- eating behaviours and their determinants according to age, gender, socio-economic status, geographical location, etc.;
- the links between food consumption, physical activity, nutritional status and health, by studying health problems such as obesity, hypertension, diabetes, dyslipidaemia, cardiovascular disease, cancer, etc.

The purpose of this study was to identify risk factors and protective factors linked to nutrition, which is necessary to establish nutritional recommendations aimed at reducing the risk of illnesses and improving the health of the current population and of future generations.

In 2012, the French National Institute for Agricultural Research (INRA) concluded an expert appraisal of behaviour change, the conclusions of which highlight ways to encourage behaviour change and also research topics for INRA, including: associations between consumers' behaviours, their diets and physiological functions; novel food development processes; and, the sustainability of the food systems in France (INRA 2012).

The French National Nutrition and Health Programme (PNNS)

The PNNS was implemented in 2001 for a 5-year period (2001–2005). It has since been extended to 2006–2010, and subsequently to 2011–2015. The goal of the PNNS is to improve the health of the French

population and to reduce risk factors for chronic disease through a focus on nutrition. The PNNS is a government-sponsored public/private collaboration involving government, research and education institutions, the food industry, healthcare organisations and consumers (www.sante.gouv.fr/nutrition-programme-national-nutrition-sante-pnns).

Commitment charters

The PNNS proposes a consistent framework for intervention as an incentive for the many stakeholders involved in nutrition. Numerous businesses and sectors can commit to making nutritional improvements to the food products they manufacture and sell. These commitments must be significant and are validated by a commission (experts in the area of nutrition, food technology, marketing and food economy) set up by public authorities. The commitments that companies make must be followed up and monitored in the long term by the Observatory of Food Quality (see later). Food operators must adhere to this voluntary approach, and once they have signed validated charters, are allowed to inform consumers about their commitments.

French observatory of food quality (OQALI)

OQALI was created jointly by the Ministries in charge of Agriculture and Health, with the objective of monitoring the entire food supply, focusing on the nutritional quality of products (nutritional composition, size of portion), as well as on related economic and socio-economic data (food prices, information and promotions, purchasing patterns etc.; www.oqali.fr/oqali).

Its specific tasks are:

- to create and monitor a food database describing the characteristics and nutritional composition of all individual food items sold in France;
- to document and monitor efforts made by the food sectors, and ensure that the corresponding commitments drawn up in commitment charters are followed through;
- to be an effective lever for encouraging food sector professionals to improve the quality of their products; and,
- to be a valuable decision-making tool for the government.

Private initiatives

During the last 20 years, many individual food companies or associations have created foundations or institutes to support research, disseminate information

related to nutrition and health, and contribute to national programmes. The creation of the French Fund for Food and Health (Fonds Français pour l'Alimentation et la Santé, FFAS) is one of the most recent conjoint initiatives embracing both the food industry and public research in this domain. Created in 2011 by the Institut Français pour la Nutrition (IFN) and the Association Nationale des Industries Alimentaires (ANIA), the FFAS is an independent structure, the governance of which is based on parity between representatives of academia and representatives of economic stakeholders (mainly from the food industry). The objectives of FFAS are:

- to improve understanding of the determinants of dietary behaviour and of the links between food and health;
- to promote food as a source of pleasure and good health;
- to mobilise funds for facilitating research programmes;
- to participate in disease prevention projects in the field of nutrition and health; and,
- to provide a framework for academics, food companies, authorities, institutions and consumer organisations to work together.

The work of the FFAS in the field of behaviour change

The FFAS's theme for 2012 was 'behaviour change' and a number of events were held to discuss issues relating to this theme. For example, in a series of workshops, varied approaches to behaviour change were discussed to include, debates between professionals who deliver dietary advice; the group (*e.g.* the family, a group of colleagues) as a lever to change behaviours; as well as the lessons to be learned from health professionals changing patients' behaviour.

Lectures given in 2012 that also dealt with the theme of behaviour change included:

- perceptions and strategies of people in precarious situations in relation to diet;
- is it possible to modify eating behaviours?;
- efficiency of obesity prevention campaigns;
- changing behaviour – perceptions, practice and context; the case of obesity;
- eating patterns of children and teenagers: from norms to perceptions.

In December 2012, a one-day colloquium took place, entitled 'Eating behaviour: the levers for change'. A

'Food and Health' week was also organised and the FFAS launched a call for proposals for public or private structures that set up field actions to promote healthy eating behaviours and to inform the population of the link between food and health.

Germany

National action plan IN FORM

Obesity and nutrition-related diseases are a growing problem in Germany as well as in many parts of the world, especially in developed countries. Therefore, the Federal Government of Germany has developed strategies to counteract this trend. The Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) and the Federal Ministry of Health (BMG) have launched the National Action Plan IN FORM, with the aim of tackling poor dietary habits, lack of physical activity, overweight and related diseases (Aigner 2008; BMELV 2008). The intention is that IN FORM will sustainably improve dietary habits and patterns of physical activity in Germany and contribute to behavioural change towards a healthy lifestyle. It is the federal government's objective that adults should live healthier lives and that children should grow up more healthily, so that they can experience a higher quality of life with better physical and mental performance. Therefore, the aim of IN FORM was much wider than just the prevention of overweight. It aimed to help to promote a healthy lifestyle alongside a well-balanced diet and a sufficient amount of physical activity.

The goals of IN FORM are:

- to stop the development of childhood obesity so that children can grow up more healthily;
- for adults to live in a healthier way, to enjoy a better quality of life and to experience improved performance in their professional and private lives; and,
- to markedly reduce the number of nutrition-related diseases caused by an unhealthy sedentary lifestyle and an unbalanced diet.

The objectives of IN FORM are divided into specific areas as follows:

- Area 1: the federal government, federal states and communes set an example concerning the promotion of a healthy diet and physical activity habits;
- Area 2: the schemes for nutrition and physical activity education should enable people to lead a healthy life and heighten their own sense of responsibility;

- Area 3: as a rule, people in Germany should engage in regular physical activity and sports. Their living environments should offer sufficiently attractive incentives for physical activity;
- Area 4: food eaten away from the home and in catering enables the selection of a healthy, balanced diet; and,
- Area 5: research supplies scientifically validated foundations to help improve dietary habits and patterns of physical activity in Germany.

The early stage of IN FORM has now been completed (BMELV 2012a). This initial stage has served, among other things, to develop instruments and structures for the implementation of IN FORM; to integrate already existing measures and activities to promote healthy diets and to increase physical activity as part of the IN FORM process; and, to launch and support new projects in different settings. Altogether, around 100 projects have been supported by the BMELV and the BMG under the IN FORM initiative.

In the coming years for the so-called consolidation and dissemination phase the focus will be on establishing (and stabilising) measures and projects supported under the IN FORM initiative in the longer term, disseminating the findings and promoting both the exchange of experiences and networking between the collaborators within the project. IN FORM thus acts as a 'dialogue platform' for policy makers, the food industry, the science community and general public, to discuss questions concerning a healthy lifestyle.

In the following text, some measures taken within IN FORM are discussed.

German Nutrition Society [Deutsche Gesellschaft für Ernährung(DGE)]: quality standards for the improvement of the nutritional quality in communal catering and business

During recent decades, the demand for and supply of opportunities to eat away from home has continuously increased. Today, people in Germany spend approximately €18 billion per year on meals in restaurants, canteens, schools, care facilities and meals-on-wheels. Therefore, the status of the kitchen as the central hub of family life is dwindling.

The DGE carries out five projects (GNS 2011) under the auspices of IN FORM to improve nutrition in institutions for communal feeding/catering, such as in day-care centres for children (FitKid), schools (School + Food = Top Marks) and staff canteens (JOB&FIT), hospitals and rehabilitation centres (Station Ernährung), as well as in retirement homes and for meals-on-wheels (Fit im Alter).

On behalf of the BMELV, the DGE established Quality Standards to improve nutrition in these settings. The standards were developed by experts and scientists in the fields of nutrition, education and catering. For all projects, criteria for the introduction and implementation of wholesome meals were drawn up. The objective of the Quality Standards is that, in the future, providers of foods consumed out of home should orient their range of products towards a healthy diet, inform their customers about wholesome food and support corresponding dietary habits. The target groups include everyone responsible for catering within an institution (*e.g.* kindergarten, school, canteen, retirement home) that require help and advice in preparing and offering wholesome meals. The Quality Standards include defined minimum standards that specify the health-promoting foods to be used when providing wholesome lunches and snacks. Every customer should be able to choose and enjoy a nutrient-rich menu (typically one dish per day) at lunch-time (*e.g.* school setting), or throughout the day [*i.e.* where every meal is provided by a catering company (*e.g.* retirement home)] on a daily basis. An online recipe database with nutrient-calculated recipes and comprehensive and plain information for customers and relatives (*e.g.* parents) is available for download or as print versions, to support the practical implementation of the Quality Standards.

To set a good example, the first canteen in Germany, which was certified as having met the current standards of JOB&FIT, was that of the BMELV in Bonn. Now, around 500 institutions for communal feeding or catering are certified.

The DGE also organise events and symposia, offer counselling, provide website resources, and publish information for experts, the media and consumers in all settings.

Aid-infodienst: aid food licence

Many eating habits are retained throughout life, which is why nutritional education and preventive work should start at an early age. A successful initiative within IN FORM is the 'aid food licence', a joint project conducted by the Aid-infodienst (German information service), the BMELV and the German Rural Women's Association (Aigner 2008; Aid-infodienst 2011). Third-graders and fifth- and sixth-graders learn where food comes from and how to make tasty healthy dishes. More than 100 000 children have obtained this food licence since the beginning of the project.

Theoretical and practical nutritional education is the key theme of this project. With the introduction of the

food licence, for the first time, a fully elaborated method for teaching nutrition has been implemented in German schools. Practical handling of food and kitchen equipment is at the heart of the food licence.

BMELV: ‘too good for the bin’ – an information campaign on food waste in Germany

A recent study by the University of Stuttgart (Kranert 2012) on food waste in Germany showed that industry, trade, large-scale consumers (*e.g.* restaurants, canteens) and private households throw away almost 11 million tons of food every year. Sixty-one percent of this food waste comes from private households, followed by 17% from large-scale consumers such as restaurants, canteens and industry. The BMELV launched a wide-ranging information campaign for consumers under the slogan ‘Too good for the bin’ whereby people receive useful information and practical tips about the handling of food to reduce waste, ranging from shopping to appropriate food storage to food processing methods in the kitchen. With its information campaign, the BMELV aimed to strengthen the appreciation of food and to reduce the amount of food wasted (BMELV 2012b).

Food producers, traders and large-scale consumers are asked to avoid food waste in a sustainable manner. For example, food with a best-before date that is about to expire could be offered to consumers at reduced prices. Also, in an attempt to improve cooperation between the food industry and food banks or similar institutions, the Ministry of Consumer Protection is currently developing guidelines for donating food to welfare services.

The federal government also supports a European Union (EU)-wide Organic Waste Directive with a view to improving the recovery of waste across Europe.

5am Tag: 5 A DAY school fruit programme

‘5am Tag’ (5 A DAY) is a campaign run by BMELV and BMG, which aimed to encourage children, adolescents and adults to eat more vegetables and fruit. The ‘5am Tag’ association set up a pilot school fruit programme, which showed very positive results (5am Tag 2009), with children consuming more fruits and vegetables.

Following this pilot project, the EU launched a school fruit programme (EU Commission 2008). In the school year 2009/2010, €90 million was made available for the distribution of fruit and vegetables in kindergartens and schools. In Germany, the programme was implemented by the federal states. It is hoped that by providing fruit and vegetables in the right portion

sizes and an attractive presentation that children and adolescents will reach for a piece of fruit or vegetable rather than chocolate or sweets.

Max Rubner Institute (MRI): National Nutrition Survey – national nutrition monitoring

It is important to examine the nutritional behaviour of various population groups and to analyse the type of information and campaigns available that aim to improve dietary behaviour. MRI conducts major research programmes, such as the National Nutrition Survey (NVS – a nationwide study on eating habits in Germany) (Max Rubner Institut 2008) and the National Nutrition Monitoring (NEMONIT – a nationwide monitoring programme to assess nutritional behaviour) (Max Rubner Institut 2012).

Ireland

In Ireland, there are numerous behaviour change interventions being undertaken, a few of which are discussed in more detail later.

Pre-school

‘Sammy Sally’ is a series of books for pre-school children that aim to increase knowledge about healthy eating and where food comes from. In 2011 and 2012, the books were distributed to pre-schools in the Republic of Ireland and Northern Ireland by *safefood*, the promotional body responsible for food safety and healthy eating on the island of Ireland (www.safefood.eu/Education/Pre-school/When-Sally-met-Sammy.aspx).

Primary school

‘Food Dudes’ is a programme encouraging children to eat more fruit and vegetables both in school and at home. *Food Dudes* characters (shown in DVD episodes) and rewards are used to encourage repeated tasting of fruit and vegetables, which enables the acquisition of a lasting liking of these foods. In large-scale studies, *Food Dudes* has been shown to be effective (www.fooddudes.ie/fd_main.html).

‘Incredible Edibles’ develops food-growing skills and encourages good eating habits in school. To date, over 200 000 children have participated. The *Incredible Edibles* programme plans to extend its brand to fresh fruit and vegetable packaging and retail point of sale in the near future. The aim was to translate lessons learnt in the classroom to food purchasing decisions and ulti-

mately into fruit and vegetable consumption patterns. There is also a competition for the best 'growing diaries' and the most incredible edible tokens or *Bórd Bia* quality marks collected (incredibleedibles.ie).

'*Taste Buds*' is an interactive CD developed by *safefood* for children aged 8–10 years. It aimed to help children learn about the origins of their food, food production and the importance of a balanced diet. The eight sessions help teachers deliver the Food and Nutrition Component of the Social Personal Health Education (SPHE) curriculum. Each session consists of classroom slides, extension activities, teacher's notes and homework suggestions. The sessions are brought to life by four *Taste Buds* characters with different personalities and messages about healthy eating and physical activity ([www.safefood.eu/Education/Primary-\(ROI\)/Tastebuds.aspx](http://www.safefood.eu/Education/Primary-(ROI)/Tastebuds.aspx)).

'*Green-Schools*' is an international environmental education and management programme. It is an award scheme that promotes and acknowledges long-term, whole-school environmental action. *Green-Schools* is co-ordinated by *An Taisce* (National Trust). Over 3600 primary, secondary and special schools (over 88% of all Irish schools) are currently participating and to date 2573 schools have been awarded the Green Flag. The Irish *Green-Schools* programme is one of the most successful of its type within the international network (www.greenschoolsireland.org).

Secondary schools

'*How They Measure Up*' is a food-labelling resource giving students a better understanding of food labels and how to use them to make healthy and safe food choices. The resource was developed by *safefood* in the Republic of Ireland (ROI) for the Junior Cycle (13–15 years), SPHE and for Key Stages three and four Home Economics in Northern Ireland (NI). Topics covered include food labelling, nutrients, the food pyramid (ROI)/*eatwell* plate (NI) and food additives ([www.safefood.eu/Education/Post-primary-\(ROI\)/How-they-measure-up.aspx](http://www.safefood.eu/Education/Post-primary-(ROI)/How-they-measure-up.aspx)).

'*Way2Go, for a healthier you*' is a programme that provides educational materials, including a video, DVD and workbooks, which were produced for students aged 11–15 years. It complements the SPHE curriculum used in all Irish secondary schools. The messages delivered include, the importance of a balanced diet; correct portion size; importance of increasing activity/exercise; improved self-awareness and esteem; increased understanding on how advertising affects decision-making, smoking and sexual health (www.pfizer.ie/local_way2go.cfm).

Adults

'*Stop the Spread*' is a multimedia communications campaign targeting all adults which encourages them to find out if they are one of the two out of three adults who are overweight. The 2-year, all-island initiative comprises multimedia advertising and sponsorship. The campaign is supported by pharmacies and chemist shops, where consumers can pick up free measuring tapes (www.safefood.eu/Stop-The-Spread.aspx).

'*Weigh2Live*' is an online resource for adults providing free, independent advice for losing and keeping weight off in a healthy, sustained way. The website has practical advice and interactive tools for those contemplating weight loss or wishing to maintain a healthy weight. The website has been promoted through various media channels, namely television, cinema, outdoor, online, print and direct marketing. It is currently one of the key resources recommended in the weight management treatment algorithm in Ireland, promoted by general practitioners and practice nurses (weigh2live.safefood.eu).

'*Little steps*' is a multimedia campaign designed to help support and empower parents and guardians in the battle to keep kids healthy. The main message promoted is that adopting small changes to food habits and physical activity can have a big impact and lead to a healthier future. Practical advice and support is offered to help people make little changes. The campaign is supported by television, radio, digital and in-store advertising, and a free booklet is also available (www.littlesteps.eu).

'*Go for Life*' is the national programme for sports and physical activity for older people and is funded by the Irish Sports Council. In 2008, it worked with over 35 000 people. Approximately, 900 of these are physical activity leaders running sports and physical activity sessions among their own groups, helping the *Go for Life* numbers multiply rapidly. The initiative has four different elements: active living; sports participation; a national grant scheme; and, communication and information (ageandopportunity.ie/go-life).

Spain

Behaviour change initiatives to improve diet and physical activity in Spain

In 2004, the World Health Assembly approved the *Global Strategy on Diet, Physical Activity and Health* with the aim of reducing the risk factors of non-transmittable diseases related to unhealthy diets and physical inactivity (Ballesteros Arribas *et al.* 2007). The

most recent data published for the Instituto Nacional de Estadística 2008, indicated that the mean prevalence of obesity in adults is 15%, and 37% are overweight (Instituto Nacional de Estadística 2008). For years, Spain has been operating through various campaigns to inform citizens about the consequences of poor diet and a sedentary lifestyle, including educational programmes (mainly in schools), informative talks and dietary guidelines. Nowadays, interactive computerised technologies offer several potential advantages for designing behavioural interventions (Norman *et al.* 2007). The most important initiatives in Spain that aimed to improve diet and physical activity through long-term behaviour changes strategies are briefly described later.

NAOS Strategy

The *NAOS Strategy (Strategy for Nutrition, Physical Activity and Obesity Prevention)* was launched in 2005 by the Ministry of Health and Consumer Affairs, through the Spanish Food Safety and Nutrition Agency (AESAN). The *NAOS Strategy* aimed to raise awareness of the detrimental effects that obesity can have on health, and encourage initiatives that contribute to ensuring that citizens, in particular children and young people, adopt healthy lifestyles, mainly through healthy eating habits and regular physical activity. The *NAOS Strategy* recently received an award from the World Health Organization. However, problems like changes in government authorities and an unstable budget have led to inconsistent implementation and success.

The different areas of intervention of the *NAOS Strategy* are family and the community, schools, businesses and the health system (Ministerio de Sanidad y Consumo, Agencia Española de Seguridad Alimentaria y Nutrición 2005):

- *PAOS Code (Code of self-regulation of the advertising of food products directed at minors, prevention of obesity and health)*: This code, which came into effect on 15 September 2005 and was pioneering within Europe, aimed to ensure that food advertising targeted at children promotes healthy lifestyles in order to prevent obesity. The Code is the result of an agreement between AESAN and the Spanish Food and Drink Industry Federation. It is regularly evaluated and reviewed in order to adapt it and keep it up-to-date with respect to changes in society and the status of legislation. When modifications are made to the Code as a result of the review, this must be communicated to the public (Ministerio de Sanidad, Servicios Sociales e Igualdad 2012).

- *PERSEO Programme – eat healthy and move on!*: This intervention programme was implemented by the Ministries of Health, Social Policy and Equality, and Education, alongside the Regional Departments of Health and Education in six autonomous communities within Spain. It consists of a collection of simple interventions in schools, with the aim of promoting healthy lifestyles among pupils. This programme also involves pupils' families and targets both the school canteen and wider school environment to facilitate healthy choices. The programme has been shown to have a favourable effect on physical activity and sedentary behaviour. Also, it helps children's diets to become more in line with the Mediterranean diet, as it improves consumption of fruits and vegetables and leads to more moderate intakes of some high energy foods (e.g. sweets, pastries and soft drinks) (Troncoso 2011). Within the pilot programme, the *PERSEO guide* was developed, which includes the information necessary to help develop healthy diets for schoolchildren. It takes into account the nutritional needs of children of school age, good nutritional practices in catering and culinary techniques, for the development of healthy school menus and to cater for the needs of children with allergies and intolerances and from different ethnic and religious backgrounds (Ávila *et al.* 2008).

- *National Consensus Document on School Meals in Educational Centers*: This document was approved by the Spanish Health System's Inter-Territorial Board (national plus regional governments) in 2010. This document incorporates nutritional recommendations for school meals, including recommended daily intake values for energy and nutrients, information for families, guidelines for special requirements, and criteria to ensure healthy options are offered in vending machines, canteens and kiosks in educational facilities. The Spanish Nutrition Foundation (Fundación Española de la Nutrición, FEN) was one of the scientific institutions involved in its development (Ministerio de Sanidad, Política Social e Igualdad, Ministerio de Educación 2010).

- *Take care plan – less salt is better health*: This initiative aimed to prevent excessive salt consumption and to promote healthy lifestyles. It is part of the *Action Plan for the Reduction of Excessive Salt Intake and Prevention of Arterial Hypertension in Spain* that AESAN recently developed. It consists of a website, where users can find interesting information on the consumption of salt and a register to join the plan (Ministerio de Sanidad, Servicios Sociales e Igualdad, Agencia Española de Seguridad Alimentaria y Nutrición 2011).

Comprehensive plan for physical exercise and sport (A + D plan)

This is a new multi-approach government programme to promote physical activity and sports (Ministerio de Educación, Cultura y Deporte 2010).

Mediterranean diet promotion

The Ministry of Agriculture, Food and Environment has developed a large campaign (2011–2012) with the slogan ‘*Mediterranean Diet – Our diet, our greatest legacy*’. This campaign incorporates different promotional materials, including commercials, radio spots and posters. Its aim was not only to preserve, but also to refresh the principles of the Mediterranean approach to diet and an active lifestyle (Ministerio de Agricultura, Alimentación y Medio Ambiente 2011).

Spanish healthy cities network (RECS)

This network was created in 2008 and brings together various municipalities to promote and protect the health and welfare of citizens, in accordance with the principles of action described in the World Health Organization’s *Healthy Cities* project. Projects developed within this network promote healthy diet and lifestyle, mainly in school-age children (16% of all initiatives target this age group) (Red Española de Ciudades Saludables 2012).

THAO child health programme to prevent childhood obesity

This is the Spanish name for the well-established EU-wide Ensemble Prévenons l’Obésité des Enfants (EPODE) Programme. The objective of THAO is to contribute to behaviour change in the population and it is targeted at children aged 3–12 years and their families. The aim was to prevent childhood obesity. It is a multi-approach, 4-year project, which includes anthropometric measurements, assessment of dietary habits and, assessment of physical activity and sports practice. FEN has participated in this project from the very beginning. The latest data published in 2010–2011 indicated that the prevalence of overweight and obesity in a population sample of 38 008 children aged 3–12 years is 21.7% and 8.3%, respectively, highlighting the age range between 6–9 years as the population group with the highest prevalence of obesity (9.9%) (Fundación THAO 2011).

MiniFEN project

This is a pilot project to improve food and nutrition knowledge in Spanish schoolchildren by developing an

interactive tool called *MiniFEN*, based on a competence framework established within the European Food Framework (EFF) project (www.europeanfoodframework.eu), which was co-ordinated by the British Nutrition Foundation. The interactive tool was developed by the FEN Research Team and emphasises the importance of a healthy diet and physical activity using new technology tools (see www.europeanfoodframework.eu/pilotprojects/spain and www.fen.org.es/minifen).

In conclusion, behaviour change initiatives in Spain are still emerging and generally are not well consolidated or evaluated. Most of them lack sufficient political priority, time and budget to be successfully implemented, so more work is needed, taking into consideration that the main goal should be preserving the Mediterranean diet and lifestyle.

Switzerland

One peculiarity of Switzerland is that policies and activities are strongly based around cantons (federal states). Another peculiarity is that it has four national languages, which means there are major cultural differences within a small area. In terms of the promotion of health, this means that the 26 cantons of Switzerland often develop their own programmes. This results in a range of programmes that are extremely varied, which can sometimes be rather confusing. One of the conclusions of a Swiss Society for Nutrition (SSN) consumer report for Switzerland (Infanger 2012) is that Switzerland should increasingly develop programmes and initiatives that are coordinated at a national level, to focus efforts and resources. This report (pp. 40–46) provides an overview of programmes and projects that aimed to promote healthy food choices.

A collaboration between the SSN, a foundation known as Health Promotion Switzerland and the project funding agency Suissebalance, fulfils important coordinating functions in health promotion in Switzerland. These three institutions often provide expertise and resources to implement specific activities within projects and programmes. Three national projects that aimed to support changes in attitude towards shopping, drinking or physical activity are presented later.

Front-of-pack healthy choice logo on foods

In 2009, the Swiss Federal Office of Public Health (FOPH) asked the SSN to carry out the groundwork for the introduction of a voluntary, consistent and easy to understand healthy choice logo for front-of-pack on foods. To start with, the SSN conducted a survey of

existing logos in Switzerland and abroad. SSN came to the conclusion that developing a new and purely Swiss logo would make little sense, and they therefore recommended cooperating with an existing healthy choice logo organisation (Infanger 2009). A group of experts examined the criteria of the European logo 'Choices' (Choices International Foundation 2012), particularly, their suitability for the Swiss food market, their compatibility with Swiss food law and compliance with Swiss dietary recommendations and habits.

Key players, potential licensees and other interested parties then had the opportunity to comment on the introduction of such a logo into the Swiss food market, on cooperation with the Choices Foundation and on the logo criteria. In a public consultation led by SSN, most participants had rather negative attitudes towards a Healthy Choice Logo. Most feedback came from industry representatives and the grounds for the negative response were multiple (Mühlemann 2010).

A representative consumer survey conducted at the same time showed that all the labelling schemes tested [*i.e.* logos, Guideline Daily Amounts (GDAs), Traffic Light Colour Coding] can assist consumers in making healthier food choices, but that each scheme had its limitations (Infanger *et al.* 2010). Combined use of both the GDAs and a logo seemed to emerge as a possible solution. This approach provides these consumers who are interested with information that can be used to support their choices. It was suggested that the inclusion of a logo could also help unsure or 'lazy' consumers in making healthy food choices and allow busy consumers to make appropriate decisions quickly at point of purchase.

Based on the results of both the consultation and consumer study, the FOPH has refrained from promoting the introduction of a voluntary Healthy Choice Logo any further, and is currently examining other measures to promote healthy eating.

Drink Water and SlowUp in the cantons

To allow canton-specific (*i.e.* regional) circumstances, linguistic and regional) needs to be taken into account, 20 cantonal action programmes aiming to promote a healthy bodyweight in children and young people were introduced in Switzerland. These programmes are funded and coordinated by Health Promotion Switzerland, while the SSN provides advice and assistance on technical food issues. Two national projects that are being implemented as part of the action programmes are 'Drink Water' and 'SlowUp'. Regionally responsive

actions are taking place for both projects, which are intended to encourage a long-term change in attitude.

Drink Water

'Enjoy a glass of water – it's healthy, tastes good and is cheap!' – this is the message that Health Promotion Switzerland wants to spread among the population over the next four years. Various types of media are being used to encourage the drinking of water, such as appealing bottle designs and an interactive website. Attractive eye-catchers used at events, give-aways and information brochures on water have also been developed (Health Promotion Switzerland (Gesundheitsförderung Schweiz) 2012).

SlowUp

SlowUp is a project that was initiated 13 years ago. Its main goal was to encourage and allow people to do recreational exercise in a relaxing environment. In 2012, 400 000 people took part in one of the 18 activities carried out within the project (SlowUp 2012). The idea is simple, 30 km of roads in an attractive landscape are closed off to motorised traffic for a day and a varied supporting programme of events is provided along this closed-off stretch of road. Everyone who wants to participate can use the roads on foot, by bike or on in-line skates. This event allows interested parties to promote opportunities for sustainable, regular (recreational) exercise to a wide audience and to raise awareness of the importance of appropriate exercise activities.

Turkey

Nutrition and health challenges persist in Turkey as elsewhere. The results of pre-publication data from the food intake survey (Hacettepe University, unpublished data) indicate that basic nutrition awareness in Turkey is very low. Only 7% of participants said they look at nutrition labels when purchasing food. Furthermore, only 13% of participants are physically active (inclusive of cleaning at home). Following this survey, the Turkish Ministry of Health has initiated three different programmes to address key issues, namely, an obesity programme, a diabetes control programme and a salt reduction programme.

Salt reduction is of particular importance in Turkey, where the average salt consumption is 18 g per day. The Turkish government has reduced the salt content in bread from 1.75 g per 100 g to 1.5 g per 100 g. Given that bread consumption in Turkey is high, it is hoped that this will have a worthwhile effect on overall intake.

The obesity programme aimed to improve awareness of health and nutrition throughout Turkey, with the help of all stakeholders. In 2012, ‘Voluntary Guideline Daily Amount (GDAs) labelling’ was introduced and the food industry has begun to run campaigns relating to GDAs.

Pre-publication data from the food intake survey (Hacettepe University, unpublished data) show that, in the 0 to 5 year age group, some 11% of children suffer from malnutrition, 17% are too thin and 21% are overweight. In the 6–18 year-olds, the equivalent numbers are 7% malnutrition, with 19% being too thin and 22% being overweight. There are significant differences between the urban and rural population, with a higher prevalence of overweight in urban areas. Clearly, action is needed to address this situation.

The Sabri Ülker Food Research Foundation (SUGAV)

SUGAV was established in Turkey in 2009 with the aim of improving public health by contributing to Turkish society’s knowledge about food, nutrition and health. It is an independent, science-based, non-profit organisation run by a science committee and chaired by Mahmut Oltan Sungurlu, former Turkish Minister of Justice and Defence. The key focus areas of SUGAV include, education, communication and research. An outline of the activities of SUGAV can be found at www.gavenst.org.

The schools’ education programme

The schools’ education programme is a good example of a SUGAV programme aimed at improving public health through both education and behaviour change.

There are currently over 10 million students in primary schools in Turkey and the aim of the SUGAV schools’ education programme is to reach out to these students, their parents and their teachers, providing sound nutrition education with practical relevance to all. The key theme of the programme is ‘balanced nutrition’ – that all foods are acceptable as part of an overall balanced diet. The programme has been developed in collaboration with the Turkish Ministry of Education’s Elementary Schools General Directorate and material from the British Nutrition Foundation (BNF) has been adapted for local use.

Key objectives

The primary focus of the programme is to help to develop healthy eating habits among students aged 8 to 11 years. It is vital that their teachers, all other school employees, parents and all children are engaged in the

programme. A key objective was to communicate and understand five messages related to balanced nutrition. These are as follows:

1. Across the globe people choose and combine different foods to make up their meals and snacks. The total amount and range of foods eaten is called the diet.
2. A healthy diet comprises a variety and balance of different foods and beverages, as depicted in the *eatwell plate* of the UK’s Department of Health, which has been adapted for local use.
3. Food provides energy, which is essential for the body to be active and healthy.
4. A variety of food should be included in the diet as different foods contain the different substances needed for health. Nutrients, water and dietary fibre are all essential.
5. Being active and looking after yourself is important for good health.

Programme details

Initially, a pilot scheme has been implemented in ten schools in each of four different regions – Gaziantep, Istanbul, Izmir and Trabzon – selected to represent diversity in the Turkish school population. In each region, trainers have been recruited and workshops have been held to introduce educational materials to designated local teachers. Professor Halit Tanju Besler of Hacettepe University has taken a lead on this. Some 20 000 students have so far been reached via the pilot programme.

Teachers have been equipped with a range of materials including a teacher’s handbook and education kit. Recent information on nutrition science has been disseminated, including the latest knowledge regarding the relationship between adequate and balanced nutrition and health; the range of nutrients needed for a balanced diet; the role of different food groups; recommended portion sizes; and, the importance of variety. Detailed lesson plans have been provided and supporting materials include printed worksheets, brochures, interactive games and a comprehensive website open to all (www.yemektedenge.com). All trainers make monthly visits to all schools involved in the scheme.

Evaluating the success of the programme

It is notoriously difficult to quantify the success of nutritional interventions other than via national food intake surveys or detailed individual comparisons. The issue is even more complex where children are the primary target for the intervention. Qualitatively, the

programme has been well received in all regions and has been endorsed by the Turkish Ministry of Education. The intention for the 2012–2013 school year is to extend the outreach to 200 000 students. Some 14.7 million people have been briefed on the programme via a variety of media channels.

To quantify the success of the intervention, a ‘self-check’ programme has been developed, which enables subjects to enter detailed food intake information online. This is a sophisticated food frequency questionnaire originally developed by Professor Hans Biesalski and colleagues at the University of Hohenheim and adapted for Turkish eating habits by Professor Halit Tanju Besler at the University of Hacettepe Faculty of Health Sciences Nutrition and Dietetics Department. Some 267 teachers involved in the Schools’ Education programme have completed the self-check programme. Preliminary analysis shows a diversity of knowledge and eating habits prior to the intervention though it is too soon to draw any specific conclusions. The ‘self-check’ programme can be accessed via www.gavenst.org (in Turkish).

Next steps

The Turkish Schools’ Nutrition and Health Education Project is gathering momentum under the auspices of SUGAV with the endorsement and active participation of the Turkish Ministries of Health, and Education, Hacettepe University and some others. All participants have the enthusiasm and dedication to steer this programme to successfully enhance the nutritional health and knowledge of the Turkish population.

United Kingdom

In the United Kingdom (UK), a variety of government-led campaigns aimed to improve the health of the UK population. Each of the four countries (England, Wales, Scotland and Northern Ireland) has their own national campaigns.

Changing the environment and providing information

Until recently, many of the major government-funded campaigns aiming to improve dietary and lifestyle habits in England were run by the nutrition department of the Food Standards Agency (FSA). Examples include a campaign on salt reduction (Wyness *et al.* 2012), which has been successful, and reduction of saturated fat in the diet. After the change of government in 2010, the nutri-

tion department at the FSA moved to the Department of Health. The main campaign run by the current government is *Change4Life*. There is also England-specific activity focusing on partnerships working with food and beverage companies, known as the *Responsibility Deal*. Information about initiatives in Scotland can be found at home.scotland.gov.uk/home, and in Wales at wales.gov.uk/topics/health/?lang=en.

Change4Life

Change4Life is a social marketing campaign run in England and Wales. It is aimed at the public, initially directed at families with young children, but has now been extended to other population groups, including adults in general, parents who have just had a baby (*Start4Life*) and schoolchildren (*SmallSteps4Life*). *Change4Life* began initially in 2009 and used various routes to target the public, including TV adverts, adverts at bus stops and other public places, as well as adverts in the print media. An evaluation carried out after the first year showed that 99% of all mothers of children under 11 years (the initial target group) had been reached; awareness of the initiative had been achieved in 87% of all mothers with children under 11 years; the campaign had two million responses (*i.e.* website visits, telephone calls, returned questionnaires) and more than 400 000 families joined the *Change4Life* campaign in the first year. Going forward, *Change4Life* is the vehicle for promoting the nutrition and health messages that are the focus of the *Responsibility Deal*. For more information visit www.nhs.uk/change4life.

Responsibility Deal

The *Responsibility Deal*, which was implemented in England by the Health Secretary in March 2011, primarily targets businesses. It first provides companies with the opportunity to work in collaboration with the government to influence healthy purchases and positive lifestyle behaviours. Organisations signing up to the *Responsibility Deal* commit to taking action voluntarily to improve public health through their responsibilities as employers, as well as through their commercial actions and their community activities. By signing up to the *Responsibility Deal*, partners automatically sign up to the core and supporting pledges of the deal, confirming their support for the Deal’s ambitions and are committing to take action in support of them where they can. Partners can also sign up to specific pledges associated with four networks: alcohol, food, health at work and physical activity. These pledges set out the specific

actions that partners agree to take to support the *Responsibility Deal*. Pledges associated with the food network of the *Responsibility Deal* have so far addressed salt and *trans*-fatty acid reduction, calorie labelling for foods eaten outside the home, calorie reduction and encouraging fruit and vegetable consumption. Work is currently underway on a pledge related to reducing saturated fat in food products. For more information about progress in achieving the pledges and the pledges associated with the other three networks, visit responsibilitydeal.dh.gov.uk/about.

BNF efforts to change behaviour

The BNF aimed to change dietary and lifestyle behaviours of the UK population through various routes, including its schools education programme, which began in 1991. The BNF developed the *Food – a fact of life* programme for schools with the aim of providing free education material to schools. The *Food – a fact of life* website (www.foodafactoflife.org.uk) was launched in 2005 to enable the development of digital resources and move away from printed materials. The site provides a wealth of free-to-access resources for children and young people aged 3–16 years to support learning about healthy eating, cooking and where food comes from.

The BNF runs regular eSeminars aimed at teachers, students and anyone interested in the various topics presented. Other recent work has included writing an online nutrition course and piloting an iPad interactive textbook. An online tool aiming to improve young people's diet and lifestyles, *mywellbeing*, was launched in 2011. This tool is an engaging way for young people to evaluate their food and drink choices and level of physical activity, and make appropriate changes to their diet and lifestyles. It can be accessed through the *Food – a fact of life* website.

In partnership with the members of the ENF Network, BNF has led the European Food Framework project, which aimed to develop a framework comprising a set of competences for young people aged 5–16 years, relating to diet (food and drink), active lifestyles and energy balance. It was established with the aim of improving the health of young people throughout Europe. The framework and resources developed in the countries participating in this project are available at www.europeanfoodframework.eu.

BNF also works on projects in partnership with food businesses. One such project, with Danone, is called *Eat Like A Champ* (ELAC). This project encourages healthy eating and physical activity by offering primary schools

a free toolkit of resources including lesson plans, card games and dance videos recorded by Diversity (winners of the TV programme 'Britain's Got Talent' in 2009). The Foundation wrote the six lessons and supporting material and has provided support and guidance on all aspects of the project, including the filming of healthy eating video clips with Diversity, development of the ELAC website and information for parents/carers. The programme has been evaluated independently and results will be published in due course.

The Foundation has also been working with Warburtons over the last year to develop its national *School Visitors* programme. Twenty School Visitors are located across the UK and deliver free healthy eating and practical food workshops to primary schools. The Foundation has visited and interviewed all the School Visitors, reviewed the School Visitor programme and written a comprehensive toolkit to provide a consistent approach and ensure the sessions delivered by the School Visitors support the curriculum, provide accurate healthy eating messages and support quality food work in schools.

In 2012, a focus of BNF's work has been nutrition in early life, targeting pregnant women via the *Nutrition4Baby* web-based programme. A dedicated pregnancy section of the BNF website has been developed and weekly Twitter alerts have been set up. BNF has also worked with the Royal College of Midwives to develop an online training course in nutrition for midwives.

Changing the default

School food standards

All four countries of the UK have food and/or nutrient-based school food standards for school lunch and other food and drink provided at schools, with the aim of improving the nutritional quality of food and drink offered in schools (see Weichselbaum & Buttriss 2011). In England, the effects of the school food standards have been evaluated in both primary and secondary schools. The results showed that caterers now provide a more healthy lunch including more healthy options (such as vegetables, salad and starchy foods not cooked in fat), whereas foods with a less healthy nutrient profile (including chips and other starchy foods cooked in fat, crisps and confectionery) were offered less often or not at all. Meals are generally lower in fat, sugar and salt compared with 2004/2005, although improvements in relation to the standards still need to be made for some nutrients (School Food Trust 2009, 2011).

Advertising to children

Food advertising targeted at children has been suggested as one of the many factors that contribute to the rising levels of overweight and obesity among children. Following a review of the evidence on the effects of advertising on dietary behaviour in children by Ofcom, the independent regulator of television within the UK, the Department of Health proposed that action was needed and restrictions to televised advertising of food and drink products aimed at children were applied. To identify foods that are high in fat, salt and sugar, the FSA developed a nutrient profiling tool. The restrictions in advertising were fully implemented in January 2009, when all advertising of foods high in fat, salt and sugar was banned from children's channels. Since the implementation of the advertising restrictions, children saw around 37% less advertising of foods high in fat, salt and sugar, the impact being bigger in children aged 4–9 years than in children aged 10–15 years. Exposure to advertising of such foods was eliminated during children's airtime (Ofcom 2010).

Let's get moving

Let's get moving is a behaviour change intervention that has been designed to provide a systematic approach to identifying and supporting adults who are not meeting the recommendation for physical activity in order to help them to become more active. The aim was both prevention and management of inactivity-related chronic disease and the intervention is delivered through the primary care setting. Patients identified as not meeting the recommendations for physical activity are offered a brief intervention, drawing upon motivational interviewing techniques, and are followed up over a period of 12 months to check progress, provide encouragement and reset goals. For more information, visit www.letsgetmoving.org.uk.

Conclusions

This paper emphasises that although intervention programmes in different European countries have similar objectives, the approaches taken to tackle health issues are very varied. The extent of evaluation of these intervention programmes is often very limited. However, evaluating interventions is crucial to see which types of programmes work and which approaches are efficient and cost-effective in changing behaviour. Although interventions may lead to different outcomes in different countries, because of cultural differences and other factors, it is still invaluable to share experiences, which

highlights the importance of networks such as that of the ENFs, to ensure communication and sharing of best practice.

Conflict of interest

The authors have no conflict of interest to disclose.

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