

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/305719184>

The Portuguese National Programme for the Promotion of Healthy Eating: 2012–2015

Article · June 2016

CITATIONS

14

READS

441

6 authors, including:



Pedro Graça

University of Porto

113 PUBLICATIONS 11,921 CITATIONS

[SEE PROFILE](#)



Maria João Gregório

Faculty of Nutrition and Food Sciences of the University of Porto

86 PUBLICATIONS 1,556 CITATIONS

[SEE PROFILE](#)

Report

THE PORTUGUESE NATIONAL PROGRAMME FOR THE PROMOTION OF HEALTHY EATING: 2012–2015

Pedro Graça,^{1,2} Maria João Gregório,² Sofia Mendes de Sousa,¹ Joana Carriço,¹ Andreia Correia,¹ Clara Salvador¹

¹ Directorate-General of Health, Portugal

² Faculty of Nutrition and Food Sciences of the University of Porto, Portugal

Corresponding author: Pedro Graça (email: pedrograca@dgs.pt)

ABSTRACT

This paper describes the first 4-year period (2012–2015) of implementation of the Portuguese National Programme for the Promotion of Healthy Eating (PNPAS). PNPAS was approved in 2012 and emerged as a preventive programme for noncommunicable diseases, aiming to improve the nutritional status of the population; it represents the first national strategy in Portugal for the promotion of healthy eating. To accomplish its mission, and taking into account its overall principles, PNPAS has five main goals: (i) to increase knowledge about the food intake of the Portuguese population and about its determinants and consequences; (ii) to modify the availability of certain foods (high in sugar, salt and fat), in schools, workplaces and public spaces; (iii) to inform and empower the population for

the purchase, preparation and storage of healthy food, especially the most vulnerable groups; (iv) to identify and promote cross-sectoral actions that encourage the consumption of foods of good nutritional quality in an articulate and integrated way with other sectors, namely agriculture, sport, environment, education, social security and local authorities; and (v) to improve the qualifications and conduct of the different professionals who, owing to their roles, may influence nutritional knowledge, attitudes and behaviours.

The design of PNPAS followed the latest strategic lines suggested by WHO and the European Commission, proposing a cross-sectoral mix of interventions to ensure physical and economic access to healthy eating by creating healthy environments and empowering individuals and communities.

Several actions were implemented at different levels during the first 4-year period of implementation of PNPAS; two were especially relevant. The first concerned the empowerment of citizens regarding healthy eating, where the most important aspect was introduction of a digital strategy through development of a website and a blog dedicated to healthy eating. The second concerned the development of documents for health care and other professionals, including several guidelines in new areas, such as anthropometric measures and intervention in preobesity.

Process and output indicators were defined to monitor and evaluate the programme. Among those considered as output indicators were the evaluation of childhood obesity, salt consumption and intake of breakfast by school-aged children.

Keywords: FOOD POLICY, PNPAS, PORTUGAL

INTRODUCTION

The National Programme for the Promotion of Healthy Eating (PNPAS) in Portugal was launched in 2012, with the mission to “improve the nutritional status of the population, stimulating the physical and economic availability of healthy foods and creating conditions so that the population can value, appreciate and integrate them into their daily routines” (1).

This strategy was approved by the Portuguese Directorate-General of Health (DGS) in 2012, as one of eight priority health programmes. Using multisectoral collaboration, it represents the first comprehensive national strategy in the field of food and nutrition in Portugal after the first programmes launched in 2005 and 2007 by the Ministry of Health to fight obesity at national level (1).

The growing burden of noncommunicable diseases (NCDs) is one of the main public health challenges worldwide (2). In Portugal, according to the Global Burden of Disease Study 2010, 85% of the total burden of disease is attributable to NCDs. Furthermore, evidence on the burden of disease in Portugal attributable to risk factors, expressed as a percentage of disability-adjusted life-years, shows that unhealthy dietary patterns, particularly those low in fruits and vegetables and high in sodium and salt, comprise the major risk factor for healthy years of life lost (19%); this is followed by high blood pressure (16.5%) and high body mass index (13.3%) (3).

Data from the last National Health Survey (2014) showed that more than half of Portuguese adults were overweight or obese (52.8%) (4). Moreover, poverty and social inequities, which are also well-known problems in Portugal (5), are closely linked to unhealthy diets (6). In Portugal, data from a National Survey on Food Insecurity estimated that 50.7% of the population was in a situation of food insecurity (7), which means that the respondents, at least, had anxiety about accessing adequate food or had reduced the quality and/or quantity of their food intake. The World Food Summit in 1996 defined food insecurity as the inability to “have access to sufficient, safe and nutritious food to maintain a healthy and active life” (8).

This paper describes PNPAS, in particular its principles, objectives, strategies and key actions, covering the first 4-year period of its implementation (2012–2015).

PRINCIPLES AND OBJECTIVES OF THE PORTUGUESE PNPAS

The main strategic direction of PNPAS is to tackle the increasing prevalence of diet-related NCDs, a growing health problem in Portugal.

PNPAS is based on four main principles (see Box 1), and was designed in line with the most recent policy documents from WHO and the European Commission (EC).

Any strategy for the promotion of healthy eating should be able to implement a coordinated set of actions to empower citizens to adopt healthy eating habits and to create environments that promote healthy eating. The

BOX 1. PRINCIPLES OF THE PORTUGUESE PNPAS

1. Use evidence-based information, as well as the international guidelines proposed in the policy documents from WHO and EC, for the PNPAS design.
2. Understand the promotion of healthy eating as a coordinated set of actions with the aim of empowering citizens to adopt healthy eating habits and to create environments that are conducive to healthy eating.
3. Consider the fight against social inequities in accessing healthy eating and health as one of the major challenges, in order to ensure the right to an adequate diet for all individuals.
4. Implement integrated and intersectoral actions by developing common initiatives based on the principle of “health in all policies” (9), considering that food intake can be strongly influenced by different government sectors (especially the health care sector and its professionals), the private sector and civil society, as well as by social, economic and cultural factors.

Portuguese strategy reflects the need to move away from single interventions and gradually integrate a range of legislative measures on the availability and accessibility of foods, and to involve other stakeholders following the principle of health in all policies (9). Furthermore, current documents used as references highlight the need for a growing integration of human rights principles, particularly the right to adequate food. The need for a more intense intersectoral collaborative approach is one of the main challenges for food and nutrition policies within an integrated framework for food and nutrition policy (see Fig. 1).

To accomplish its mission, and taking into account its overall principles, PNPAS has five main objectives (see Box 2).

STRATEGIES AND ACTIONS OF THE PORTUGUESE PNPAS IMPLEMENTED DURING THE FIRST 4-YEAR PERIOD OF OPERATION (2012–2015)

In order to achieve its five main objectives, PNPAS developed a set of different strategies.

STRATEGY 1: AGGREGATE AND COLLECT INDICATORS OF NUTRITIONAL STATUS, FOOD CONSUMPTION AND THEIR DETERMINANTS DURING THE LIFE CYCLE AND EVALUATE SITUATIONS OF FOOD INSECURITY

The implementation of a national information system to assess the population's nutritional status is essential in order to monitor and evaluate trends over time, and their determinants and consequences. Under the scope of this strategy, PNPAS acts at three different levels: (i) development of surveys providing data regarding food consumption and the nutritional status of the Portuguese population, and their determinants and consequences; (ii) provision of incentives and support for the development of research lines in nutrition, in cooperation with universities, research institutions and scientific associations; and (iii) aggregation and dissemination of all available and published data in Portugal in this field.

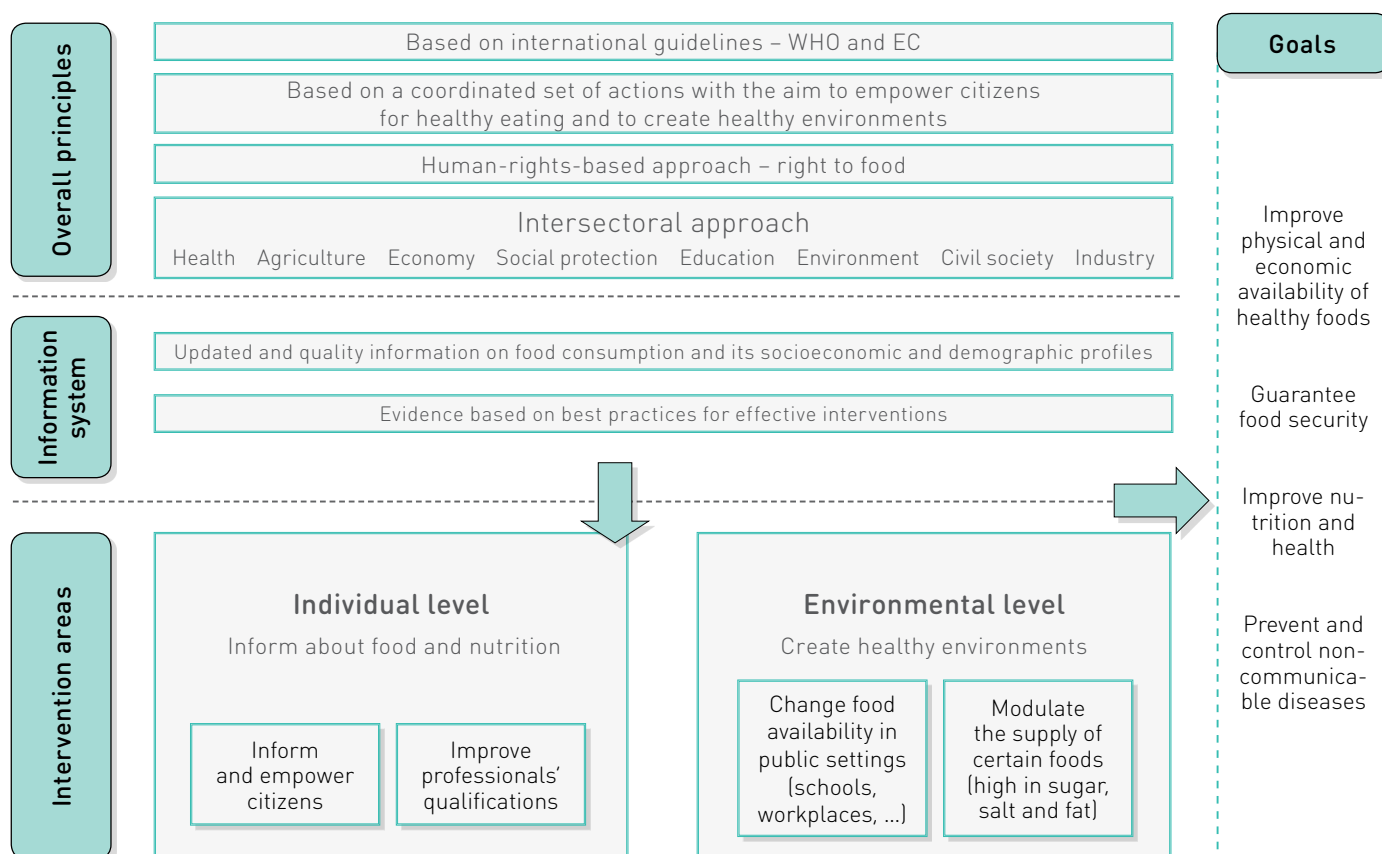
Since 2011, PNPAS has implemented a system for monitoring and evaluating household food insecurity

BOX 2. OBJECTIVES OF THE PORTUGUESE PNPAS

1. To increase knowledge about the food intake of the Portuguese population, and its determinants and consequences.
2. To modify the availability of certain foods (high in sugar, salt and fat) in schools, workplaces and public spaces.
3. To inform and empower individuals on the purchase, preparation and storage of healthy food, especially within the most vulnerable groups.
4. To identify and promote cross-sectoral actions that encourage the consumption of foods of good nutritional quality in an articulate and integrated way with other sectors, namely agriculture, sport, environment, education, social security and local authorities.
5. To improve the qualifications and conduct of the different professionals who, owing to their roles, may influence nutritional knowledge, attitudes and behaviours.

in Portugal – the INFOFAMÍLIA Survey. Household food insecurity was considered an indicator of the

FIG. 1. FOOD AND NUTRITION POLICY FRAMEWORK



impact of the economic crisis and, at the same time, this study enables the identification of groups at risk for food insecurity. This is an ongoing cross-sectional study, repeated every year, with a sample of primary health care users (7, 10).

Portugal is one of the European countries to have integrated the WHO European Childhood Obesity Surveillance Initiative (COSI). In Portugal, PNPAS is a partner of the team responsible for the development of COSI (11). DGS (PNPAS) also financed the WHO study, Health Behaviour in School-aged Children (HBSC) (12).

In addition, it is also relevant to develop and/or encourage the collection and dissemination of best practices. The Mapping National Intervention Projects to Fight Obesity (MAPICO) project was designed with that purpose, aiming to map the community intervention programmes implemented in Portugal for the prevention of childhood obesity (13). At this level of action, PNPAS was also a scientific partner of the EPODE for the Promotion of Health Equity (EPHE) project, a European project running from 2012 to 2015, aiming to assess the impact of community-based health interventions on the reduction of socioeconomic inequities linked to childhood obesity in seven European countries (14).

Several studies were carried out with the administrative and scientific support of PNPAS. In 2012, the Study of Nutrition and Growth Patterns in Infancy (EPACI) was implemented; this was conducted in a national representative sample of the Portuguese population in children aged 0–3 years, with the aim of characterizing the food habits and nutrition, as well as the growth pattern, of Portuguese children in the first years of life (15). PNPAS also recently supported and integrated the Joint Action on Nutrition and Physical Activity (JANPA), a project that aims to halt the rise of overweight and obesity in children and adolescents by 2020 (16).

Other studies to evaluate the consumption of sodium by the population and the presence of trans fatty acids in foods sold in Portugal were also carried out during this period, with the support of PNPAS and WHO.

In the last 4 years, DGS has worked together with the National Health Institute on planning and launching the Public Health Initiatives Programme funded

by grants from the European Economic Area (EEA). Nutrition was one of the predefined priority areas; different research projects related to the assessment of food consumption and nutritional status, as well as to intervention programmes to reduce social inequalities in nutrition, were funded, with a total funding in nutrition of approximately 3 million euros (10 projects) (17). The funded projects focus on different areas, from the assessment of iodine levels in schoolchildren to the National Food, Nutrition and Physical Activity Survey 2014–2016 (IAN), a flagship project.

Annual reports, *Alimentação saudável em números* (Healthy diet in numbers), have been published in order to aggregate and disseminate all available data from Portugal relating to nutritional status, food consumption and their determinants (18).

Data regarding food availability suggest that the intake of saturated fats (16%) and of foods from the “meat, fish and eggs” and “fats and oils” food groups had increased during the period 2008–2012, and were above the levels recommended by WHO. In contrast, there was a decrease in the availability of pulses. When compared with the recommendations of the Portuguese Food Wheel, the availability of foods from the “fruits”, “vegetables” and “pulses” groups was below recommendations; on the other hand, the availability of foods from the “meat, fish and eggs”, and “fats and oils” groups was above recommendations, highlighting the shift in the Portuguese eating pattern from the healthy eating recommendations (18).

STRATEGY 2: MODIFY THE SUPPLY OF CERTAIN FOODS (HIGH IN SUGAR, SALT AND FAT) IN SCHOOLS, WORKPLACES AND OTHER PUBLIC SETTINGS

Different efforts were aimed at modifying food availability in public places, mainly in schools and workplaces. However, the interventions in the school environment were probably the most relevant. During the last 4 years, several actions were implemented in schools, in coordination with the Ministry of Education, with the purpose of regulating their food supply. In 2013, an official circular containing guidelines for healthy menus, was published to regulate schools’ offer of meals (19). This official document also advocates the use of iodine salt in schools (19). Additionally, in 2012 a document was published to guide the food supply in school

buffets/cafeterias. This guiding document provides an easy way to classify foods into three different types: “foods to promote”, “foods to limit” and “foods to avoid”. It thus supports schools in selecting the best food options (20).

The School Fruit Scheme (SFS) is a European Union (EU)-wide voluntary scheme that provides schoolchildren with fruit and vegetables. SFS is an intersectoral programme, involving three different government sectors. National coordination of the SFS is ensured jointly by the Ministries of Agriculture, Education and Health; PNPAS is the focal point of DGS.

The promotion of a healthy diet in workplaces is another important strategic action of the PNPAS as partner of the Fighting Obesity through Offer and Demand (FOOD) programme, an initiative involving several European countries and partners that aims to “improve the nutritional quality of the food offered in restaurants” (21).

STRATEGY 3: INCREASE FOOD AND NUTRITIONAL LITERACY AND EMPOWER CITIZENS FROM DIFFERENT SOCIOECONOMIC AND AGE GROUPS

A set of digital platforms were developed, namely the PNPAS official website (22) and official blog (“Nutrimento”) (23), which aim to stimulate the exchange of information and ideas and debate on current issues related to nutrition, dissemination of good practices and research on this subject. Since the website was launched, it has had upwards of 17 000 users and 120 000 page views, while the blog has gathered approximately 150 000 users and 500 000 page views. The growing importance of social networks as effective communication tools is clear. In that context, PNPAS has been using Twitter as another communication channel since 2015.

Additional educational tools have been developed by PNPAS, including posters and podcasts about food and nutrition, stock photography of Portuguese food, videos, healthy recipes, regular newsletters, and nutrition guides such as *Guidelines for a healthy vegetarian diet* (24) and *Nutrition and Alzheimer’s disease* (25). Educational materials and tools oriented towards socioeconomic vulnerable groups have also been developed.

Different educational materials have also been developed specifically for children, such as posters regarding the promotion of water intake, and books and posters related to the importance of diet for oral health. These materials have been delivered to children through the national network of school libraries.

PNPAS has scientifically supported the Nutri Ventures project since its inception. This is the first children’s entertainment brand in the world to promote healthy eating for children. Since its initial launch in 2012, the series has been sold in over 32 countries (26).

STRATEGY 4: IDENTIFY AND PROMOTE CROSS-SECTORAL ACTIONS WITH OTHER SOCIETY SECTORS, NAMELY AGRICULTURE, SPORTS, ENVIRONMENT, EDUCATION, LOCAL AUTHORITIES AND SOCIAL SECURITY

From 2012 to 2015, PNPAS used a cross-sectoral approach to establish alliances and protocols with several stakeholders for encouraging the availability of healthier food choices (see Table 1). PNPAS actively participates as a focal point of WHO Europe on nutrition and various WHO networks, such as the WHO European COSI; “Reducing marketing pressure on children”; and “Reducing salt intake in the population”. PNPAS also integrates the High Level Group on Nutrition and Physical Activity led by the EC. It also participates in and supports the work of government agencies, nongovernmental organizations (NGOs) and foundations, such as the Calouste Gulbenkian Foundation.

In 2013, the Mediterranean diet in Portugal was recognized as the *United Nations Educational, Scientific and Cultural Organization’s* Intangible Cultural Heritage of Humanity. PNPAS integrated the working group that submitted the application and *is currently a member of the* Monitoring Group for the Protection and Promotion of the Mediterranean Diet.

In 2015, an interministerial working group was created, under the responsibility of DGS (PNPAS), in order to propose a set of actions to reduce salt consumption in the Portuguese population. The National Strategy for the Promotion of Physical Activity, Health and Well-Being is also supported by PNPAS.

TABLE 1. CROSS-SECTORAL ACTIONS OF THE PORTUGUESE PNPAS

Sectors/areas	Stakeholders	Projects/protocols/partnerships
Health	Regional Administration of Health	Close collaborative work
	Health care centres	Close collaborative work
	National Programme for Smoking Prevention and Tobacco Control	Smoking cessation and weight gain – guidelines (27)
	National Programme for Oral Health Promotion	Written materials about diet and oral health for children
	National Programme for Monitoring of Low-risk Pregnancy	Close collaborative work
	National Programme for Reproductive Health	Food and nutrition in pregnancy – guidelines (28)
Municipalities	Municipalities at national level	Close collaborative work
International Institutions	WHO	European Action Plan for Food and Nutrition Policy
	EC	High Level group on Nutrition and Physical Activity
	Food and Agriculture Organization of the United Nations	Close collaborative work
	CPLP	Food Security and Nutrition Strategy for CPLP
NGOs	Oikos® – Cooperation and Development (Portuguese NGO whose goal is worldwide development)	Civil society project to promote an integrated food policy
Environment	Quercus® – Green Movement (environmental NGO)	Increase the knowledge needed to adopt a healthy eating pattern that is also tasty and environmentally friendly
Research and development	The Institute of Molecular Pathology and Immunology of the University of Porto (Human Oncology)	Collaboration protocol – cancer prevention documentaries
Older persons	Virtual Centre of Ageing	Nutrition and Alzheimer's disease – guidelines (25)
Salt	Directorate-General for Economic Activities	Working group on salt
	Directorate-General for Consumers	
	Food Safety and Economic Authority	
	Directorate-General of Food and Veterinary Medicine	
	Federation of Portuguese Agro-Food Industries	
	Portuguese Association of Distribution Companies	
	The Portuguese Commerce and Services Confederation	
	Association of Hotels, Restaurants and Similar Services of Portugal	
	The Portuguese Association for Consumer Protection	
Food industry	DGS	To bring the food industry and health sectors together in reformulation of foods
	PortugalFoods®	
Food distribution	LIDL®	Campaigns to promote fruit and vegetables to children
	Pingo Doce®	Production of healthy recipes
Producers' associations	Observatory of Agricultural Markets and Agro-food Imports	Collaboration protocol
Consumer associations	Directorate-General for Consumers	Poster of recommended food servings, by the new Portuguese Food Wheel Guide
Corporate partners (social projects)	Edenred®	FOOD Programme (21)
	Janssen® and KeyPoint®	Project on health promotion to children and adolescents – "Almoço Virtual" (Virtual Lunch)
Digital and graphic arts	Institute of Art, Design and Enterprise	Posters and videos about nutrition
	Active Media corporate	Podcasts, videos to promote physical activity
Dramatic arts	Super S – healthy superhero (actor)	Nutrition education for school-aged children
University	University of Porto	Development of a portable measuring device for salt

CPLP: Community of Portuguese Language Countries

STRATEGY 5: IMPROVE THE TRAINING AND QUALIFICATIONS OF DIFFERENT PROFESSIONALS WHO CAN INFLUENCE NUTRITIONAL PATTERNS IN HEALTH CARE SERVICES, SCHOOLS, LOCAL AUTHORITY, TOURISM, CATERING AND SOCIAL SECURITY SECTORS

PNPAS has produced a large number of documents and tools for health care and other professionals to provide guidelines for nutrition interventions at different levels (see Box 3) (24, 25, 27–35). Among them, PNPAS was involved in financing the construction of System of Planning and Evaluation of School Meals (SPARE) software for planning and evaluating the nutritional quality of school meals (36). PNPAS was also involved in the development of technical documents launched by the Ministry of Health on iodine supplementation (37) and anthropometry (38).

STRATEGY 6: IMPROVE INTERVENTIONS AND NETWORKING BETWEEN PROFESSIONALS AND STRUCTURES DEALING WITH OBESITY

The implementation of actions to prevent and treat obesity is obviously one of the main goals of the programme. PNPAS collaborated with the Quality Department of DGS in developing an Integrated Care Process (PAI) for overweight adults. This document describes a set of subsequent activities that should be conducted for diagnosis and clinical practice in relation to treating and monitoring of overweight adults, defining the responsibilities of professionals at different levels of health care (39).

Table 2 presents a time-dependent flowchart of the different actions implemented for each strategy during the first 4-year period of implementation of PNPAS.

Table 3 presents the number of actions implemented during the first period of implementation of PNPAS (2012–2016). The largest number of actions was implemented under aims 1, 3 and 5.

In order to assess the impact and effectiveness of PNPAS, six indicators were established: (i) control childhood overweight and obesity up to 2016; (ii) increase by 5% the number of school-aged children that consume fruit and vegetables daily; (iii) increase by 5% the number of school-aged children that have an adequate breakfast every day; (iv) increase by 5%

BOX 3. NUTRITION GUIDES FOR HEALTH CARE AND OTHER PROFESSIONALS

- Guidelines for a healthy vegetarian diet (24)
- Nutrition and Alzheimer's disease (25)
- Smoking cessation and weight gain – guidelines (27)
- Food and nutrition in pregnancy (28)
- Aromatic herbs – a strategy for reducing salt in the diet of the Portuguese (29)
- Guidelines for food supply in university residences (30)
- Iodine – importance for health and the role of diet (31)
- Guidelines on food contaminants (32)
- Proper hydration in schools (33)
- Refugee reception: food and nutrition needs in emergencies (34)
- Nutrition and disabilities (35)

the number of consumers that use food labels; (v) increase by 10% the number of municipalities that receive regular information on healthy eating; and (vi) decrease by 10% the average levels of salt available in foods (1).

Unfortunately, owing to financial constraints, some of the systems necessary for this evaluation were only put in place after the programme had started. The COSI system, put in place in 2008, was used to provide information on the prevalence of childhood overweight and obesity in Portugal. Between 2008 and 2013, a tendency to a decline in increasing rates of overweight and obesity in children aged between 6 and 8 years was observed; this stabilized in 2013 (11). In relation to the consumption of fruits and vegetables, self-reported data collected by a national survey suggest a decrease in consumption between 2008 and 2012 in school-aged children (12); however, the final data available from the National Food Survey, which will be available at the end of 2016, will allow evaluation of more comprehensive information on food consumption, after a period of almost 37 years without this type of data. A food database recording the salt content of Portuguese food and the evolution of salt content in main food items will be available in September 2016. Fig. 2 describes the PNPAS logic model, including its main objectives and strategies, as well as the outputs achieved during this period.

TABLE 2. TIME-DEPENDENT FLOWCHART OF ACTIONS IMPLEMENTED

Strategies and actions	2012	2013	2014	2015	2016
Strategy 1. Aggregate and collect indicators of nutritional status, food consumption and their determinants during the life cycle and evaluate situations of food insecurity					
Alimentação saudável em números (Healthy diet in numbers) report – compilation of data obtained by different studies developed in Portugal (18)	←			→	
MAPICO study (13)			←	→	
INFOFAMÍLIA (National Survey on Food Insecurity) (7, 10)	←			→	
COSI (11)	←		→		
HBSC study (12)		←		→	
EPACI study (15)	←	→			
EPHE study	←		→		
JANPA (16)				←	→
EEA grants (10 research nutrition projects)				←	→
Study about sodium consumption in the Portuguese population			←	→	
Study about the presence of trans fatty acids in foods sold in Portugal			←	→	
Strategy 2. Modify the supply of certain foods (high in sugar, salt and fat), namely in schools, workplaces and other public settings					
SFS			←	→	
Official circular with guidelines for healthy meals in schools (19)		←		→	
Guide for food supply in school buffets/cafeterias (20)	←	→			
FOOD programme (21)	←			→	
Strategy 3. Increase food and nutritional literacy and empower citizens from different socioeconomic and age groups					
Creation and launch of PNPAS official website (22)			←	→	
Reformulation and launch of PNPAS official website (22)				←	→
Creation and launch of “Nutrimento” blog (23)			←	→	
Alimentação Inteligente (Smart eating – eat better, save more)	←				
Stock photography of Portuguese food			←	→	
Educational videos			←	→	
Healthy recipes			←	→	
Nutrition guides			←	→	
PNPAS newsletters	←			→	
Diet and Oral Health book			←	→	
Nutri Ventures project (26)	←			→	
Strategy 4. To identify and promote cross-sectoral actions with other society sectors, namely agriculture, sports, environment, education, local authorities and social security					
Monitoring Group for the Protection and Promotion of the Mediterranean Diet			←	→	
Workgroup on salt				←	→
National Strategy for the Promotion of Physical Activity, Health and Well-Being				←	→
PNPAS cross-sectoral actions (see Table 1)	←			→	
Strategy 5. Improve the training and qualifications of different professionals who can influence nutritional patterns, namely in health care services, schools, local authorities, tourism, catering or social security					
Nutrition guides for health care and other professionals (11 nutrition guides) (24, 25, 27–35)	←			→	
SPARE tool (36)	←			→	
Technical documents on anthropometry procedures (Ministry of Health) (38)		←	→		
Technical documents on iodine supplementation (Ministry of Health) (37)		←	→		
Strategy 6. Improve the interventions and networking between professionals and structures dealing with obesity					
Integrated Care Process for overweight adults (39)				←	→

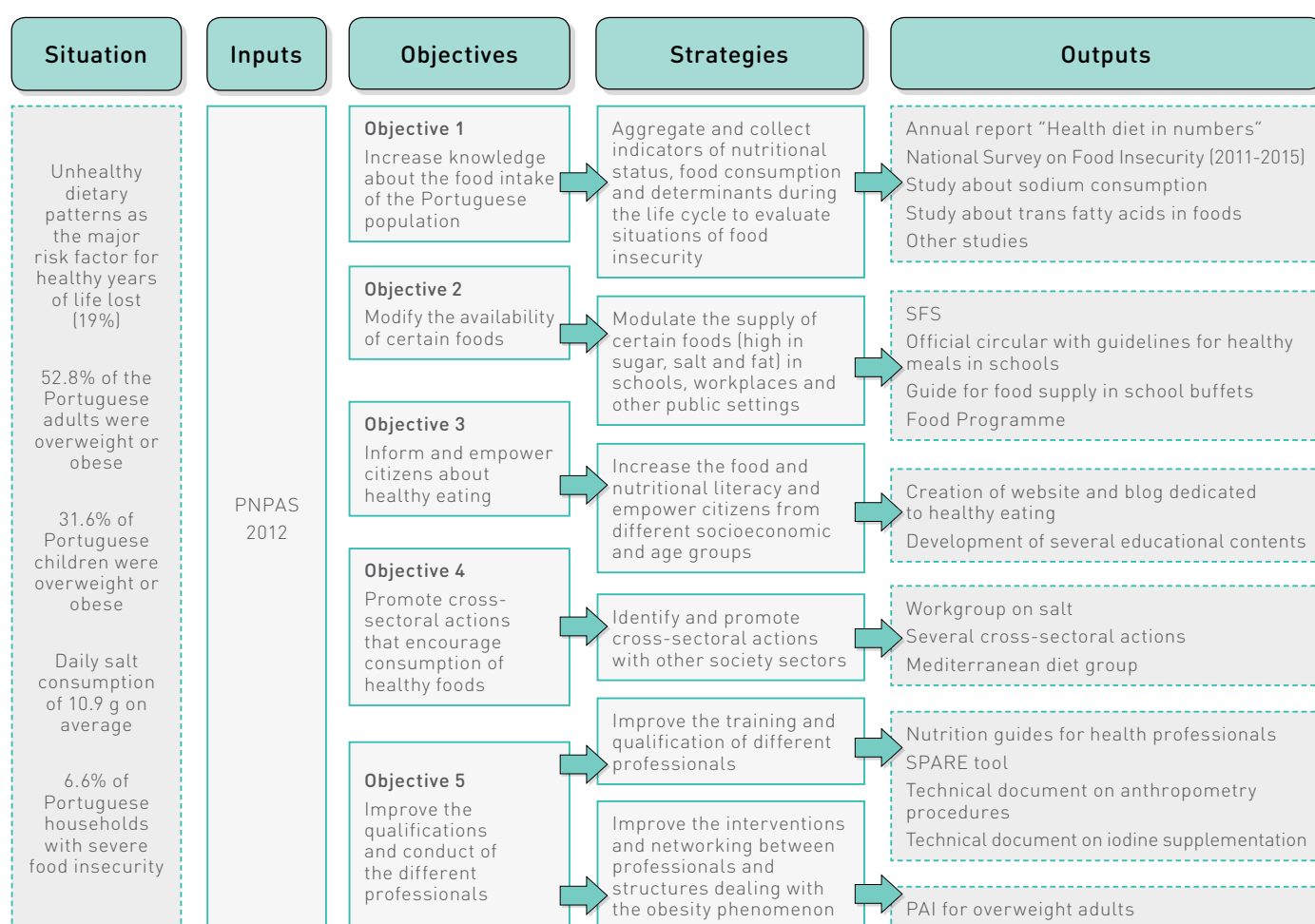
TABLE 3. SUMMARY OF ACTIONS DURING THE PERIOD 2012–2016

Aims of the Portuguese PNPAS	Actions completed or in progress
Aim 1: To increase knowledge about the food intake of the Portuguese population, and its determinants and consequences	11
Aim 2: To change the availability of certain foods in schools, workplaces and public spaces	4
Aim 3: To inform and empower the population on the purchase, preparation and storage of healthy food, especially within the most vulnerable groups	11
Aim 4: To identify and promote cross-sectoral actions that encourage the consumption of foods of good nutritional quality in an articulate and integrated way with other sectors, namely agriculture, sport, environment, education, social security and local authorities	4
Aim 5: To improve the qualifications and conduct of the different professionals who, owing to their roles, may influence nutritional knowledge, attitudes and behaviours	14
Total	44

DISCUSSION

Approved in 2012, PNPAS represents the first comprehensive national strategy for the promotion of healthy eating in Portugal. The design of PNPAS followed the latest strategic lines suggested by WHO and EC.

During the first 4-year period of PNPAS, several actions at different levels were implemented. The establishment of alliances and partnerships with different stakeholders was the first step taken by PNPAS towards establishing an intersectoral strategy involving all other government sectors (education, agriculture, environment, social protection), the private sector and civil society to consider the need to reduce exposure to risks factors for unhealthy diets that are independent of the scope of health. For example, PNPAS worked with the Ministry of Education and the Ministry of Social Affairs to change the food offered by school canteens and food aid programmes. In fact, and following the trends of European food policies,

FIG. 2. LOGIC MODEL FOR THE PORTUGUESE PNPAS

the involvement of PNPAS in the development of regulatory measures to change the availability of food was clearer in the area of school nutrition policies. The next step should be the implementation of actions to monitor the implementation of these guidelines.

On the other hand, PNPAS now plays a more active role in the communication and dissemination of accurate information on food and nutrition. Different educational materials have been published, either for the general population or for health care professionals. Furthermore, the use of new technologies and communication channels (digital/social media) is considered an important method of providing information on healthy eating.

In the authors' opinion, a food and nutrition policy should support nutrition and health surveillance systems, which should be able to provide information in a systematic and rapid way, in order to monitor and evaluate time trends in food consumption. PNPAS was implemented during a major economic crisis, and the austerity programmes implemented by the Portuguese government (e.g. reductions in unemployment assistance, reduction in minimum social incomes, public sector pay cuts, increases in VAT, increases in health care charges, increases in social contributions) have had a significant impact on the increasing trends towards indicators of inequality and poverty. Despite the fact that Portugal already ranks among the most unequal countries in the Organisation for Economic Co-operation and Development, the last European Union Statistics on Income and Living Conditions (EU-SILC) showed that the financial crisis accelerated income inequality and poverty (5). Thus, since 2011, PNPAS has implemented a system for monitoring and evaluating the household food insecurity of the Portuguese population. Household food insecurity was considered an indicator that would allow assessment of the impact of the economic crisis on access to adequate foods and, at the same time, allow identification of groups at risk of this condition in order to identify priority intervention groups.

There is still a lot to do. An important challenge for food policymakers is the fact that the creation of healthy food environments requires a broad multisectoral approach in order to establish alliances and partnerships among the different government

sectors, the private sector and civil society. In addition, this multisectoral approach should be able to make policy interventions targeting the social determinants of health (6). The need for a more intense intersectoral approach is one of the main challenges of food and nutrition policies, especially in countries such as Portugal where integrated policies are not common. A final important issue is the financing of these types of prevention and health-promotion programmes. Although they are considered highly relevant components of a health policy, the budget for such programmes (including the necessary human and physical resources) is still almost negligible.

In the near future, it will be essential to improve the quality of indicators and the capacity of data collection in order to make monitoring systems more accurate and to simultaneously enable impact evaluation of this strategy. Another key point will be consolidation of the strategy and the creation of a management and administration group that is sufficiently robust and stable to respond to the multiple requests of today's society in which food issues are central.

Acknowledgements: None

Source of funding: The Portuguese PNPAS is supported independently by social games, such as the national lottery. The Santa Casa da Misericórdia de Lisboa, is a centuries-old non-profit-making organization operating under the strict control of the Portuguese Government. It has the exclusive right, under Portuguese legislation, to organize and operate lotteries, lotto games and sporting bets. The programme director is not paid; the programme depends on the DGS/ Ministry of Health; and PNPAS does not receive any other funding from private or commercial entities.

Conflict of interests: None declared.

Disclaimer: The authors alone are responsible for the views expressed in this publication and they do not necessarily represent the decision or policies of the World Health Organization.

REFERENCES

1. Programa Nacional da Promoção da Alimentação Saudável – Orientações Programáticas. Lisbon: Direção-Geral da Saúde; 2012 (<http://forumenfermagem.org/dossier-tecnico/documentos/orientacoes-tecnicas/nacionais/programa-nacional-para-a-promocao-da-alimentacao-saudavel-orientacoes-programaticas#.V0L2Sr6vw1g>, accessed 23 May 2016).

2. Global action plan for the prevention and control of noncommunicable diseases 2013–2020. Geneva: World Health Organization; 2013 (http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf, accessed 18 May 2016).
3. A saúde dos Portugueses. Perspetiva 2015. Lisbon: Direção-Geral da Saúde; 2015.
4. Inquérito Nacional de Saúde 2014. Mais de metade da população com 18 ou mais anos tinha excesso de peso. Lisbon: Instituto Nacional de Estatística; 2015 (<http://www.insa.pt/sites/INSA/Portugues/ComInf/Noticias/Paginas/INS2014.aspx>, accessed 18 May 2016).
5. Inquérito às Condições de Vida 2013 (Dados Provisórios). Lisbon: Instituto Nacional de Estatística; 2014 (http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_boui=208819520&DESTAQUESmodo=2, accessed 18 May 2016).
6. Loring B, Robertson A. Obesity and inequities: guidance for addressing inequities in overweight and obesity. Copenhagen: WHO Regional Office for Europe; 2014 (http://www.euro.who.int/__data/assets/pdf_file/0003/247638/obesity-090514.pdf?ua=1, accessed 18 May 2016).
7. Gregório MJ, Graça P, Costa A, Nogueira PJ. Time and regional perspective of food insecurity during the economic crisis in Portugal, 2011–2013. *Saúde e Sociedade*. 2014;23(4):13–27.
8. Food and Agriculture Organization of the United Nations. Rome Declaration on World Food Security and World Food Summit Plan of Action. In: World Food Summit, 13–17 November 1996, Rome, Italy (<http://www.fao.org/docrep/003/w3613e/w3613e00.HTM>, accessed 18 May 2016).
9. The Helsinki Statement on Health in All Policies. In: The 8th Global Conference on Health Promotion, Helsinki, Finland, 10–14 June 2013. Geneva: World Health Organization; 2013 (http://www.who.int/healthpromotion/conferences/8gchp/8gchp_helsinki_statement.pdf, accessed 18 May 2016).
10. Gregório MJ, Graça P, Nogueira PJ, Gomes S, Santos CA, Boavida J. Proposta metodológica para a avaliação da insegurança alimentar em Portugal. *Revista Nutricias*. 2014(21):4–1
11. Rito AI, Graça P. Childhood Obesity Surveillance Initiative 2013. Lisbon: Instituto Nacional de Saúde Doutor Ricardo Jorge; 2015 (http://repositorio.insa.pt/bitstream/10400.18/3108/3/Relatorio_COSI_Portugal_2013.pdf, accessed 23 May 2016).
12. de Matos MG, Simões C, Camacho I, Reis M, Equipa, Aventura Social & Saúde. A saúde dos adolescentes portugueses. Relatório do estudo HBSC 2014. Lisbon: Centro de Malária e Outras Doenças Tropicais (CMDT)/IHMT/UNL; 2015 (http://www.apah.pt/media/Outros_Docs_TecnicosRelatorios_Tematicos/DGS_Relatorio_A_SaudeDosAdolescentesPortugueses_Ano2014_Dezembro2014.pdf, accessed 18 May 2016).
13. MAPICO – Mapeamento e divulgação de boas práticas em projetos de intervenção comunitária na área da prevenção da obesidade em Portugal. Lisbon: Plataforma Contra a Obesidade; 2012 (<http://www.plataformacontraaobesidade.dgs.pt/PresentationLayer/conteudo.aspx?menuid=436&exmenuid=437>, accessed 18 May 2016).
14. Mantziki K, Vassilopoulos A, Radulian G, Borys JM, du Plessis H, Gregório MJ et al. Promoting health equity in European children: design and methodology of the prospective EPHE (Ecode for the Promotion of Health Equity) evaluation study. *BMC Public Health*. 2014;14:303. doi:10.1186/1471-2458-14-303.
15. Alimentação e crescimento nos primeiros anos de vida a propósito do EPACI Portugal 2012. Lisbon: EPACI Portugal; 2013 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1445005594EPACI2013.pdf, accessed 18 May 2016).
16. The project. In: Joint Action on Nutrition and Physical Activity [website]. (<http://www.janpa.eu/about/project.asp>, accessed 18 May 2016).
17. EEA grants. In: Alimentação Saudável [website]. (<http://www.alimentacaosaudavel.dgs.pt/investigacao/eea-grants/>, accessed 18 May 2016).
18. Portugal – Alimentação Saudável em Números 2014. Programa Nacional para a Promoção da Alimentação Saudável. Lisbon: Direção-Geral da Saúde; 2014 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444947680relatorioPNPAS2014.pdf, accessed 18 May 2016).
19. Circular nº.: 3/DSEEAS/DGE/ 2013. Orientações sobre ementas e refeitórios escolares 2013/2014 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444948270Orientacoessobreementaserefeitoriosescolares2013_2014.pdf, accessed 18 May 2016).
20. Ladeiras L, Lima RM, Lopes A. Bufetes escolares – orientações. Lisbon: Ministério da Educação e Ciência – Direção-Geral da Educação; 2012 (<http://www.plataformacontraaobesidade.dgs.pt/ResourcesUser/Bufetes%20escolares.pdf>, accessed 18 May 2016).
21. FOOD Programme. Fighting Obesity through Offer and Demand (<http://www.food-programme.eu/>, accessed 18 May 2016).
22. Alimentação Saudável (<http://www.alimentacaosaudavel.dgs.pt/en/>, accessed 18 May 2016).
23. Nutrimento. Blog do Programa Nacional Promoção Alimentação Saudável (www.nutrimento.pt, accessed 18 May 2016).
24. Silva SCG, Pinho JP, Borges C, Santos CT, Santos A, Graça P. Guidelines for a healthy vegetarian diet. Lisbon: Direção-Geral da Saúde; 2015 (<https://sigarra.>

- up.pt/fcnaup/pt//pub_geral.show_file?pi_gdoc_id=12044, accessed 18 May 2016).
25. Correia A, Filipe J, Santos A, Graça P. Nutrição e doença de Alzheimer. Lisbon: Direção-Geral da Saúde; 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444910422Nutri%C3%A7%C3%A3oeDoen%C3%A7adeAlzheimer.pdf, accessed 18 May 2016).
 26. Nutri Ventures (<http://nutri-ventures.com/pt/>, accessed 18 May 2016).
 27. Simas P, Marinho AR, Dias T. Cessação tabágica e ganho ponderal: linhas de orientação. Lisbon: Direção-Geral da Saúde; 2016 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1452006924Cessac%C3%A7%C3%A3otab%C3%A1gicaganhoponderal.pdf, accessed 18 May 2016).
 28. Teixeira D, Pestana D, Calhau C, Vicente L, Graça P. Alimentação e nutrição na gravidez. Lisbon: Direção-Geral da Saúde; 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444899925Alimentacaoenutricaoenagravidez.pdf, accessed 18 May 2016).
 29. Lopes A, Teixeira D, Calhau C, Pestana D, Padrão P, Graça P. Ervas aromáticas – uma estratégia para a redução do sal na alimentação dos Portugueses. Lisbon: Direção-Geral da Saúde; 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1446660770Ervasarom%C3%A1ticasUmestrat%C3%A9giaparaaredu%C3%A7%C3%A3odosalnaalimenta%C3%A7%C3%A3odosPortugueses.pdf, accessed 18 May 2016).
 30. Bastos S, Graça P, Santos CT, Ferreira JC. Linhas de orientação para a oferta alimentar em residências universitárias. Lisbon: Direção-Geral da Saúde; 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444899574Linhasdeorientaçãoparaaofertaalimentaremresidenciasuniversitárias.pdf, accessed 18 May 2016).
 31. Teixeira D, Calhau C, Pestana D, Vicente L, Graça P. Iodo – importância para a saúde e o papel da alimentação. Lisbon: Direção-Geral da Saúde; 2014 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444899433Iodo_Importânciaparaasaúdeeopapeldaalimentação.pdf, accessed 18 May 2016).
 32. Teixeira D, Pestana D, Calhau C, Graça P. Linhas de orientação sobre contaminantes de alimentos. Lisbon: Direção-Geral da Saúde. 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444899638LinhasdeOrienta%C3%A7%C3%A3osobreContaminantesdeAlimentos.pdf, accessed 18 May 2016).
 33. Padrão P, Lopes A, Lima RM, Graça P. Hidratação adequada em meio escolar. Lisbon: Direção-Geral da Saúde. 2014 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1448969202hidrata%C3%A7%C3%A3oemmeioescolar_digital.pdf, accessed 18 May 2016).
 34. Valdivieso R, Gregório MJ, de Sousa SM, Santos CT, Graça MR, Correia A et al. Acolhimento de refugiados: alimentação e necessidades nutricionais em situações de emergência. Lisbon: Direção-Geral da Saúde; 2015 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1450699130AcolhimentoderefugiadosmanualPNPAS.pdf, accessed 18 May 2016).
 35. Campos MA, Sousa R. Nutrição e deficiência(s). Lisbon: Direção-Geral da Saúde; 2015 (<http://nutrimento.pt/activeapp/wp-content/uploads/2015/03/Nutrição-e-Deficiências.pdf>, accessed 18 May 2016).
 36. Rocha A, Afonso C, Santos MC, Morais C, Franchini B, Chilro R. System of planning and evaluation of school meals. Public Health Nutr. 2014;17(6):1264–70. doi:10.1017/S1368980013001961.
 37. Aporte de iodo em mulheres na preconcepção, gravidez e amamentação. Lisbon: Direção-Geral da Saúde; 2013 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444914832Orientaçãonº0112013Aportedeiodoemmulheresnapreconcepçãoogravidezeamamentação.pdf, accessed 18 May 2016).
 38. Avaliação antropométrica no adulto. Lisbon: Direção-Geral da Saúde; 2013 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1444914557Orientaçãoaavaliaçãoantropométricanoadulto.pdf, accessed 18 May 2016).
 39. Processo assistencial integrado da pré-obesidade no adulto. Lisbon: Direção-Geral da Saúde; 2014 (http://www.alimentacaosaudavel.dgs.pt/activeapp/wp-content/files_mf/1450787614PAIpr%C3%A9obesidade.pdf, accessed 18 May 2016).