

Implications

A food policy package for healthy diets and the prevention of obesity and diet-related non-communicable diseases: the NOURISHING framework

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Summary

This paper presents the NOURISHING framework of food policies to promote healthy diets, and uses the framework to summarize the policy actions taken by the Bellagio meeting countries. NOURISHING was developed by WCRF International to formalize a comprehensive policy package that brings together the key domains of action and policy areas. It aims to provide global level recommendations for a comprehensive response, within which policymakers have the flexibility to select specific policy options suitable for their national/local contexts and target populations. It also aims to provide a framework for reporting, categorizing and monitoring policy actions taken around the world, and for systematically categorizing, updating, interpreting and communicating the evidence for policy to policymakers. In this paper we explain the structure for NOURISHING and the rationale behind it. We also use the framework to report on and categorize the policy actions implemented in the Bellagio countries.

Keywords: Food policy, obesity.

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Introduction

In recent years, international agencies, intergovernmental entities, governments, and civil society have proposed a wide range of food policies to promote healthier eating (1–6). In this paper, we bring together the key areas for policy action into a systematic framework called ‘NOURISHING’ (Fig. 1). The framework was developed by World Cancer Research Fund International in order to:

- Formalize a comprehensive policy package that brings together the key domains of action and policy areas to effectively promote healthier eating;
- Provide global level recommendations for a comprehensive response, within which policymakers have the

flexibility to select specific policy options suitable for their national/local contexts and target populations;

- Establish a framework for reporting, categorizing and monitoring policy actions around the world, and through which the evidence for each of the fields of action and policy options can be systematically categorized, updated, interpreted and then communicated to policymakers.

NOURISHING is based on the understanding that food policies to prevent obesity should aim to improve dietary behaviours by improving the availability, affordability and acceptability of healthy diets – and decreasing the availability, affordability and acceptability of unhealthy diets (1). It draws on the evidence that an effective approach is a comprehensive approach and thus should consist of

Domain		Policy Area	Policy Options/Actions
Food environment	N	Nutrition label standards and regulations on the use of claims and implied claims on foods	e.g. Nutrient lists on food packages; clearly visible “interpretive” and calorie labels; menu, shelf labels; rules on nutrient and health claims
	O	Offer healthy foods and set standards in public institutions and other specific settings	e.g. Fruit and vegetable programmes; standards in education, work, health facilities; award schemes; choice architecture
	U	Use economic tools to address food affordability and purchase incentives	e.g. Targeted subsidies; price promotions at point of sale; unit pricing; health-related food taxes
	R	Restrict food advertising and other forms of commercial promotion	e.g. Restrict advertising to children that promotes unhealthy diets in all forms of media; sales promotions; packaging; sponsorship
	I	Improve the quality of the food supply	e.g. Reformulation; elimination of trans fats; reduce energy density of processed foods; portion size limits
	S	Set incentives and rules to create a healthy retail environment	e.g. Incentives for shops to locate in underserved areas; planning restrictions on food outlets; in-store promotions
Food system	H	Harness supply chain and actions across sectors to ensure coherence with health	e.g. Supply-chain incentives for production; public procurement through “short” chains; health-in-all policies; governance structures for multi-sectoral engagement
Behaviour change communication	I	Inform people about food and nutrition through public awareness	e.g. Education about food-based dietary guidelines, mass media, social marketing; community and public information campaigns
	N	Nutrition advice and counselling in health care settings	e.g. Nutrition advice for at-risk individuals; telephone advice and support; clinical guidelines for health professionals on effective interventions for nutrition
	G	Give nutrition education and skills	e.g. Nutrition, cooking/food production skills on education curricula; workplace health schemes; health literacy programmes

Figure 1 Food policies to promote healthy diets: The ©WCRF International NOURISHING framework.

a suite of policies within a unifying strategy (7–10). It recognizes the importance of finding a balance between proposing overly prescriptive global level solutions which may not be effective in all countries and populations, with demand at the national level for clear and specific guidance on effective policies. It draws on previously developed frameworks for food policies (11–15) and is

consistent with the list of policy options included in the WHO Global Action Plan for the Prevention and Control of Non-Communicable Diseases (2013–2010) (5). Although primarily presented in an obesity context for the purpose of the Bellagio meeting, it is equally applicable to the prevention of diet-related non-communicable diseases more broadly.

The NOURISHING framework

Structure

The NOURISHING framework comprises three broad domains of policy actions, which are essentially the three pillars of the response to unhealthy diets; 10 key policy areas within these domains, which between them make up a comprehensive approach; and the specific policy actions which need to be identified and implemented by policymakers to fit their national contexts and populations (Fig. 1). To develop a comprehensive and effective response to unhealthy eating, governments should address all of the domains of action together and implement policy actions from within all of the 10 policy areas.

The actual options selected by policymakers are all defined as *policy actions*. By policy actions, we refer to the specific actions put into place by any level of government and associated agencies to achieve the public health objective. These policy actions may be written into broad strategies, action plans, official guidelines/notifications, calls to action, legislation, or rules and regulations. An action may have its own exclusive policy document, or may be part of a larger document.

Each of the domains and policy areas in NOURISHING was identified through a review of existing policy frameworks, proposed and implemented national policies, and the evidence of their effects. We now briefly present the rationale for identifying these three domains of policy action. We describe the 10 policy areas within the three domains, and provide an overview of the extent to which these policies have been adopted around the world. We then use the NOURISHING framework to categorize the policy actions reported by countries participating in the Bellagio meeting. Using this information from countries, the paper ends with a discussion of the current policy landscape and how the NOURISHING framework could be used in practice to benchmark progress and identify policy gaps.

Food environment

Rationale for action

Evidence shows that the environments in which people develop their dietary behaviours and make their food choices are a very significant influence on what they eat (1,2,16,17). It is for this reason that the research community has been a particularly strong proponent of policies to change food environments.

The ways in which food environments influence dietary behaviours is clearly described in the research literature. In the first instance, evidence shows that the overall food supply – what is available and affordable – is correlated with dietary patterns. For example, evidence from geo-

graphical and cultural differences shows that people develop dietary preferences related to what food is available and affordable in national and local contexts (18). Likewise, historical data suggest that changes in the food supply side play an important role in influencing the foods people eat (19).

In the second instance, the neighbourhood food environment – food retail – also influences food availability and affordability (20). Research shows that decisions made by food retailers – the location of their outlets, the foods they sell, the prices they charge, the promotional strategies they use, and the nutrition-related activities they implement, influence food availability, affordability and acceptability, which in turn influence the decisions consumers make about food (21,22).

In the third instance, and particularly relevant to the modern marketplace, food companies – whether they be large or small, producers, distributors, manufacturers or retailers, take intentional actions to encourage consumers to adopt particular dietary behaviours. They develop products using ingredients that maximize appeal to innate taste preferences and influence consumer perceptions of appropriate portion sizes (23,24). They promote these products to encourage more consumers to consume the product, to encourage them to consume more of the product, and more often (25–27). And they set prices in order to influence consumer acceptance of the product (28).

Policy areas

Figure 1 shows the six main areas in which actions can be taken to change food environments, including the information and market environments ('NOURIS'). Government adoption of policies to change food environments has been patchy (13,29,30), although there has been considerably more action in some areas relative to others. Food labelling policies have been adopted relatively widely. In a recent review of global nutrition policies, WHO reported that at least half of the countries surveyed had labelling policies in place (29). An increasing number of countries have developed, or are considering, guidance on labels with 'interpretative' elements rather than just nutrient lists.

Another area that governments have paid particular attention to is food availability in specific settings – typically in the form of school-based policies, programmes and interventions. A number of countries have implemented food and/or nutrition-based standards for the food available in schools (30,31). Most high-income countries have some form of scheme to make fruit available in schools (e.g. the School Fruit Scheme in Europe), as do some low- and middle-income countries (29,30).

Economic tools to address the affordability of food and change incentives for purchase have been widely discussed by governments, civil society and the media alike in recent years. The WHO reports that there is interest in developing

policies across most regions (29), and the OECD report growing interest in Europe (32). A range of actions have been taken – including taxes in a handful of European countries and targeted subsidies in the United States – and several governments are exploring the possibility of introducing fiscal measures to modify the intake of specific nutrients or groups of foods. But overall the adoption of health-related fiscal measures as a policy tool remains very low (30).

One of the most widely cited policies to change information environments is the restriction of unhealthy food marketing, particularly to children. At least 22 countries have developed explicit policies on marketing to children, over half of which are in the European region (33) and there is interest and policy development worldwide (29). For example, the Regional Offices of the WHO for Latin America, Europe, the Western Pacific and the Eastern Mediterranean have all taken specific actions to encourage more national policy development. Some countries have recently adopted framework legislation on food marketing to children (e.g. Peru), following from legislative action already taken in the United Kingdom, South Korea, Ireland and Spain (34–37).

Actions taken to improve the quality of the food supply have, to date, largely focused on two nutrients most directly associated with cardiovascular diseases: sodium and trans fats. Over 30 countries have salt reduction strategies (38), and at least 15 countries have developed a range of measures designed to reduce trans fat intake (39). Actions have also been taken specific to fruits and vegetables. A number of low and middle countries have policies in place to promote the production, consumption and local marketing of fruit and vegetables, including via family agriculture or farmers networks. Many of these policies were originally designed in the context of food and nutrition insecurity to address micronutrient deficiencies but are now serving a dual purpose in the context of NCDs (30). In the Pacific Islands and the Caribbean, actions have been taken to promote local varieties of fruit and vegetables that are suitable for cultivation as well as local consumption (i.e. promoting the consumption of domestic produce) (31).

The final action to change the food environment concerns the retail environment. Actions in this area have been relatively limited except for of the United States. Examples of potential policy actions include financial incentives for retailers to locate in underserved neighbourhoods (a policy already in place in some US states), restrictions on point-of-sale promotions for unhealthy foods, and planning restrictions (or ‘zoning’) that ban or impose limits on the number of fast food outlets in the vicinity of schools or in a given community (40,41). Other efforts being made in the United States to improve healthy retail provision include the conversion of corner stores, campaigns to promote buying local food, and urban agriculture (42).

The food system and supply chain

Rationale for action

Policies within this category aim to harness food policies and actions across sectors to ensure coherence with healthy eating. The rationale for taking policy action in the food system and supply chain has three inter-related aspects. The first aspect is that, through their effects on food availability, affordability and acceptability, specific agricultural and food systems policies have repercussions for policies to promote healthy eating. For example, trade policies that make it easier to obtain ingredients used in high calorie foods may conflict with policy actions taken to reduce their consumption. Identifying these repercussions and creating policy coherence – a ‘health in all policies’ approach – could increase the effectiveness and sustainability of the policy actions (43). This would require creating the governance structures to develop such actions.

The second aspect is that policies that address the food environment have inevitable repercussions upstream for the actors and activities in agriculture and food systems. Governments thus need to anticipate and respond to the reaction of the food supply chain. For example, the tax on saturated fat in Denmark was met with resistance by the food industry because it was purported to have negative impacts on the purchase of nutrient-dense foods naturally high in saturated fats, hinder economic performance and incur high administrative costs (44). Although this argument proved specious – emerging data show that the tax was effective at reducing consumption of saturated fat with no unintended impact on the economic performance of retailers and manufacturers – it demonstrates the need to foresee debates about upstream impacts as a potential barrier to policy action, to consider upstream impacts in policy design, and to generate support from citizens and civil society to overcome barriers.

The third aspect is that policy actions can be implemented in food systems with the explicit intention of changing food availability, affordability and acceptability to promote healthy diets. Improving the logistics of supply chains to make culturally acceptable fruits and vegetables available through public procurement is a case in point. These actions could also be developed to be consistent with efforts to promote sustainable food systems, and again require governance mechanisms to enable their identification and implementation.

Policy areas

Despite the rationale for action, governments have taken minimal actions in food systems, and a clear set of policy options has yet to be defined. The main area of actual intervention to emerge to improve food availability, affordability and acceptability is, as reviewed earlier, leveraging

'short supply chains' for the provision of fruits and vegetables and other nutritious, often local, foods to benefit farmers and consumers alike. More broadly, some governments have taken cross-departmental and sectoral actions to promote 'health in all policies,' and created governance structures in which issues of both food supply and demand are discussed.

Behaviour change communication

Rationale for action

Behaviour change communication involves providing information, education, literacy and skills in a way that encourages people to change their behaviours. As a policy approach, it targets people directly – requiring them to change their behaviours based on their own knowledge – rather than targeting the external environment. The theory is that more informed, educated, nutritionally literate and skilled individuals are more empowered to make changes consistent with good health for themselves and the people they care for (e.g. their children). Communicating behaviour change can also influence social norms more broadly by changing public perceptions of an issue. Providing information through education is thus one precursor to making choices consistent with good health. Literacy and skills are a critical component of education, as they support the translation of knowledge into practice. Behaviour change communication is a necessary complement to changes to food environments and food systems because it enables people to respond to those changes.

There is a substantial body of evidence that clearly points to a strong inverse association between general levels of education and obesity in high-income countries, with education having a protective effect (45). This relationship is also present in transition economies (46). Similarly, higher levels of education are associated with higher consumption of fruits and vegetables, and diets of higher nutritional quality, while low educational status is associated with higher consumption of energy-dense foods and less healthy dietary patterns (47).

Studies have demonstrated that nutrition knowledge and healthy dietary behaviour are positively correlated. Additionally, parental nutrition knowledge and attitudes are independent predictors of a child's consumption of fruit and vegetable (48). While there is likely to be a complex relationship with other socioeconomic factors, these findings support a focus on nutrition knowledge in health education campaigns to promote healthy eating and encourage healthy eating practices and habits (18). Higher levels of general education have been found to increase the ability of individuals to obtain and understand the health-related information needed to develop health-promoting behaviours, and better-educated individuals have more information about which foods are healthier (18). This

suggests that different approaches might be needed to target groups most in need of behaviour change.

Policy areas

As shown on Figure 1, there are three main areas in which actions can be taken to communicate behaviour change, ranging from population-wide scale actions all the way through to the targeting of specific individuals. Public awareness campaigns, in whatever form they take, typically aim to communicate specific messages. They may be conducted around specific foods and nutrients, such as salt, soda or fruits and vegetables, or be concerned with healthy eating more generally. Approaches that have received particular emphasis from governments are the development and communication of food-based dietary guidelines and '5-a-day' style fruit and vegetable campaigns (13,30,31).

Healthcare settings are frequently mentioned by policy-makers with reference to nutrition, obesity and NCD prevention. Advice and counselling on food, nutrition and weight management can be provided in a variety of ways, such as through telephone advice services or one-on-one counselling. The Alma Ata Declaration on Primary Health Care stated specifically (paragraph VII.3) that 'Primary health care [should] include at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition' (49).

Nutrition education can take many forms, including nutrition, cooking/food production skills on education curricula, workplace health schemes and nutrition and health literacy programmes. There is very little documentation of the degree of nutrition education provided around the world. The FAO have identified low capacity to support nutrition education as a key barrier (50). As concerns schools, there is a relatively extensive range of intervention studies conducted for the purpose of research into the effects of nutrition education initiatives. Education in community settings can also involve the provision of cooking and growing skills, the latter of which is a growing trend in North America and Europe (school gardens, etc.), as well as in homestead and community gardening initiatives designed to address malnutrition in all its forms in low and middle income countries.

Policy options selected by countries participating in the Bellagio meeting

Table 1 lists the policy actions implemented (or very close to implementation) in the 11 Bellagio meeting countries, categorized according to the NOURISHING framework. It does not include actions still being developed – such as the government standards for self-regulation of advertising in Singapore – nor measures that have never been implemented – such as the regulation on warnings on food

Table 1 Policy options implemented in the Bellagio countries to prevent obesity through healthier diets*

N	<p>Australia and New Zealand – Star system for (voluntary) front of pack labelling in Australia; regulations on the use of claims (high-level claims cannot be used on 'unhealthy foods' as defined by a nutrient profiling system) (both countries)</p> <p>Brazil – Mandatory nutrient list required on all packaged foods</p> <p>Chile – Mandatory nutrient list required on packaged foods; voluntary Guideline Daily Allowance system; rules on nutrients and health claims</p> <p>China – Mandatory nutrient list required on packaged foods</p> <p>England – Voluntary commitments to standard government traffic light labelling scheme; voluntary commitments to calorie labelling on menus to standard government scheme</p> <p>Mexico – Government waiting to finalize a front-of-pack labelling system approved by previous government (currently >50% of snacks and beverages use industry's voluntary Guideline Daily Allowance scheme)</p> <p>Pacific Islands – Shelf labelling required for high fat meats in Fiji and Solomon Islands (not enforced)</p> <p>Singapore – Government-developed Healthier Choice Symbol for (voluntary) front of pack labelling</p> <p>South Africa – Regulation on the use of nutrient claims</p> <p>Thailand – Mandatory Guideline Daily Allowance labelling on snacks; warning sign on 5 categories of snacks stating 'Should consume small amounts, and exercise for a better health.'</p>
O	<p>Australia and New Zealand – School canteen guidelines in some states/territories in Australia; additional food service policies in place in some other specific locations (e.g. hospitals)</p> <p>Brazil – Decree to encourage provision of 'basic' foods in schools</p> <p>Chile – National mandatory guidelines for preschool and school feeding programmes (mandate the type, frequency and amount of food served)</p> <p>England – Mandatory nutritional standards for school food; School fruit and vegetable scheme; Voluntary guidance on food-based standards for preschool settings; Government Buying Standards for Food and Catering Services</p> <p>Mexico – National mandatory school food guidelines</p> <p>Pacific Islands – Canteen/vending guidelines in some islands</p> <p>Singapore – Official food service guidelines for preschools, schools, workplace canteens, caterers and restaurants (voluntary)</p> <p>South Africa – No government guidelines for school food, but voluntary guidelines available for schools to follow for 'tuck shops'</p> <p>Thailand – School milk and school lunch program; some local authorities/individual schools have guidelines recommending sugar-sweetened beverages are restricted from schools</p>
U	<p>Australia and New Zealand – No general sales tax (GST) on 'healthy foods' since the introduction of GST in 2000 in Australia</p> <p>Pacific Islands – Import taxes on specified drinks, snacks and oils</p> <p>Singapore – Subsidy for use of healthier ingredients in schools and hawker centres</p> <p>South Africa – Zero-rated tax on some food items; privately run (Discovery) Healthy Foods Incentives Program</p>
R	<p>Australia and New Zealand – Federal government policy of supporting industry efforts to self-regulate</p> <p>Chile – Mandatory regulation of TV advertisement and promotion of unhealthy foods to children (regulatory approval waiting final governments decision)</p> <p>England – Mandatory restrictions on TV advertising of foods to children, as defined by a nutrient profiling model</p> <p>Thailand – Food and Drug Administration (government agency) support industry efforts to self-regulate</p>
I	<p>England – Voluntary commitments through Responsibility Deal to reformulation, portion control and incentives for consumers to choose a healthier diet</p> <p>Mexico – Reformulation of food distributed by social programs, starting with milk (to lower fat version)</p> <p>Pacific Islands – Bans on imports and/or sales of high fat meats</p> <p>Singapore – Work with food industry to encourage production of more healthier food products through Healthier Choice Symbol; grants for formulation of healthier processed products and development of supply chain</p>
S	<p>England – Convenience stores project to increase availability of fruits and vegetables</p> <p>Singapore – Healthier Hawker Programme</p>
H	<p>Australia and New Zealand – Food and Health Dialogue between government and food industry since 2009 in Australia; National Food Plan Green Paper 2012</p> <p>Brazil – 30% of national budget for food served in school meal programme required to be spent on foods from family farms</p> <p>Mexico – National Crusade Against Hunger</p> <p>Singapore – Changes in supply chain logistics for Healthier Hawker Programme; Working with food suppliers to provide healthier ingredients in Health Promoting School Canteen Programme</p>

Table 1 Continued

I	<p>Australia and New Zealand – Dietary guidelines released in 2013 in Australia; some social marketing campaigns run by federal and state governments; small national social marketing campaigns in New Zealand</p> <p>Brazil – Food-based dietary guidelines</p> <p>Chile – Updated dietary guidelines released in 2013; regular social marketing campaigns for FV and 'Elige Vivir Sano' programs</p> <p>China – Food-based dietary guidelines; Guidelines on Snacks for Children's and Adolescence; community initiatives</p> <p>England – Eatwell Plate; NHS Choices website; Change4Life; Start4Life</p> <p>India – Food-based dietary guidelines (revised to include reference to obesity)</p> <p>Mexico – Food-based dietary guidelines (healthy eating plate); 'Healthy Beverage Pitcher' guidelines; Development and public communication of the 'National Agreement for Nutritional Health – Strategy to Control Overweight and Obesity' and its objectives (e.g. increased consumption of water and decreased consumption of soda)</p> <p>Singapore – Food-based dietary guidelines</p> <p>South Africa – Food-based dietary guidelines</p> <p>Thailand – Food-based dietary guidelines; Public campaigns on sugar, fat and 'fat bellies'</p>
N	<p>Brazil – Support to overweight and obese in comprehensive healthcare model</p> <p>England – Family Nurse Partnerships; local weight management referral schemes</p> <p>Singapore – Preventive health services and lifestyle counselling for severely overweight students, and clinical management for obese and severely obese adults</p> <p>Thailand – Dietary Physical Activity Clinic (DPAC) in hospitals of the Ministry of Public Health</p>
G	<p>Brazil – Public policy framework for dietary and nutritional education involving the Social Development, Health and Education Ministries</p> <p>China – 121 Health Action; demonstration project for school-based comprehensive life style intervention; test intervention in schools 'no unhealthy snack or beverage week'</p> <p>England – Cooking in curriculum from 11–14 years; Local programmes as part of Healthy Community Challenge Fund, including many cooking and growing projects</p> <p>Mexico – Nutrition orientation guidelines for schools</p> <p>Singapore – Nutrition education for schools, community and workplaces; capacity building of Health Ambassadors/train the trainers</p> <p>South Africa – Nutrition education included in compulsory 'Life orientation' curriculum in primary schools</p> <p>Thailand – Community health volunteers (initial stages)</p>

*Policies on salt and trans fats are not included; policies that are in the early stages of development are also excluded, as are policies that have been in place in the past but have since been repealed.

advertising in Brazil. It also excludes policy actions that are not directly related to obesity, such as salt and trans fat reduction.

The Bellagio countries have, between them (with the notable exceptions of Bangladesh and India) implemented a broad spread of actions. On nutrition labelling and claims, countries report a combination of mandatory nutrient lists, voluntary front-of-pack schemes and regulations on the use of claims. Thailand stands out as the only country to have mandated a front-of-pack scheme (for snacks only). The label depicts nutrients only (as Guideline Daily Allowance) rather than the traffic light scheme previously proposed, but warning labels are also required on five snack categories stating 'Should consume small amounts and exercise for a better health.'

Guidelines on foods in schools are relatively common, presenting a mix of voluntary guidelines and, to a lesser extent, mandatory standards. Mexico, for example, recently introduced a law mandating school food standards.

The rest of the actions in the food environment are much more patchy. On the use of economic tools, two countries have zero tax rating on 'healthier' foods, but it is unclear if these actions were designed to promote better diets. The clearest action to stand out is the import taxes on selected

snack foods and oils in some Pacific Island Countries. South Africa has a privately run programme that creates financial incentives (through the collection of points) for healthier food purchases.

There has been active debate and many proposals in the policy area of food marketing, all of which relate to children. Among the countries represented here, as is typical more broadly, the dominant approach has been to support self-regulation. Chile is still awaiting regulatory approval of a proposal to mandatorily restrict food advertising. England stands out with its mandatory restriction (which also applies elsewhere in the UK) on food advertising to children under the age of 16, but even here, the policy is only concerned with broadcast advertising and sponsorship. A notification from the Ministry of Health in Thailand requires warnings on snack advertising.

Efforts to improve the quality of the food supply are limited and not particularly clear – globally, most effort in this area has focused on sodium and trans fats, which are not included here. One example of particular note is the reformulation of subsidized milk (to a lower fat milk) distributed to the poor in social programmes in Mexico.

There are notably very few actions on retail environments, with just two (high-income) countries reporting

actions. Of note is Singapore's Healthy Hawker Programme, which aims to improve the food supplied by food stalls that form an important source of calories in the Singaporean diet.

There are also few actions in food systems, and what exists is rather ill defined. The Healthy Hawker Programme is an example in that it includes changes to the supply chain. The Health Promotion Board in Singapore is also working with suppliers to improve the ingredients supplied to their Health Promoting School Canteen Programme. Apart from this, the example that stands out most strongly is the law in Brazil that requires 30% of the national budget for the food in the national schools meal programme (which is universal and free) to be spent on foods purchased directly from family farms.

Moving into behaviour change communication, the number of policy actions increases. All countries have food-based dietary guidelines – although the degree and effectiveness of their communication varies. China has developed guidelines specific to snack consumption among children. Four countries report some form of public awareness campaigns. Notable examples include a government-supported initiative in Thailand to make the public aware of the dangers of sugar consumption, and the development and promulgation of the National Agreement on Nutritional Health in Mexico.

Fewer actions were reported in healthcare settings, although four countries reported actions taken to support dietary practices and weight loss management. The number of actions then increases in the nutrition education category. China stands out here for having a relatively broad array of nutrition education programmes. South Africa reports that nutrition education is included as part of the compulsory 'life orientation' curriculum in primary schools.

Overall, there are a larger number of actions under the information and education aspects of behaviour change communication and nutrition labelling (essentially an information intervention) relative to changes to food environments and systems. This finding is consistent with other policy overviews (29,30). Two countries are absent or almost absent from the table: Bangladesh, the lowest income country, and India (absent with the exception of the existence of food-based dietary guidelines), suggesting minimal engagement with the obesity issue in these countries. Also notable is that the policy actions within and across countries tend not add up to adequately comprehensive and strong approaches.

Closing remarks

The WCRF International draft NOURISHING framework is still a work in progress, but has been shown to be a practical tool to report and categorize policy actions by 11 high-, middle- and low-income countries. In so doing, it

enables countries to identify gaps in policy actions and identify possible options from other countries. It also represents a benchmark against which progress in policy implementation can be monitored. Policies listed within the framework vary in their quality, strength and effectiveness. Assessing the effectiveness of the policy actions should be seen as an essential component of using the NOURISHING framework: collating, updating and communicating the evidence of the effectiveness of different policy options is essential to build a more solid evidence base for action.

The framework also offers opportunities for cross learning within public health as the concept of categorizing different options for action may also be applicable to other policy areas.

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Conflicts of interest

None.

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