NUTRITION POLICIES AND INTERVENTIONS FOR OVERWEIGHT AND OBESITY

A REVIEW OF CONCEPTUAL FRAMEWORKS AND CLASSIFICATIONS

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INTRODUCTION

The percentage of population suffering from overweight or obesity is increasing worldwide, both in developed and developing countries, and for all subpopulations of age and gender (although data on the incidence of those problems seem to differ somewhat across sources; see Díaz-Bonilla and Paz, 2019). High body mass is a risk factor for many non-communicable diseases such as diabetes, high blood pressure, coronary heart disease and stroke. High Body Mass also tends to increase the risks of various types of cancer, gallbladder disease, musculoskeletal disorders and respiratory symptoms among others. In consequence, it constitutes one of the leading risk factors causing early death and disability, as measured in disability-adjusted life years (DALYs).¹ It is estimated that in recent years overweight and obesity contributed to about an estimated 4 million deaths (7.1% of all deaths) and 120 million DALYs worldwide (4.9% of all DALYs among adults); overweight and obesity also carry economic costs, estimated globally in US\$500 billion per year (Development Initiatives, and Institute for Health Metrics and Evaluation (IHME) , 2018). Consequently, there is an increasing interest to develop policies and interventions that may reduce the incidence of overweight and obesity.

Those policies and interventions have been classified and organized within a variety of different frameworks. From the legal/administrative angle, a classification may include laws (sometimes called acts or statutes; they are approved by the legislative and executive branches); regulations and related mandatory instruments of implementation at the levels of ministries or agencies; court decisions; guidelines or recommendations (which are not mandatory); and internal directives (for interpretation and administration within ministries and other agencies and institutions) (Mozaffarian et al, 2018).

Obviously, the legal/administrative nature of the different policies and interventions is important. However, to analyze them in a country or on a cross-country basis, it may not be the most useful classification. Other options consider broad thematic areas of related topics (under some sort of conceptual framework) and then identify differential policies and interventions within each theme (which may include the different legal/administrative levels mentioned before). Here we review several of the thematic frameworks that have been used to organize the debate about different policies and interventions. This review also serves to synthesize a list of policies and interventions, but it does not pretend to be exhaustive.

The paper concludes with some preliminary thoughts about how to approach the categorization and analysis of policies and interventions for nutritional improvements related to overweight and obesity.

¹ DALYs are calculated as the sum of the years of healthy life lost to premature death plus the years lived with disability. One DALY is equivalent to one lost year of healthy life (IHME,2018).

DIFFERENT FRAMEWORKS AND APPROACHES

1. *Mazzocchi and colleagues*

Mazzocchi (2017) presents a simple and direct way of classifying policies and interventions, based on Capacci et al (2012). The analysis divides policies and interventions into two broad categories called “Supporting More Informed Choice” and “Changing The (Market) Environment” and then considers different options within each category as shown in Table 1.

Table 1: Policy Classification

SUPPORTING MORE INFORMED CHOICE
Advertising restrictions (including voluntary codes)
Public information campaigns & social marketing
Nutrition education
Labelling regulations
CHANGING THE (MARKET) ENVIRONMENT
Fiscal measures (taxes, subsidies, income-based vouchers)
Regulation of school environments
Food reformulation (including voluntary public-private schemes)
Measures targeting accessibility to healthy foods and availability of unhealthy foods

Source: Mazzocchi (2017)

The framework highlights the consumer and the market environment and then focuses on the evaluation of the policies and interventions considered. The paper does not pretend to be an exhaustive catalogue of possible policies and interventions, but only to consider those for which there are evaluations following the criteria established for the selection of those studies to be reviewed in the paper.²

2. *Food-PRICE*

Food-PRICE (<https://www.food-price.org/>) is an initiative by a group of researchers mostly from the United States who are working to identify strategies to improve health, focusing on obesity, heart disease, stroke, diabetes, and cancer. The framework starts from defined policies and interventions that

² The criteria mentioned in Mazzocchi (2017) for inclusion of the studies are that they must focus on policies at the national level with an explicit nutrition focus, and be based on ex-post evaluations, and preferably, those where the ex-post evidence is compared against properly structured counterfactual scenarios for the relevant outcomes expected.

can improve diets and are considered successful in reducing the burden of the non-communicable diseases of interest. They are then classified into 8 general categories, with specific policies and interventions listed within each broad category (Table 2).

Table 2: Food-Price Classification

1. Food Pricing
Nationwide government-mandated 10% (alternate 20-30%) subsidy for fruits, vegetables, and whole grains across all establishments and including school/after-school programs.
Nationwide government-mandated excise ³ tax for sugar sweetened beverages across all establishments (retail, large cafeteria vendors, restaurants, quick-serve chain restaurants)
2.Improvements to Supplemental Nutrition Assistance Program (SNAP)
Subsidy for fruits, vegetables, and other healthy food
Restricting or disincentivizing unhealthy products
3. Food Reformulation
Institute quality standards to reformulate all packaged and ready-to-eat foods/beverages to reduce sodium and/or added sugar content across all establishments.
4. Food Labeling
Requirement that all food establishments with >20 outlets nationwide list calories in each regularly sold item on their menu
Nationwide government-mandated declaration of added sugars on the Nutrition Facts Panel for all packaged foods/beverages
Nationwide government-mandated warning label on processed meats accompanied by nationwide public health mass-media campaign to warn consumers of the carcinogenic nature of processed meats
5. Foods in Schools and Childcare Facilities
Improving the nutrition quality standards in school meals and snacks
6. Foods in Worksites and Restaurants
Nutrition quality standards for meals and snacks sold in government workplaces
Setting healthier default beverage or side options in restaurants
Setting maximum portion sizes for unhealthy products (such as Sugar-Sweetened Beverages, or SSB)
7. Mass Media Campaigns and Marketing Restrictions
Campaign to promote the consumption of healthy food and discourage the consumption of unhealthy food
Restriction or quality standards on food marketing to children
8. Nutrition in Health Care Systems
Subsidy of fruits, vegetables, and healthy food for Medicare and/or Medicaid participants
Including nutrition questions for health professional licensing exams (such as the US Medical Licensing Exam)

Source: Food-PRICE (<https://www.food-price.org/overview>)

³ Excise taxes are paid by producers or manufacturers, while sales taxes are paid by consumers.

Food-PRICE focuses on policy interventions that take place in the United States, thus, the framework includes programs such as the Supplemental Nutrition Assistance Program (SNAP), and Medicare and Medicaid, which are specific to the US.

3. Mozaffarian et al.

Mozaffarian et al. (2018) acknowledge that there are different nutrition policy frameworks in use,⁴ but they elaborate their own classification (shown in Table 3) in order to organize the broad overview of interventions and nutrition policies presented in the paper and discuss “their strengths, limitations, uncertainties, and recommendations” (Mozaffarian et al, 2018, page 1). The main objective of this paper is to provide and review a comprehensive list of those policies with specific examples and present its advantages, limitations and recommendations.

Table 3: List of Policies Strategies Considered

Policy strategy	Examples
Population education	National dietary guidelines. Mass media “5 a day for better health” program. Use of cultural influencers. School curriculums focused on nutrition and culinary skills
Point-of-purchase labelling	Food package nutrition fact panels and health claims. Restaurant calorie menu labelling. Front-of-pack traffic light. “Black box” warning labels in Chile
Fiscal incentives and disincentives	National soda and junk food taxes. Subsidies for fruits and vegetables in national food assistance programs. Agricultural incentives for berry production
Food assistance programs	Income based or other conditional food vouchers or cash transfers, School meals. Supplementation programs
Procurement nutrition standards	Nutrition standards for food purchases for government offices, public schools, the military, food assistance programs, and other government funded organizations
Industry quality standards	Mandatory or government recommended limits and standards on use of additives, such as trans-fat, salt, and sugar (e.g., limits on use of industrial trans-fat, UK salt reduction program including public awareness)
Schools, after school and early child care	Meal nutrition standards. Nutrition standards for competitive food (products available outside regular meal times). Free/reduced price provision of fruits and vegetables. School gardens, farm to school programs. Nutrition education
Worksite wellness	Procurement standards for cafeterias and vending. Comprehensive wellness programs. New technology platforms and incentives for healthier eating. Built environment changes to encourage behavioral changes
Health systems	Integrated lifestyle interventions by multidisciplinary teams (e.g., Diabetes Prevention Program). Medically tailored meals for patients with complex illness. Fruits and vegetables prescriptions. Nutrition counselling during pregnancy and early childhood. Quality metrics and reimbursement systems that reward community engagement to address upstream causes of poor health. Integration of healthcare with public health. Worksite wellness and community leadership
Food marketing standards	Limiting marketing to children of foods and beverages that do not meet nutrition standards
Local built environment	Zoning restrictions on fast food outlets around schools. Building of supermarkets in food deserts. Expanding farmers’ markets and mobile produce vendors
Research and innovation	Basic science, medical, and applied (including policy) nutrition research. Research and development incentives for agricultural producers and food manufacturers

⁴ Other frameworks mentioned in Mozaffarian et al 2018 are reviewed in the next sections below.

Coordination of actions across ministries, agencies, and at local, national, and international levels

Coordination of school, after school, and early child care meal standards with national dietary guidelines. Integration of food assistance programs with healthcare for the poor. Public school lunch and breakfast programs to improve national security. Agricultural and trade policy linked to nutrition and health. Setting of nutrition guidelines, policy actions, and country goals by global economic and political institutions such as the World Bank, United Nations, and World Trade Organization

Source: Mozaffarian et al, 2018.

The framework utilized by Mozaffarian et al (2018), includes additional topics not discussed so far, such as the local built environment, work site wellness, health systems (with a broad view), research and innovation (going beyond primary producers and including food manufacturers), and coordination of actions across ministries, agencies, and at local, national, and international levels (mentioning the issue of trade policy linked to health) (Table 3). In addition, it presents specific examples of the types of policies and interventions shown.

4. INFORMAS Food-EPI Index

Another framework is the Healthy Food Environment⁵ Policy Index (Food-EPI index). It has been developed by INFORMAS (International Network for Food and Obesity/Non-communicable Diseases (NCDs) Research, Monitoring and Action Support), which is “a global network of public-interest organizations and researchers that aims to monitor, benchmark and support public and private sector actions to increase healthy food environments and reduce obesity and NCDs and their related inequalities”⁶. It consists of two components, Policies and Infrastructure Support, with 14 domains (7 in each component) and 47 good practice indicators.⁷ Figure 1 shows the components and domains, and Annex 1 presents the indicators.

The framework allows for comparable evaluations of nutrition policies and interventions in specific countries. The actual policies and interventions identified are compared and given a value against the benchmarks suggested in the good practice indicators shown in Annex 1. The Food-EPI index is applied in a variety of countries with different levels of detail.⁸

⁵ It should be noted that the notion of Food Environment used in the Food-EPI index is somewhat broader than the one applied by the High-Level Panel of Experts on Food Security and Nutrition - HLPE (2017) and Glopan (2016), discussed below.

⁶ <https://www.informas.org/>

⁷ That list may be adjusted for specific countries. For instance, in the case of some studies for Latin America indicators were added to reflect local realities (see footnotes in Annex 1).

⁸ As of July 2019, the list of countries includes Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Costa Rica, Fiji, Finland, Ethiopia, Ecuador, Estonia, France, Ghana, Kenya, Germany, Guatemala, Iceland, India, Ireland, Hong Kong, Japan, Malaysia, Malta, Mexico, Mongolia, New Zealand, Norway, Poland, Portugal, Philippines, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Thailand, The Netherlands, Tonga, UK, USA, Vietnam, Senegal, and Uganda. The detail of the framework's application varies significantly across the countries listed.

Figure 1: The Healthy Food Environment Policy Index (Food-EPI)

Source: INFORMAS. <https://www.informas.org/>

The Food-EPI framework has two components, the first one refers to policies, where the Food-EPI framework seems to loosely follow an approach that goes from composition of processed products to consumption. But it also includes a block related to investment and trade policies, not considered separately in other classifications so far.

The second component of the FOOD-EPI framework is Infrastructure Support that identifies key domains to strengthen systems, and calls attention to several crucial issues for the implementation of policies and interventions to confront overweight and obesity, such as:

- 1) Leadership (support for the vision, planning, communication, implementation and evaluation of policies and actions to create healthy food environments, improve population nutrition, and reduce diet-related inequalities);
- 2) Governance (structures to ensure transparency and accountability, and encourage broad community participation and inclusion);
- 3) Monitoring and intelligence (systems that are comprehensive and regular enough to assess the status of food environments, population nutrition and diet-related NCDs and their inequalities);
- 4) Funding and resources (adequate for improved population nutrition, reductions in obesity, and diet-related NCDs);
- 5) Platforms for interaction (there are coordination platforms and opportunities for synergies across government departments, levels of government and other sectors such as private sector, civil society, and academia);
- 6) Workforce development (governments have the capacity and expertise to influence population nutrition); and,
- 7) Health-in-all policies (to ensure policy coherence and alignment).

5. The NOURISHING framework

The World Cancer Research Fund International, a leading institution working on the links between diet, nutrition, physical activity and cancer, has developed the NOURISHING framework⁹, that divides the analysis in 10 areas. The framework looks to include policies and interventions that are proven to reduce obesity and NCDs while promoting healthy diets. The 10 areas are sorted along 3 domains: food environment, food system and behavior change communication.

The authors structured the analysis so each letter in the acronym will have a mnemonic correlation, for instance, “N” is for “Nutrition labels,” “O” is for “Offer healthy food and set standards in public institutions and other specific settings,” among others (see Table 4). So, under each letter the framework identifies a series of examples of policies and interventions. Letters N, O, U, R, I, and S identify areas under the Food Environment domain, letter H is related to Food System interventions and letters I, N and G are areas that fall under the behavior change communication (see Figure 2). Although the list of policies and interventions is relatively large, it is clarified in the website that it should not be taken as an exhaustive one.

Figure 2: NOURISHING Domains of Areas for Policies and Interventions

Source: World Cancer Research Fund. NOURISHING Framework (<https://www.wcrf.org/int/policy/nourishing-database>)

Table 4: Areas, Policies and Interventions under the NOURISHING Framework

Area: Nutrition labels
Mandatory nutrient lists on packaged food
Trans fats included in mandatory nutrient labels
Clearly visible "interpretative" labels and warning labels
On-shelf labelling
Calorie and nutrient labelling on menus and displays in out-of-home venues
Warning labels on menus and displays in out-of-home venues
Rules on nutrient claims (i.e. nutrient content and nutrient comparative claims)
Rules on health claims (i.e. nutrient function and disease risk reduction claims)

⁹ <https://www.wcrf.org/int/policy/nourishing-database>

Area: Offer healthy food and set standards in public institutions and other specific settings

Fruit & vegetable initiatives in schools

Mandatory standards for food available in schools, including restrictions on unhealthy food

Mandatory standards for food available in schools and in their immediate vicinity

Voluntary guidelines for food available in schools

Bans and restrictions specific to vending machines in schools

Standards in social support programs

Standards in other specific locations (e.g. health facilities, workplace)

Area: Use economic tools to address food affordability and purchase incentives

Health-related food taxes

Increasing import tariffs on specified "unhealthy" food

Lowering import tariffs on specified "healthy" food

Targeted subsidies for healthy food

Area: Restrict food advertising and other forms of commercial promotion

Mandatory regulation of broadcast food advertising to children

Mandatory regulation of food advertising on non-broadcast communications channels

Mandatory regulation of food advertising through any medium

Mandatory regulation of specific marketing techniques

Mandatory regulation of marketing of specific food items and beverages

Mandatory regulation of food marketing in schools

Mandatory requirement that advertisements must carry a health message or warning

Voluntary regulation of food advertising on non-broadcast communications channels

Government engage with industry to develop self-regulation to restrict food marketing to children

Government support voluntary pledges developed by industry

Area: Improve nutritional quality of the whole food supply

Voluntary reformulation of food products

Voluntary commitments to reduce portion sizes

Mandatory limits on level of salt in food products

Mandatory removal of trans fats in food products

Limits on the availability of high-fat meat products

Limits on the availability of high-sugar food products and beverages

Area: Set incentives and rules to create a healthy retail and food service environment

Incentives and rules for stores to locate in under-served neighborhoods

Initiatives to increase the availability of healthier food in stores and food service outlets

Incentives and rules to reduce trans-fat in food service outlets

Incentives and rules to offer healthy food options as a default in food service outlets

Incentives and rules to restrict sugar-sweetened beverage consumption

Incentives and rules to reduce salt in food service outlets

Planning restrictions on food outlets

Area: Harness supply chain & actions across sectors to ensure coherence with health

Working with food suppliers to provide healthier ingredients

Nutrition standards for public procurement

Public procurement through "short" chains (e.g. local farmers)

Supply chain incentives for food production

Supporting urban agriculture in health and planning policies

Community food production

Governance structures for multi-sectoral/stakeholder engagement

Area: Inform people about food & nutrition through public awareness

Development and communication of food-based dietary guidelines

Development and communication of guidelines for specific food groups

Public awareness, mass media and informational campaigns and social marketing on healthy eating

Public awareness campaigns specific to fruit and vegetables

Public awareness campaigns concerning specific unhealthy food and beverages

Public awareness campaigns concerning salt

Area: Nutrition advice and counselling in healthcare settings

Guidelines and programs to provide support in primary care to people who are overweight and obese

Nutrition counselling in primary care

Training for health professionals

Area: Give nutrition education and skills

Nutrition education on curricula

Community-based nutrition education

Cooking skills

Initiatives to train school children on growing food

Workplace or community health schemes

Training for caterers and food service providers

Source: World Cancer Research Fund. NOURISHING Framework (<https://www.wcrf.org/int/policy/nourishing-database>)

The examples of policies and interventions are collected by countries and are arranged (using the NOURISHING framework) in a searchable and user-friendly database that is updated periodically. The list, as mentioned, is relatively large and offers different options that policymakers may consider for their policies to address overweight and obesity.

6. World Health Organization

The World Health Organization (2018) published a report compiling the results of a comprehensive survey to WHO member states on their policy environments for promoting healthy diets and good nutrition. In the report, WHO proposes a specific approach to organize the analysis of policies and interventions. First, it considers 4 levels of analysis, in order to organize the data collected through the survey: 1) POLICIES, STRATEGIES AND PLANS RELATED TO NUTRITION; 2) COORDINATION MECHANISMS FOR NUTRITION; 3) NUTRITION CAPACITY; and 4) NUTRITION ACTIONS, PROGRAMMES AND MEASURES BEING IMPLEMENTED. They are described in Figure 3.

Figure 3: Survey Strategy of WHO

Source: WHO, 2018

This framework considers all malnutrition problems, beyond overweight and obesity. It separates policies and strategies from actions, programs and measures. This is useful because in many developing countries policies and strategies are general and aspirational rather than concrete and operational;

therefore, the identification of specific actions, programs and measures helps to better understand the current situation in a given country. The WHO framework also highlights the importance of having adequate human capital and coordination mechanisms to implement the interventions (a point also stressed in the Food-EPI Index).

The WHO framework stands out from previous classifications, in that is structured within a life-cycle/gender approach, differentiating policies directed to infants and young children, school-age children, adolescents, mothers/women of reproductive age, older adults and all ages. In that sense, this framework explicitly includes gender considerations, even if limited to some aspects of women's lives.

Here we discuss mainly level 4 of Figure 3 that covers nutrition actions, programs and measures. We follow the life-cycle as presented in the report (WHO, 2018), and focus only on issues related to overweight and obesity (since, the report covers all malnutrition problems, including undernutrition and lack of minerals and vitamins).

Table 5, Table 6 and Table 7 include comments from the narrative presented in WHO (2018) to help clarify the scope of the interventions presented. Those comments are based on the results submitted by member states of the global survey, as explained in WHO (2018).

Starting with **infant and young child nutrition**, WHO considers the actions and measures as indicated in Table 5, where we include those more related to combating overweight and obesity.

Table 5: Actions and Measures for Infant and Young Child Nutrition

1. BREASTFEEDING COUNSELLING
Early initiation of breastfeeding within 1 hour of birth
Counselling on continued breastfeeding for 2 years or beyond
Counselling on exclusive breastfeeding for 6 months
Counselling on attachment and positioning for successful breastfeeding
2. COMPLEMENTARY FEEDING COUNSELLING
Timely introduction of complementary foods (i.e. at 6 months)
Continued frequent, on demand breastfeeding until 2 years or beyond
Fortified complementary foods or micronutrient supplements, as needed
Appropriate amount and frequency of meals (i.e. increase the number of times and the amount of complementary food as the child gets older)
Good hygiene and proper food handling practice
Variety of food to ensure that nutrient needs are met
Cooking demonstrations
3. BABY FRIENDLY HOSPITAL INITIATIVE
Ten Steps to Successful Breastfeeding, the International Code of Marketing Breast-milk Substitutes and subsequent relevant World Health Assembly resolutions.
4. REGULATION OF MARKETING OF BREAST-MILK SUBSTITUTES

5. MATERNITY PROTECTION

ILO considers three aspects: a) duration of leave; b) amount of cash benefits; and c) source of funds

6. GROWTH MONITORING AND PROMOTION

Taking measurements of weight and height at least

Tracking indicators (frequency)

Completing growth chart

Counselling on infant and young child feeding

Source: WHO, 2018

An important aspect of the life-cycle approach is that it highlights themes or topics not discussed in the other frameworks. For instance, WHO (2018) notes that children that were appropriately breast-fed as babies are less likely to be overweight or obese and to suffer from NCDs.¹⁰ There are other aspects included in the report, which although less related to controlling overweight and obesity, are very relevant for women's well-being, such as that longer periods of breast-feeding reduce the risk of ovarian and breast cancer and help to space pregnancies.

Regarding types of interventions for **school age**, WHO (2018) considers a variety of them as shown in Table 6. They may also differ on the age coverage, such as pre-school, primary, and/or secondary levels.

Table 6: Actions and Measures for School Age

1. STANDARDS OR RULES FOR FOODS AND BEVERAGES AVAILABLE IN SCHOOLS

The criteria used to determine the standards and rules were most often based on specific foods and beverages that are prohibited (e.g. sugar-sweetened beverages), limited (e.g. fried foods) or encouraged (e.g. fruit and vegetables), or were based on nutrient content (e.g. energy, fats, sugars or salt/sodium). Globally, the most common nutrient content criteria were based on energy or salt/sodium content, or both. School food and beverage standards criteria based on portion size were less common. Other aspects mentioned in the country surveys was whether there were limits/bans on trans-fatty acids, the treatment of added sugars and of micronutrients.

2. PROVISION OF SCHOOL MEALS, SCHOOL FEEDING PROGRAMME

Some of the topics discussed were whether those programs were based on food-based dietary guidelines (FBDGs) or on maximum levels of specific nutrients such as fats, sugars, and salt/sodium. Also, whether the school program was managed by nutritionists or not.

3. SCHOOL FRUIT AND VEGETABLE SCHEME

It is important to define the nature of the products considered, which should be fresh and natural. But some countries are providing fruit juices containing free sugars, tinned fruits prepared in syrup, and/or dried fruits as part of school fruit and vegetable schemes to promote healthy diets in school-age children, which defeats the purpose of a healthy fruits and vegetable scheme.

4. SCHOOL MILK SCHEME

Most schools provide whole or low-fat milk, but some also offer flavored milks with added sugars or sweeteners, which would lead to overweight and obesity.

5. TAKE-HOME RATIONS DISTRIBUTED THROUGH SCHOOLS

¹⁰ WHO, 2018 mentions other positive outcomes adequate breast-feeding such as children with higher IQ tests and better school attendance, all of which leads to higher incomes in adult life.

This is one of the least common of the programs reported by countries regarding school-age nutrition, and therefore there are few details regarding their operation.

6. TRAINING OF SCHOOL STAFF (E.G. TEACHERS AND CANTEEN STAFF)

7. HYGIENIC COOKING FACILITIES AND CLEAN EATING ENVIRONMENT IN SCHOOLS

8. SAFE DRINKING WATER AVAILABLE FREE OF CHARGE IN SCHOOLS

In addition to the direct benefits of clean water, this intervention could reduce the consumption of soft drinks that may take place when safe drinking water is not available

9. STANDARDS FOR MARKETING OF FOOD AND NONALCOHOLIC BEVERAGES

This is a subcomponent of the more general issue of marketing food and beverages to children. Not many countries reported those standards specifically for schools.

10. ADEQUATE SANITATION AND HYGIENE FACILITIES IN SCHOOLS

11. SCHOOL GARDENS

12. BAN ON VENDING MACHINES IN SCHOOLS

This intervention was implemented only by a limited number of countries.

13. NUTRITION EDUCATION INCLUDED IN SCHOOL CURRICULUM

The topics included are a) Lessons on healthy diet to prevent undernutrition; b) Lessons on healthy diet to prevent overweight and obesity; c) Lessons on breastfeeding; d) Lessons on the links between nutrition and health; e) Hands-on cooking skills; f) Hands-on gardening skills

14. EXTRACURRICULAR NUTRITION EDUCATION

Activities at the school or at health centers, including cooking demonstrations, celebration of national nutrition days, and cultural aspects of nutrition.

15. PHYSICAL EDUCATION IN SCHOOL CURRICULUM

16. MONITORING OF CHILDREN'S GROWTH IN SCHOOLS

It was usually done by measuring height and weight annually, either through the schools or through visits to health centers organized by the schools.

Source: WHO, 2018

This section also includes aspects not considered in other frameworks, such as physical exercise, the need to monitor students' weight and height, and a more granular description of other interventions. One example of this is the discussion of what does it mean to encourage consumption in fruits and vegetables in schools, which, as noted, in some countries may include canned fruits or sugar-laden juices that should not be considered part of a healthy diet.

Of course, the whole set of interventions considered by WHO (2018) for the school age population include those focusing on other types of malnutrition problems, such as micronutrient supplementation (e.g. iron, vitamin A) and deworming.

For the overall population, WHO (2018) considers interventions shown in Table 7.

Table 7: Actions and Measures for All-Aged Population

1. DIETARY GUIDELINES	
	Whether countries have Food-based dietary guidelines (FBDGs), Nutrient-based dietary guidelines (NBDGs), or both
2. NUTRITION LABELLING	
	Front-of-pack labelling (FOPL) systems: the information most often included on such labels has been energy value, salt/sodium, total sugars, saturated fatty acids and total fat; other items considered may be free sugar, added sugar, and trans-fatty acids. The survey show different forms of displaying this information, sometimes combined: Color coding according to nutrient level (e.g. green, amber, red); Summary indicators (e.g. stars, Nordic Keyhole); Interpretative wording (e.g. high, medium, low); Warnings (e.g. "high in salt/sodium"); Proportion of daily intake (e.g. % of Guideline Daily Amount, or GDA, % Reference Intake, or RI).
3. NUTRITION AND HEALTH CLAIMS	
	Virtually all countries with nutrient-based criteria followed the upper level conditions specified in the Codex guidelines for making claims that a product is "low in," or "free from," different variables such as energy, total fat, saturated fatty acids, cholesterol, sugars, sodium and so on. Similarly, they used the lower level conditions specified in the Codex guidelines for making claims that a product is a "source" of, or is "high" in protein, vitamins and minerals, dietary fiber and so on. Other nutrition and health claims were usually required to be based on evidence of impact. Some countries define instances in which claims are not allowed, such as products for infants and young children, alcoholic beverages and sometimes other products. In general, the surveys conducted for WHO, 2018, show weak monitoring.
4. REFORMULATION	
	There are several topics to consider. First, whether they are voluntary or mandatory. Second, what are the types of nutrients subject to reformulation, such as Saturated fatty acids, Trans-fatty acids, Sugars, Salt/sodium. Third, what types of products are covered by reformulation: for example, Breads; Yoghurt; SSB; Snacks; Sauces; Ready-made meals; Processed meat; Processed fruits and vegetables; Milk; Ice Cream; Energy Drinks; Chocolate; Cheeses; Cereals; Cakes; and Butter, oils and margarines
5. BAN ON TRANSFATTY ACIDS	
	A first question is whether it is a ban or just an upper limit. A second issue is whether the bans are applied to all foods and all settings, or only for some foods/instances. Third, it is crucial to consider the mechanisms for monitoring the compliance.
6. FISCAL POLICIES	
	These policies include increased taxes/decreased subsidies on unhealthy foods and beverages, and/or decreased taxes/increased subsidies on healthier foods and beverages. The question is what are the products and criteria applied: for instance, taxes may apply to all sugar or only added. Also, the levels of taxation/subsidization may vary.
7. REGULATION OF MARKETING OF FOOD AND NON-ALCOHOLIC BEVERAGES (FNAB) TO CHILDREN	
	The first issue is whether the regulations are mandatory or voluntary. A second question is the differences in products, ages, times of the day, and channels of communication/modes of delivery covered by those regulations. The WHO, 2018 considers the following channels of communication/modes of delivery: TV, Radio, Advertising (in streets and stores), Internet, Social media, Apps, Promotions, Giveaways, Sponsorships, Use of licensed and brand equity characters, and Games.
8. PORTION SIZE CONTROL	
	The first issue is whether the policies/interventions only lead to provision of information and consumer education or they use a regulatory approach. And if they follow a regulatory approach, where do they apply, such as, for example, mandatory serving sizes in schools.
9. MEDIA CAMPAIGNS	
	Some of the dimensions to consider in this type of policies/interventions are: a) Time for the campaign (continuous or limited); b) Channels, modes, and methods; c) Population targeted (all, food-supply actors, children or women); d) Objectives (e.g. raise population awareness on health effects of high intake of fats, sugars and salt/sodium; raise population awareness on how to interpret nutrition and health claims; raise population awareness on how to use nutrition labels; raise population awareness on portion size control; raise population awareness on how to consume healthier diets, including more consumption of fruits and vegetables); e) Other messages (e.g. promotion of physical activity, the use of local products, the use of fortified foods, and food safety and hygiene)
10. NUTRITION AND DIET COUNSELLING	

WHO (2018), argues that nutrition education activities are most effective when they involve multiple components. Some of the elements to consider include the following: a) Educational tools (FBDGs, and some to other tools such as flip charts, images, motivational interviewing and leaflets); b) Settings for nutrition and diet counseling (Primary health care, Schools, Market or other food outlets, Workplaces, Community groups or clubs, Food security programs); c) Forms and approaches (for instance: 1. IEC – information, education, communication using informative printed material; 2. Information transfer through presentations and question-and-answer sessions; 3. Behavior change communication focused on behavioral messages and media campaigns with specific target audiences; 4. Participatory actions such as dialogue, demonstrations, and self-monitoring); d) Areas covered (for instance: 1. The health effects of high intake of fats, sugars and salt/sodium; 2. How to consume healthier diets, including more consumption of fruits and vegetables; 3. Portion size control; 4. How to use nutrition labels; and 5. How to interpret nutrition and health claims).

Source: WHO, 2018.

WHO (2018) notes that there are few programs specifically targeting **elderly people**, with the existing ones being mostly media campaigns and nutrition education to promote healthy diets. This may change in the near future considering that WHO has issued a relatively recent report on guidelines for the integrated care for older people, including recommendations on nutrition (WHO, 2017).

Although the incidence of overweight and obesity is greater in women at all ages, interventions with a gender focus are mainly targeted to pregnant and lactating women and women of reproductive age. The interventions also cover issues mostly related to mineral and vitamin deficiencies, breast feeding, with health and nutrition education around those issues. Overweight and obesity affect women beyond their reproductive ages. The focus on gender and obesity should also address broader topics related to how food environments affect women. These topics include geographic location and related aspects to transportation; social issues, such as access to education and health; economic/purchasing power and access to fresh and nutritious foods.

WHO (2018), as shown in Figure 3, includes other important levels of analysis: the coordination mechanisms for nutrition and the nutritional capacity. The first one (coordination mechanisms) aims to identify the actors and the structures through which policies and interventions are implemented, including the issue of funding, and monitoring and evaluation. The second one (nutrition capacity) refers, in the report, to the formation of human capital at different levels to be able to carry out those policies and interventions. Certainly, these dimensions need to be considered in a full analysis of nutrition policies and interventions to combat overweight and obesity.¹¹

The information gathered in the survey has been compiled in two online databases, one where the analysis can be focused for each country (GINA¹²), and a second one that allows to analyze the evidence for a given type policy (eLENA¹³).

¹¹ The Food-EPI framework abovementioned includes the component “Infrastructure Support” in similar fashion to the topics mentioned in WHO, 2018.

¹² <https://extranet.who.int/nutrition/gina/>

¹³ https://www.who.int/elena/life_course/en/

7. PRIMARY PRODUCTION AND VALUE CHAINS

Most of the previous frameworks do not consider topics related to farmers, primary food production, and value chains (with the exception of some brief references in the NOURISHING approach) and contemplate mainly policies from the demand/consumption side. Other frameworks, associated to institutions that work on the agri-food system (such as FAO, IFPRI, or the Agricultural Practice of the World Bank) also include policies and interventions linked to farmers and primary production.

Here we consider two examples of an approach called “agriculture for nutrition,” which a) analyzes the problems from the agricultural side; b) presents general nutritional objectives and not only the problems of overweight and obesity; and c) considers aspects related to agricultural and rural employment.

Allen, Maestre and Gelli (2019) elaborated the framework under these previous considerations, that is presented in Figure 4.

Figure 4: Typologies Characterizing Value Chain Interventions

Source: Allen et al, 2019

Allen et al (2019) classifies the value chains of products with desirable nutritional characteristics according to low/high demand and consistency of supply. The authors suggest interventions according to where the product falls in the resulting graph that is divided in four quadrants. For example, a product with high demand and inconsistent supply (upper-left quadrant) may require production and marketing interventions, while if the problem is low demand but there is supply (lower-right quadrant), the interventions would focus on ways to stimulate demand.

World Bank, IICA, and Secure Nutrition (2013) present another framework in the same vein. It includes a table with an indicative and non-exhaustive list of possible nutrition-sensitive¹⁴ agricultural interventions and examples of indicators for agriculture programs. Their objective is to increase year-round access to, and availability of, high nutrient-content food. It also highlights interventions related to women.

Table 8 reproduces the list of possible nutrition-sensitive interventions (without the indicators) elaborated by World Bank, IICA, and Secure Nutrition (2013).

Table 8: Nutrition-Sensitive Agricultural Interventions

1. Agriculture R&D Programs
Enhancing capacity of national agricultural research institutions to develop and promote nutrition-sensitive food production.
Establish a regulatory framework that allows for the development of seeds, fertilizers, and breeds and that does not limit farmers' access to these.
Establish a regulatory framework for fortification of food products.
Public-private partnerships (PPP) in R&D to develop food products throughout the supply chains in a manner that would have significant nutrition outcomes, for example fortified products, improved packaging, extended shelf-life, etc.
Develop models for marketing of local crops through improved packaging, shelf-life, etc.
2. Linking Farmers to Markets and Food Purchasing Programs
Linking smallholders to the value chain of nutritious foods (e.g. livestock, dairy, fish, fruits & vegetables or any production with higher nutritional value/content) and food purchasing programs.
Development of local markets with better linked farmers and improved market infrastructure and food safety.
Campaigns to promote locally produced agri-food products.
3. Agriculture Extension and Information Services
Develop/adapt agriculture-nutrition related curriculum for extension and economics agents.
Develop extension activities to promote Good Agricultural Practices for the production of safe food and for protection of agricultural soil and water.
Development of education curriculum to improve consumer's knowledge of nutrition.
Inclusion of home economics specialists in the agriculture extension force, favoring particularly the recruitment of women.
Increase productivity of small-scale nutritious food production (e.g. livestock, dairy, fish, fruits and vegetables).
*Promote improved post-harvest handling and preservation techniques on the farms.
4. Women and Nutrition. Investing in Women
Improve productivity and income for women.
Increase income stability of women revenue.
Increase women participation in decision making of agriculture production and commercialization.
Increase women empowerment in the corresponding programs and agencies.

Source: World Bank, IICA, and Secure Nutrition, 2013

¹⁴ More recently a distinction has been proposed between "nutrition-sensitive" agriculture and "nutrition-smart" agriculture, with the latter adding to the purpose of improving nutrition, a second objective of increasing productivity, revenues, and investments in farms and agribusinesses. Here we maintain the original label of "nutrition sensitive," even though the policies may also include aspects related to improving productivity and incomes.

Both Allen et al (2019) and World Bank et al (2013) offer entry points for nutrition policies and interventions from the point of agricultural production. In that regard this type of frameworks complements the previous approaches that were structured around the consumer. The inclusion of interventions targeted toward R&D for food products throughout the whole supply chains, and not only for primary production, is an important addition.

World Bank et al (2013) also considers more explicitly the role of women. However, several points should be noted in regard to the treatment of women's topics. First, the term "home economics" is outdated and stereotypes the role of women working at home and in the community (this is the model embraced by the cooperative extension of the Land Grant System in the US, where home economics was adopted to reach out to women in the 1960s to 1980s). The new extension paradigm acknowledges women as productive actors actively engaged in learning schemes. Women are not only the recipients of extension education programs but those who adopt and transform the knowledge shared by these programs. There is a number of initiatives such as farmers field schools, learning circles (mainly in LAC), participatory learning and action (PLA) and participatory action research (PAR) techniques that highlight different ways of engagement lead by the women that can be used to address aspects of overweight and obesity through nutrition education interventions.

It should also be noted that higher income does not necessarily correlate directly with women's better health for herself even though improvements are likely; nonetheless, it has a direct correlation with the better health of her family/children. A final point is that, because the framework is "agriculture for nutrition," it focuses the interventions to agricultural production. Taking a broader food systems approach (see below) it is more obvious that women play crucial roles beyond primary production.

8. FOOD SYSTEM APPROACHES

Food system approaches consider both supply and demand aspects. They are generally based on two related conceptual frameworks, developed by the High Level Panel of Experts on Food Security and Nutrition (HLPE, 2017) and the Global Panel on Nutrition and Food Systems for Nutrition (Global Panel on Agriculture and Food Systems for Nutrition, 2016). These two frameworks are presented in Figure 5 and Figure 6 respectively. The HLPE considers more drivers and elements, but both frameworks include three components: the food supply chains from producers to consumers; the food environment (i.e. the conditioning factors under which consumers make decisions); and the consumer attitudes and behaviors. The three aspects interact to determine the quality of the diet actually consumed, which is the link to the nutrition and health problems.

Figure 5: HLPE - Conceptual Framework of Food Systems for Diets and Nutrition

Source: HLPE, 2017.

Figure 6: GLOPAN – Conceptual Framework for Food Systems and Diet Quality

Source: Global Panel on Agriculture and Food Systems for Nutrition, 2016.

Many of the nutrition and health policies interventions focus on the “Food Environment” and “Consumer Behavior” components. However, the frameworks presented in Figure 5 and Figure 6 also consider adequate interventions on the supply-side, including primary production. In the conceptual diagrams presented above, those supply-side policies and interventions would refer to the boxes in “Food Supply chains” of Figure 5, and to the outer circle of Figure 6, called “Food supply system”, particularly the “Agricultural production subsystem” and the “Food transformation subsystem.”

As an example, FAO, OPS/OMS (2018) includes supply-side elements at the farmer and primary food production levels, as well as demand-side aspects (Table 9).

Table 9: Supply and Demand Aspects

1) Policies to promote the supply of healthy foods
a. Promote family farming.
b. Strengthen the role of current food supply and distribution systems.
c. Facilitate the inclusion of family farming in public purchases.
d. Develop Urban and Peri urban Agriculture.
e. Encourage short circuits of production and consumption.
f. Optimize the advantages of comprehensive social protection systems.
2) Policies to promote the consumption of healthy foods
a. Promote fiscal measures based on taxes and subsidies
b. Promote the use of frontal nutrition warning labeling (with two components: 1. Nutrient declarations and 2. The use of public health warnings (“frontal nutrition labeling”))
c. Regulate food advertising
d. Set standards or regulations for foods that are distributed or marketed in schools.
e. Disseminate the use of food-based dietary guides
f. Promote Food and Nutrition Education
g. Promote physical activity.

Source: FAO, OPS/OMS, 2018.

World Bank (2017) uses the framework by Glopan (2016) but limited to the component called “Food Supply System.” The classification considers the following list of entry points for possible actions (Table 10).

Table 10: Policies and Interventions Using the Framework by Glopan (2016)

Agricultural Research Sub System
1. Incentivize more public sector research on high quality and underserved foods (legumes, fruits, vegetables) to increase productivity and shift relative prices.
2. Ensure that cereal research and provision on inputs includes a nutrition focus, and not just a yield focus, and that results are communicated to producers.
3. Encourage private sector advances in research favoring high quality and underserved foods.
Production Sub System
1. Ensure that biofortified cereals are the norm, where they are available and agronomically competitive, rather than the exception.
2. Eliminate subsidies and other production/price support measures for production of unhealthy ingredients for food processing.
3. Encourage production (and consumption) of fruits, vegetables, and pulses.
Food Storage, Transport and Trade Sub System
1. Reduce food loss and waste of underserved nutritious food groups (especially fruits, vegetables, pulses, poultry, fish).
2. Use trade to improve the quality of the local diet.
Food Transformation Sub System
1. Increase market supply of fortified foods with adequate micronutrients.
2. Build more awareness towards unhealthy ingredients for food processing, food, and products.
3. Incentivize product reformulation to reduce unhealthy ingredients in the processing stage (sugar/sweetener, sodium, trans fats etc.).
Food Retail and Provisioning Sub System
1. Build more awareness towards healthy eating.
2. Disincentivize the consumption of unhealthy foods through taxes.
3. Regulate or limit access to unhealthy foods.

Source: World Bank, 2017.

FAO, OPS, WFP and UNICEF (2018) use the framework from the HLPE, presented in Figure 5. This study considers the actions for a Nutrition Sensitive Food System (Table 11), covering not only the Food Supply Chain, but also the Food Environment and Consumer Behavior. A similar framework is also utilized in FAO (2019).

Table 11: Policies and Interventions Using the Framework by HLPE (2017)

1. Policies that influence food supply chains
* Production systems
**Family agriculture
** <i>Productive inclusion of rural women.</i> ¹⁵
* Retail sales and in markets
**Trade policies
** Marketing in short circuits
** Free fairs, itinerant markets and neighborhood markets
*Storage and distribution
** Losses, waste and food banks
* Processing and packaging
** Initiatives to reduce the amount of salt, sugar or fat
** Food supplementation and fortification programs
2. Policies that influence food environments
* Availability and physical access
** Public food supply and marketing systems
** School feeding programs
** <i>Breastfeeding</i>
* Economic access
** Fiscal measures and subsidies to promote or discourage the consumption of certain foods
** Social protection systems
* Promotion, advertising and information
** Advertising or regulation of food sales
** Frontal labeling with food nutrition warning
* Food quality and safety
** Drinking water and food safety
3. Policies that influence consumer behavior
* Choice of food to buy, prepare, cook, store and consume
** Food and nutrition education
** Nutritional guides

Source: FAO, OPS, WFP y UNICEF (2018)

¹⁵ As noted, before, a food-systems wide view shows that women are not only involved in primary production, but also in the whole value chain of production, transformation, marketing, and so on, plus highlighting women's crucial role in the food environment and as consumer (see Biermayr-Jenzano, 2019).

Using a food-systems approach to classify policies is certainly different from how the life-cycle approach categorizes those interventions, although several of the policies may overlap, particularly in the blocks related to Food Environment, and Consumer Behavior. Still, there are some other topics, mainly in the Food Supply component, that add other dimensions to the policy analysis. For example, the emphasis on agricultural R&D, although, as noted, this important topic should be extended to include not only primary production but also different aspects of processing, packaging, transportation, and conservation, all of them with implications for nutrition. Another topic introduced in FAO, OPS, WFP y UNICEF (2018) that is not discussed in previous frameworks is food losses and food waste, which also needs to be considered in any analysis from “farm to fork.”

FINAL COMMENTS

This review has listed a variety of nutrition policies and interventions related to addressing the problems of overweight and obesity. It also showed different frameworks to classify those policies and interventions, which may help as check list for country diagnostics. Although there is some overlap in the policies and interventions listed in the different frameworks, the topics covered among them differ. For instance, only the life-cycle approach highlights the important role of proper nutrition of mother and infant during pregnancy, and of breastfeeding during the 1000 days of life, in order to avoid overweight and obesity later in life.

While many of the frameworks emphasize aspects of consumer behavior and the environment within which the consumer makes decisions, the food systems approach extends the focus to policies and interventions for the whole food supply chain, starting from primary production and going through all the processing and marketing phases until it reaches the consumer. Only the Food-EPI index discusses separately international trade and investment policies.

Governance, financial resources and human capital are crucial issues required to implement the desired policies and interventions. However, they are mainly highlighted by the WHO framework and the Food-EPI approach. A full country diagnostic of nutrition policies and interventions should consider those dimensions as well.

Even though most data shows that the incidence of overweight and obesity is greater in women at all ages, gender targeted interventions under the frameworks reviewed referred only to pregnant and lactating women and women of reproductive age (as in the WHO’s life-cycle approach), or they focused on women in primary production (as in the “nutrition-sensitive” approach discussed before). A food system approach allows to see that women play significant roles not only regarding primary production, but also as traders, processors, street vendors, and in the household environment, all aspects that affect women and that may provide entry points for policies and interventions (Biermayr-Jenzano, Patricia. 2019).

In closing, although an elegant and compact classification system may be elusive, a framework for analysis of policies and interventions to address overweight and obesity should include both a governance structure and a comprehensive approach of analysis. A proper characterization of the governance structure, has to include the financial resources allocated (such as “public expenditure reviews” with an overweight and obesity focus) and of the human capital available to implement them. A comprehensive

policy analysis should also consider a combination of the food systems approach with some aspects of the life-cycle analysis, particularly related to women and infants. Considering that in general women are more affected, the gender lenses should be applied to the whole food systems approach.

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Annex 1. Good practice indicators of the Healthy Food Environment Policy Index (Food-EPI)

Infrastructure Support Domain	Good practice indicators
Leadership: ¹⁶ The political leadership ensures that there is strong support for the vision, planning, communication, implementation and evaluation of policies and actions to create healthy food environments, improve population nutrition, and reduce diet-related inequalities	LEAD1: There is strong, visible, political support (at the Head of State / Cabinet level) for improving food environments, population nutrition, diet-related NCDs and their related inequalities
	LEAD2: Clear population intake targets have been established by the government for the nutrients of concern to meet WHO and national recommended dietary intake levels
	LEAD3: Clear, interpretive, evidence-informed food-based dietary guidelines have been established and implemented
	LEAD4: There is a comprehensive, transparent, up-to-date implementation plan (including priority policy and program strategies, social marketing for public awareness and threat of legislation for voluntary approaches) linked to national needs and priorities, to improve food environments, reduce the intake of the nutrients of concern to meet WHO and national recommended dietary intake levels, and reduce diet-related NCDs
	LEAD5: Government priorities have been established to reduce inequalities in relation to diet, nutrition, obesity and NCDs
Governance: ¹⁷ Governments have structures in place to ensure transparency and accountability, and encourage broad community participation and inclusion when formulating and implementing policies and actions to create healthy food environments, improve population nutrition, and reduce diet-related inequalities	GOVER1: There are robust procedures to restrict commercial influences on the development of policies related to food environments where they have conflicts of interest with improving population nutrition
	GOVER2: Policies and procedures are implemented for using evidence in the development of food policies
	GOVER3: Policies and procedures are implemented for ensuring transparency in the development of food policies
	GOVER4: The government ensures access to comprehensive nutrition information and key documents (e.g. budget documents, annual performance reviews and health indicators) for the public
Monitoring & Intelligence: ¹⁸ The government's monitoring and intelligence systems (surveillance, evaluation, research and reporting) are comprehensive and regular enough to assess the status of food environments, population nutrition and diet-related NCDs and their inequalities, and to measure progress on achieving the goals of nutrition and health plans	MONIT1: Monitoring systems, implemented by the government, are in place to regularly monitor food environments (especially for food composition for nutrients of concern, food promotion to children, and nutritional quality of food in schools and other public sector settings), against codes/guidelines/standards/targets.
	MONIT2: There is regular monitoring of adult and childhood nutrition status and population intakes against specified intake targets or recommended daily intake levels.
	MONIT3: There is regular monitoring of adult and childhood overweight and obesity prevalence using anthropometric measurements
	MONIT4: There is regular monitoring of the prevalence of NCD risk factors and occurrence rates (e.g. prevalence, incidence, mortality) for the main diet-related NCDs
	MONIT5: There is sufficient evaluation of major programs and policies to assess effectiveness and contribution to achieving the goals of the nutrition and health plans

¹⁶ The template for some LAC countries includes LEAD6 and LEAD7, related to support from congress, lower and upper chamber, to healthy food environments and diets and combat of NDCs.

¹⁷ Similarly, sometimes there is a GOVER5 regarding the "existence of an organ of national governance, with participation of civil society and academia, to monitor the design, implementation and evaluation of policies to create healthy food environments."

¹⁸ Similarly, there is a MONIT7 on whether "national health and nutrition surveys are being utilized to contribute to the design and/or modification of policies to promote healthy food environments."

Infrastructure Support Domain	Good practice indicators
	MONIT6: Progress towards reducing health inequalities and social determinants of health are regularly monitored
Funding & Resources: Sufficient funding is invested in 'Population Nutrition Promotion'(estimated from the investments in population promotion of healthy eating and healthy food environments for the prevention of obesity and diet-related NCDs, excluding all one-on-one promotion (primary care, antenatal services, maternal and child nursing services etc.), food safety, micronutrient deficiencies (e.g. folate fortification) and under-nutrition) to create healthy food environments, improved population nutrition, reductions in obesity, diet-related NCDs and their related inequalities	FUND1: The 'Population Nutrition Promotion' budget, as a proportion of total health spending and/or in relation to the diet-related NCD burden is sufficient to reduce diet-related NCDs FUND2: Government funded research is targeted for improving food environments, reducing obesity, NCDs and their related inequalities FUND3: There is a statutory health promotion agency in place that includes an objective to improve population nutrition, with a secure funding stream.
Platforms for Interaction: There are coordination platforms and opportunities for synergies across government departments, levels of government, and other sectors (NGOs, private sector, and academia) such that policies and actions in food and nutrition are coherent, efficient and effective in improving food environments, population nutrition, diet-related NCDs and their related inequalities	PLATF1: There are robust coordination mechanisms across departments and levels of government (national and local) to ensure policy coherence, alignment, and integration of food, obesity and diet-related NCD prevention policies across governments PLATF2: There are formal platforms between government and the commercial food sector to implement healthy food policies PLATF3: There are formal platforms for regular interactions between government and civil society on food policies and other strategies to improve population nutrition PLATF4: The government leads a broad, effective and sustainable systems-based approach with local organizations to improve the healthiness of food environments at a national level
Health-in-all-policies: ¹⁹ Processes are in place to ensure policy coherence and alignment, and that population health impacts are explicitly considered in the development of government policies	HIAP1: There are processes in place to ensure that population nutrition, health outcomes and reducing health inequalities are considered and prioritized in the development of all government policies relating to food HIAP2: There are processes (e.g. health impact assessments) to assess and consider health impacts during the development of other non-food policies
Food Composition: There are government systems implemented to ensure that, where practicable, processed foods minimize the energy density and the nutrients of concern (salt, fat, saturated fat, trans fat, added sugar)	COMP1: Food composition targets/standards have been established by the government for the content of the nutrients of concern in certain foods or food groups if they are major contributors to population intakes of these nutrients of concern (<i>trans</i> fats and added sugars in processed foods, salt in bread, saturated fat in commercial frying fats) COMP2: Food composition targets/standards have been established for out-of-home meals in food service outlets by the government for the content of the nutrients of concern in certain foods or food groups if they are major contributors to population intakes of these nutrients of concern (<i>trans</i> fats, added sugars, salt, and saturated fat).
Food Labelling: ²⁰ There is a regulatory system implemented by the government for consumer-oriented labelling on food packaging and menu boards in restaurants to enable consumers to easily make informed food choices and to prevent misleading claims	LABEL1: Ingredient lists and nutrient declarations in line with Codex recommendations are present on the labels of all packaged foods LABEL2: Robust, evidence-based regulatory systems are in place for approving/reviewing claims on foods, so that consumers are protected against unsubstantiated and misleading nutrition and health claims LABEL3: A single, consistent, interpretive, evidence-informed front-of-pack supplementary nutrition information system, which readily allows consumers to assess a product's healthiness, is applied to all packaged foods

¹⁹ There is also a HIAP3 on whether "there is criteria for the inclusion of nutrition as a transversal axis for all public policies of the federal government."

²⁰ There is a LABEL5 on whether "the nutritional criteria used to decide if a food product can carry a distinctive label a "nutritional seal" is in line with other nutritional policies in the country."

Infrastructure Support Domain	Good practice indicators
	<p>LABEL4: A consistent, single, simple, clearly-visible system of labelling the menu boards of all quick service restaurants (i.e. fast food chains) is applied by the government, which allows consumers to interpret the nutrient quality and energy content of foods and meals on sale</p>
<p>Food Promotion: ²¹</p> <p>There is a comprehensive policy implemented by the government to reduce the impact (exposure and power) of promotion of unhealthy foods to children (<16years) across all media</p>	<p>PROMO1: Effective policies are implemented by the government to restrict exposure and power of promotion of unhealthy foods to children through all forms of media, including broadcast (TV, radio)</p> <p>PROMO2: Effective policies are implemented by the government to restrict exposure and power of promotion of unhealthy foods to children through non-broadcast media (e.g. Internet, social media, food packaging, sponsorship, outdoor advertising including around schools)</p> <p>PROMO3: Effective policies are implemented by the government to ensure that unhealthy foods are not commercially promoted to children in settings where children gather (e.g. preschools, schools, sport and cultural events)²²</p>
<p>Food Prices:</p> <p>Food pricing policies (e.g., taxes and subsidies) are aligned with health outcomes by helping to make the healthy eating choices the easier, cheaper choices</p>	<p>PRICES1: Taxes on healthy foods are minimized to encourage healthy food choices where possible (e.g. low or no sales tax, excise, value-added or import duties on fruit and vegetables)</p> <p>PRICES2: Taxes on unhealthy foods (e.g. sugar-sweetened beverages, foods high in nutrients of concern) are in place to discourage unhealthy food choices where possible, and these taxes are reinvested to improve population health</p> <p>PRICES3: The intent of existing subsidies on foods, including infrastructure funding support (e.g. research and development, supporting markets or transport systems), is to favor healthy rather than unhealthy foods</p> <p>PRICES4: The government ensures that food-related income support programs are for healthy foods</p>
<p>Food Provision: ²³</p> <p>The government ensures that there are healthy food service policies implemented in government-funded settings to ensure that food provision encourages healthy food choices, and the government actively encourages and supports private companies to implement similar policies</p>	<p>PROV1: The government ensures that there are clear, consistent policies (including nutrition standards) implemented <u>in schools and early childhood education services</u> for food service activities (canteens, food at events, fundraising, promotions, vending machines etc.) to provide and promote healthy food choices</p> <p>PROV2: The government ensures that there are clear, consistent policies <u>in other public sector settings</u> for food service activities (canteens, food at events, fundraising, promotions, vending machines, public procurement standards etc.) to provide and promote healthy food choices</p> <p>PROV3: The government ensures that there are good support and training systems to help schools and other public sector organizations and their caterers meet the healthy food service policies and guidelines</p> <p>PROV4: Government actively encourages and supports private companies to provide and promote healthy foods and meals in their workplaces</p>
<p>Food Retail:</p> <p>The government has the power to implement policies and programs to support the availability of healthy foods and limit the availability of unhealthy foods in communities (outlet density and locations) and in-store (product placement)</p>	<p>RETAIL1: Zoning laws and policies are robust enough and are being used, where needed, by local governments to place limits on the density or placement of quick serve restaurants or other outlets selling mainly unhealthy foods in communities</p> <p>RETAIL2: Zoning laws and policies are robust enough and are being used, where needed, by local governments to encourage the availability of outlets selling fresh fruit and vegetables</p>

²¹ For some LAC countries there is a PROMO4 indicator on whether “the nutritional criteria used to decide if a food product is unhealthy and it has to be subject to restrictions in its advertisement and promotion, are in line with other nutritional policies in the country.”

²² In some templates this indicator is divided in 3.1 (for schools) and 3.2 (for other spaces)

²³ Some LAC countries PROV5.1 “The government guarantees the provision of drinking water to drink for free in schools;” PROV5.2 “The government guarantees the provision of drinking water for free drinking in public spaces;” and PROV6 “The nutritional criteria used for the provision of food are in line with other nutrition policies in the country.”

Infrastructure Support Domain	Good practice indicators
	<p>RETAIL3: There are existing support systems to encourage food stores to promote the in-store availability of healthy foods and to limit the in-store availability of unhealthy foods</p> <p>RETAIL4: The government ensures existing support systems are in place to encourage food service outlets to increase the promotion and availability of healthy foods and to decrease the promotion and availability of unhealthy foods</p>
<p>Food Trade & Investment:</p> <p>The government ensures that trade and investment agreements protect food sovereignty, favor healthy food environments, are linked with domestic health and agricultural policies in ways that are consistent with health objectives, and do not promote unhealthy food environments</p>	<p>TRADE1: The direct and indirect impacts of international trade and investment agreements on food environments and population nutrition and health are assessed and considered</p> <p>TRADE2: The government adopts measures to manage investment and protect their regulatory capacity with respect to public health nutrition</p>

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