



Science and Technology in
childhood Obesity Policy

**FOOD
SYSTEMS**
— FOR —
HEALTH



NUTRITION LABELLING: POLICY BRIEF

Introduction

Today, unhealthy diets are a leading cause of death and disability and currently cause 8 million premature deaths globally every year (1). Childhood overweight and obesity are increasing global public health challenges. In 2020, 38.9 million children under 5 years of age were estimated to be overweight (2) while over 340 million children and adolescents aged 5–19 were overweight or obese in 2016 (3). A major driver of the increases in obesity (4) are current food¹ environments, with increasing availability, accessibility, affordability and marketing of foods¹ that are high in saturated fats, trans-fats, sugars or salt and are usually highly processed (5).

To enable consumers to make healthier dietary decisions therefore requires creating a food environment that promotes a healthy diet. Such a food environment includes nutrition labelling that informs the consumer of nutritional properties of a food to aid purchase and consumption decisions and prevents labelling in a manner that is false, misleading or deceptive, or is likely to create an erroneous impression about any characteristics of the product.

Acknowledging that nutrition labelling policies have a dual purpose (i.e. to protect the health of consumers and to ensure fair practices in food trade),

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¹ "Food" refers to any food or non-alcoholic beverage.

this policy brief focusses on nutrition labelling policies as a tool to promote healthy diets². It provides policy makers and programme managers, health professionals and advocates with information and options for nutrition labelling policies, including policies on **ingredient lists**, **nutrient declarations**, **supplementary nutrition information** (,e.g., front-of-pack labelling, or FOPL) and **nutrition and health claims**.

Background

The current food retail environment offers an unprecedented selection of heavily processed packaged foods that may undermine healthy diets. Sales of such foods are rapidly increasing (6), their retail shelf-space typically exceeds that of unpackaged mostly healthier food options (7, 8) and store promotions tend to favour the unhealthier packaged foods (9-11).

Labelling of packaged food is considered to be “the primary means of communication between the producer and seller of food on one hand, and the purchaser and consumer on the other” (12). Numerous global documents endorsed by the World Health Assembly (WHA) have proposed nutrition labelling as an important policy tool to improve nutrition and promote healthy diets (13-18). Also, the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health (2008–2014) called on governments to adopt, implement and enforce nutrition labelling policies with a view to respect, protect and fulfil the right to health (19). Nutrition labelling has the potential to help rebalance a food retail environment (20) currently skewed towards foods that undermine healthy diets, by providing information on the nutritional properties and the quality of foods to aid purchase and consumption decisions.

However, labelling is also used as a marketing tool by the food industry, giving impetus to the general principle of nutrition labelling that the labels shall not describe a product or present information about it which is in any way false, misleading or deceptive, or is likely to create an erroneous impression regarding its character in any respect^{3,4}. In some circumstances, labelling may also encourage reformulation of foods, as manufacturers would want to have their products fall in the categories that are defined as “healthier” by the labels.

This policy brief on nutrition labelling focusses on **ingredient lists**, **nutrient declarations**, **supplementary**

ABOUT WHO'S FOOD SYSTEMS FOR HEALTH

Today's food systems are simply failing to deliver healthy diets for all. In addition to the suffering this causes to individuals and families, the economic costs to society due to the health and environmental impacts of current dietary patterns are heavy, and often hidden. If food systems are transformed, they can become a powerful driving force towards ending hunger, food insecurity and malnutrition in all its forms. There is no single solution, instead it is recommended to implement coherent portfolios of policies, investments and legislation that prioritise health. At the same time, it is also important to ensure a fair price for the producer and reflect the true environmental, health and poverty costs.

WHO's Food Systems for Health narrative highlights five different ways in which food systems impact on health and embraces the interconnectedness of humans, animals, and the planet. The malnutrition pathway comprises the aspects of food systems that lead to unhealthy diets or food insecurity and therefore contribute to malnutrition in all its forms. Malnutrition and hunger pose the highest risks to human health in terms of death and illness and include obesity, micronutrient deficiencies, stunting, wasting, communicable and noncommunicable diseases and mental illness.

nutrition information (including front-of-pack labels) and **nutrition and health claims**, which serve different purposes and for which the Codex Committee on Food Labelling has developed guidance⁵.

The **list of ingredients** is a mandatory requirement for the label of all pre-packaged foods (except for single ingredient foods), as described in a general Codex standard. All pre-packaged foods must carry a list of ingredients, in descending order of weight². **Nutrient declarations** are a standardized listing of the nutrient content of a food and are usually positioned on the back or side of the package⁶; **supplementary nutrition information**, provides additional information of the food nutritional value; **nutrition claims** are claims made on nutritional properties of food, and **health claims** suggest or imply a relationship between a food or a constituent of that food and health⁷.

² Information about allergens, food additives, date marking or country of origin or labelling requirements for foods for special dietary or medical purposes are beyond the scope of this brief.

³ Codex Alimentarius General Standards for the Labelling of Prepackaged Foods [CXS 1-1985](#)

⁴ Codex Alimentarius Guidelines on Nutrition Labelling [CAC/GL 2-1985](#)

⁵ Relevant Codex Alimentarius standards and related texts on labelling can be found at the website of the [Codex Committee on Food Labelling](#).

⁶ Codex Alimentarius Guidelines on Nutrition Labelling [CAC/GL 2-1985](#)

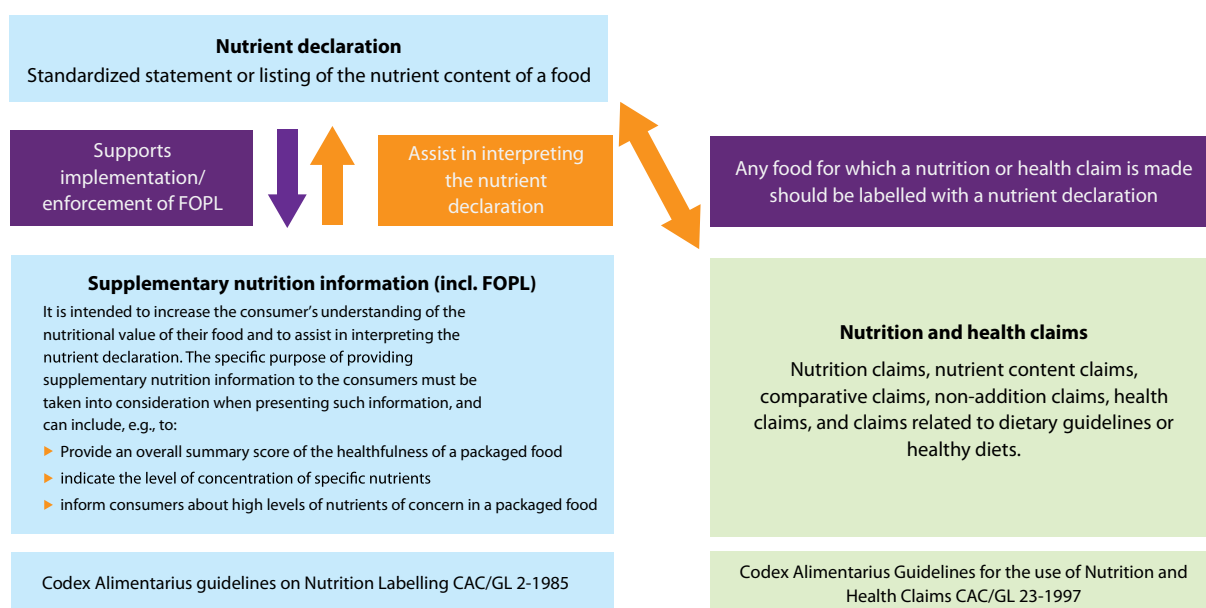
⁷ Codex Alimentarius Guidelines for the use of Nutrition and Health Claims [CAC/GL 23-1997](#)

The purpose of **nutrient declarations** should be to provide consumers with a “suitable profile of nutrients contained in the food and considered to be of nutritional importance”. **Supplementary nutrition information**, including FOPL, is intended to “increase the consumer’s understanding of the nutritional value of their food and to assist in interpreting the nutrient declaration”. The specific purpose of supplementary nutrition information varies and can include providing an overall summary score about the healthfulness of a food or informing consumers about high levels of nutrients of concern. Nutrient declarations support implementation of supplementary nutrition information, and enable the implementation of nutrition and health claims, as all foods which carry such a claim should include a nutrient declaration. Nutrition and health claims are also used as a marketing tool by the food industry.

Countries typically have a number of nutrition labelling rules and regulations. Governments adopt nutrition labelling policies depending on their requirements, their legal environment (taking into consideration, e.g., policies related to food and nutrition, consumer protection, or commerce and trade), the implementing

agency or authoritative body responsible for enforcing the policies and the defined policy objectives. There is typically also no single agency or body across countries that implements all activities related to nutrition labelling policies. Examples can include food and drug authorities, consumer affairs agencies, food standards agencies, ministries of economy or primary industries. While the details of nutrition labelling policies will depend on the country context, most countries adapt the labelling provisions of Codex Alimentarius, as the Codex Alimentarius Commission is the recognized international authority for food standard setting. Codex standards and guidelines are also used as a reference point for international trade agreements of the World Trade Organization (WTO). Relevant Codex guidance on nutrient declarations, supplementary nutrition information and nutrition and health claims is discussed in the next sections of this brief. Importantly, the nutrition labelling policies discussed in this policy brief are not meant to be implemented independently from one another, but rather require coherent implementation. Their interdependence is visualized in figure 1.

Figure 1. Nutrient declarations, supplementary details of nutrition information and health and nutrition claims



Codex guidance on nutrient declarations, supplementary nutrition information and nutrition and health claims

Nutrient declarations

Nutrient declarations should be mandatory for *all* prepackaged foods for which nutrition or health claims are made. However, irrespective of whether claims are made, when implementing nutrient declarations, the declaration of the following should be mandatory:

- ▶ energy value
- ▶ protein
- ▶ carbohydrate (i.e. dietary carbohydrate excluding dietary fat)
- ▶ fat
- ▶ saturated fat
- ▶ sodium⁸
- ▶ total sugars

Previously, saturated fatty acids (SFA), sodium and total sugars were not included as the mandatory nutrients to be declared. However, as part of the efforts in implementing the Global Strategy on Diet, Physical Activity and Health adopted by the 57th World Health Assembly in 2004 (21) also through the work of Codex, Codex agreed in 2013 to include SFA, sodium and total sugars as the mandatory nutrients to be declared in a nutrient declaration. Accordingly, Codex then developed the nutrient reference values relevant for the prevention of noncommunicable diseases (NRVs-NCD) based on the WHO guidelines (**Box 1**), to be used for the purposes of nutrition labelling and relevant claims.

BOX 1: NUTRIENT REFERENCE VALUES FOR THE PREVENTION OF NCDs

Intake levels not to exceed	Intake levels to achieve
Saturated fatty acids: 20 g ^{9,10}	Potassium: 3500 mg ¹¹
Sodium: 2000 mg ¹²	

⁸ National authorities may decide to express the total amount of sodium in salt equivalents as “salt”.

⁹ This value is based on the reference energy intake of 2 000 kcal.

¹⁰ The selection of this nutrient for the establishment of an NRV was based on “convincing evidence” for a relationship with NCD risk as reported in the report Diet, Nutrition and the Prevention of Chronic Diseases. WHO Technical Report Series 916. WHO, 2003.

¹¹ The selection of these nutrients for the establishment of an NRV was based on “high quality” evidence for a relationship with a biomarker for NCD risk in adults as reported in the respective 2012 WHO Guidelines on sodium and potassium intake for adults and children.

¹² The selection of these nutrients for the establishment of an NRV was based on “high quality” evidence for a relationship with a biomarker for NCD risk in adults as reported in the respective 2012 WHO Guidelines on sodium and potassium intake for adults and children.

To date *trans*-fatty acids (TFA) is not included as a mandatory nutrient to be declared in nutrient declaration. However, it is noted that countries where the level of intake of TFA is a public health concern should consider including the declaration of TFA in nutrition labelling.

Nutrition and health claims

As stated in the Codex Alimentarius Guidelines for the use of nutrition and health claims, “nutrition claims should be consistent with national nutrition policy and support that policy. Only nutrition claims that support national nutrition policy should be allowed”. Furthermore, “health claims should be consistent with national health policy, including nutrition policy, and support such policies where applicable. Health claims should be supported by a sound and sufficient body of scientific evidence to substantiate the claim, provide truthful and non-misleading information to aid consumers in choosing healthful diets and be supported by specific consumer education”. Guidance exists on the use of claims in general¹³, and for the different types of nutrition and health claims¹⁴, including for example nutrient content claims, comparative claims or claims related to dietary guidelines or healthy diets. For health claims, Codex defined recommendations on the scientific substantiation of health claims which are intended to assist competent national authorities in their evaluation of health claims to determine their acceptability for use by the industry.

Codex has also defined conditions that nutrient content claims for “low”, “free” or “very low” should not exceed for energy, fat, saturated fat, cholesterol, sugars and sodium. For example, solids in which saturated fat does not exceed 1.5g per 100g can be labelled with the claim “low” in saturated fat. However, a footnote indicates that in the case of the claims for saturated fat, *trans*-fatty acids should be taken into account where applicable. Or, solids in which sugars do not exceed 0.5g per 100g can be labelled with the claim “free”. Importantly, no claim shall be misleading or deceptive.

¹³ Codex Alimentarius General Guidelines on Claims [CAC/GL 1-1979](#)

¹⁴ Codex Alimentarius Guidelines for the use of Nutrition and Health Claims [CAC/GL 23-1997](#)

Supplementary nutrition information (including FOPL)

In recent years, various front-of-pack nutrition labelling (FOPL) systems have been developed and used as supplementary nutrition information in different countries. There is less consensus globally on the use of FOPL, however, the Codex Guideline on Nutrition Labelling in Annex 2 now provides guidelines on front-of-pack nutrition labelling, to assist countries in the development of FOPL consistent with their national dietary guidance or health and nutrition policy.

Annex 2 of the Codex Guideline provides principles for the establishment of FOPL and is in line with the WHO Guiding principles and framework manual for FOPL (22) (See Box 2), which provides a framework for the development, implementation, and monitoring and evaluation of a FOPL system. Importantly, development

and implementation of any supplementary nutrition information, including front-of-pack labelling, must consider the local context, including for example the current nutritional situation, dietary customs as well as the availability of foods.

The WHO Guiding principles and framework manual for FOPL defines FOPL as “nutrition labelling systems that are presented on the front of food packages (in the principal field of vision) and can be applied across the packaged retail food supply”, to present simple, often graphic information on the nutrient content or nutritional quality of products. A FOPL system should be based on an underpinning nutrient profile model that considers the overall nutrition quality of the product **or** the nutrients of concern for NCDs (or both). Nutrients of concern for NCDs include saturated fats, *trans*-fatty acids, sodium and total sugars.

BOX 2: WHO GUIDING PRINCIPLES AND FRAMEWORK MANUAL FOR FOPL

Overarching principles

1. The FOPL system should be aligned with national public health and nutrition policies and food regulations as well as with relevant WHO guidance and Codex guidelines.
2. A single system should be developed to improve the impact of the FOPL system.
3. Mandatory nutrient declarations on food packages are a prerequisite for FOPL systems.
4. A monitoring and review process should be developed as part of the overall FOPL system for continuing improvements or adjustments as required.
5. The aims, scope and principles of the FOPL system should be transparent and easily accessible.

Principles for a collaborative approach to FOPL development

6. Government should lead the multisectoral stakeholder engagement process for the development of trusted systems, including nutrient profiling criteria.

Principles for FOPL system format Design

7. The FOPL system should be interpretive, based on symbols, colours, words and/or quantifiable elements.
8. The design of FOPL systems should be understandable to all population subgroups and be based on the outcome of consumer testing, evidence of system performance and stakeholder engagement.

Content

9. Content should encompass nutritional criteria and food components that aim to inform choice and enable interpretation of food products against risks for diet-related noncommunicable diseases (NCDs) and for promoting healthy diets.
10. The FOPL system should enable appropriate comparisons between food categories, within a food category, and between foods within a specific food type.

Principles for the implementation of FOPL systems

11. Uptake of the FOPL system should be encouraged across all eligible packaged foods, either through regulatory or voluntary approaches.
12. Early engagement of industry groups and the development of guidance documents (i.e. style guide) are necessary in facilitating the implementation of the FOPL system.
13. Engagement with key opinion leaders (including food and nutrition experts and the media) and consumers is essential and should be well managed.
14. Well-resourced public education campaigns and consumer education with special consideration of techniques to target at-risk groups are necessary for improving nutrition literacy and consumer understanding and use of the FOPL system.
15. Baseline data should be collected to support monitoring and evaluation of the impact on consumers and reformulation of food products.

The two main categories of FOPL systems are: interpretive and non-interpretive systems. **Interpretive systems** provide at-a-glance guidance on the relative healthfulness or unhealthfulness of a product. Interpretive systems may provide a summary indicator of the healthfulness of a food (e.g. using letters or symbols to rate the food according to its healthfulness). Examples include the Nutri-Score system (France), Health Star Rating (Australia and New Zealand), and multiple traffic light labelling system (United Kingdom). Another interpretive system is the warning system (Chile), which provides an indicator of high levels of nutrients that increase the risk of diet-related NCDs. In contrast, endorsement logos, such as the Heart Symbols (e.g., Finland), Green Keyhole (e.g., Sweden), provide an indicator of the relative healthfulness of a food, with no indication of unhealthfulness. **Non-interpretive systems**, such as Guideline Daily Amount (GDA), provide nutrient content information with numbers rather than graphics, symbols, colours with *no specific advice or judgement on the overall nutritional value of the food*.

The underpinning nutrient profiling model varies depending on the FOPL system. For example, a model that sets threshold amounts that meet a nutrition guideline is used in interpretive nutrient-based systems, an algorithm for food products' overall nutrition profile is used in interpretive non-nutrient based indicator systems and a model basing criteria on nutrient reference values is used in non-interpretive nutrient-based systems.

What system to use depends on the country context. Some countries will create their own system, whereas other countries may adapt an existing system. No matter what system is used, the content should encompass nutritional criteria and food components with the aim of informing choice and enabling interpretation of food products against risks for diet-related NCDs, and of promoting healthy diets; and the FOPL system should enable appropriate comparisons between foods. Consumer research will indicate whether people understand and change their purchasing decisions in response to the label.

Elements that impact implementation of nutrition labelling policies

Elements that facilitate or hinder implementation of labelling policies depend on the policies' details and purpose and on the country's existing infrastructure to implement food-related policies. For example, implementation of a "use by" date on foods which are highly perishable and are likely to constitute an

immediate danger to human health after a certain period of time, is accepted and expected. However, there are likely to be differing opinions and interests, when a country decides to update its nutrient declaration to include added sugars, or to develop an interpretative front-of-pack labelling system.

A review of factors that may impact the development and implementation of nutrition labelling policies identified elements that support or hinder development, implementation, monitoring, evaluation and enforcement (53). Overall, facilitators included for example strong political leadership, supporting evidence, intersectoral collaboration, transparency of the process and – in particular for FOPL – pilot-testing the proposed FOPL systems (54-58). Governments seeking to revise existing or develop new nutrition labelling policies reports, can solicit feedback from the public and other actors allowing for an opportunity to provide inputs (59-67) and possibly increasing acceptability of the policy. Making submissions to the consultations publicly available increases transparency in the policy-making process (53). Some countries provide implementation guidance to industry of a new or revised nutrition labelling policy (68-73), which can help increase understanding and compliance.

Challenges or barriers included conflicting interests and interference in the policy process, and the potential complexity of developing a labelling system (including nutrient profiling aspects, defining "unhealthy", and deciding on the optimal system for a given context) (55, 56, 74-77). A wide range of literature has identified industry interference and opposition as major barriers to the development and implementation of nutrition



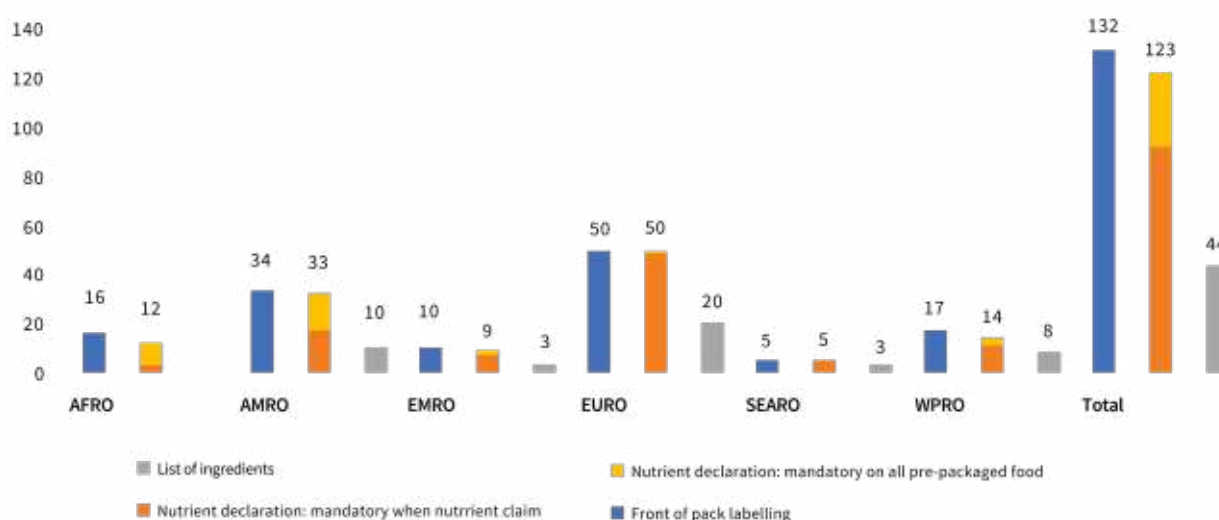
labelling policies, which may affect the feasibility of such policies (57, 58, 75, 78, 79). Costs associated with changes in existing or with new labelling policies might be cited as a concern for food manufacturers, and providing sufficient transition times for phasing new requirements might help to better manage possible cost implications (80-83).

Monitoring, evaluation and enforcement are key elements for regulatory action, including for nutrition labelling policies. Lack of appropriate monitoring and evaluation measures with a labelling policy can inhibit compliance, lead to inconsistency in implementation and limit the potential effectiveness of nutrition labelling (84). Ensuring that these are integral components of the policy affects overall feasibility of policy action (14, 20, 85-88). For example, a study on regulations to limit SSB consumption in South America concluded that most labelling regulations lacked implementation and monitoring structures, although formal sanctions were referred to in the regulations on FOPL of Chile, Ecuador, Mexico and Venezuela (Bolivarian Republic of) (89).

Country implementation

Countries have made progress on implementing nutrition labelling policies (90). As of May 2022, 132 WHO Member States with data on legislative and other measures have adopted nutrition labelling policies. Globally, the most common components of nutrition labelling of pre-packaged foods and beverages are ingredient lists and nutrient declarations, especially in the WHO regions of the Americas and Europe (Fig. 2). In several countries in the WHO regions of Africa and the Americas, implementation of nutrient declaration was only mandatory for food products bearing a nutrient content claim. Figure 3 shows nutrients to be declared in 92 WHO Member States as mandatory measures to implement nutrient declarations on all prepackaged food.

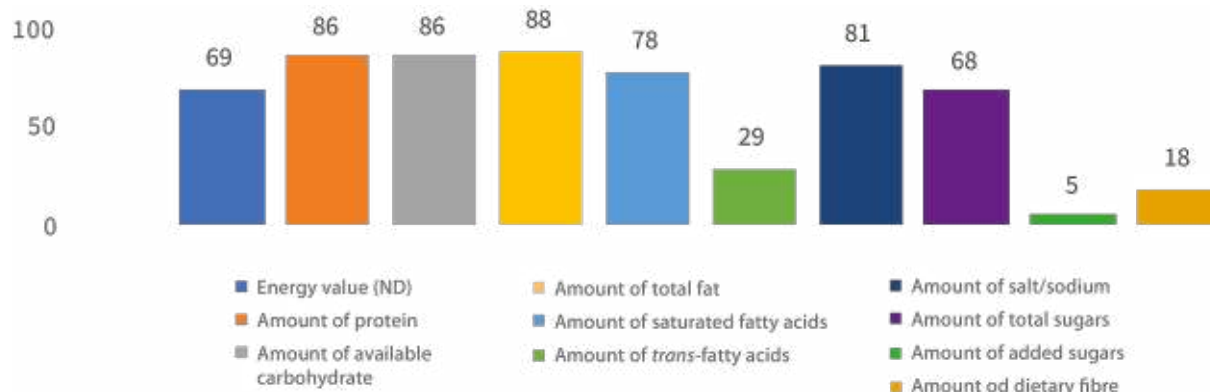
Figure 2. Number of WHO Member States having adopted different types of nutrition labelling policies



AFR, WHO African Region, AMR, WHO Region of the Americas, EMR, WHO Eastern Mediterranean Region, EUR, WHO European Region, SEAR, WHO South East Asia Region, WPR, WHO Western Pacific Region.

Source: WHO Global database on the Implementation of Nutrition (GINA).

Figure 3. Nutrients to be disclosed in 92 WHO Member States with mandatory nutrient declaration



Among countries that reported on nutrition and health claims to the second Global Nutrition Policy Review 2016-2017, measures to regulate or guide these claims were usually included in national labelling policies (90). Most nutrition and health claim policies were developed after 2007, and almost a quarter since 2013, when the Codex guidelines incorporated nutrient reference values for NCDs. An increasing number of countries are developing and implementing front-of-pack labelling (FOPL) systems. As of May 2022, 44 WHO Member States have adopted a variety of different (and sometimes multiple) FOPL systems. Most systems are voluntary, with different formats, graphics, content and underlying nutrient profile models.

Evidence on the impact of nutrition labelling

Whether or not nutrition labelling is impactful depends on the multiple drivers of nutrition behaviour and food related decisions, including the taste, price, convenience, brand, cultural and/or family preferences, etc. These factors, in addition to the attributes of the label itself, including its content, format and context, influence the extent to which the information on the label will be sought and used by the consumer.

The impact of nutrition labelling also depends on the specific labelling purpose and its regulatory objective, which makes comparisons between different labelling components (e.g., nutrient declarations and front-of-pack labelling) or between labelling systems (e.g., different front-of-pack labelling systems) problematic and in some cases inappropriate. Another challenge in assessing the impact of nutrition labelling is the variation in research methodology, including different experimental conditions, comparators, outcome of interest and different outcome measures. For example,

there appear to be fewer studies using objective measures for the outcome on understanding of labelling by consumers, compared to self-reported understanding, and self-reported understanding is heavily over-reported. (23, 24).

Available evidence on the impact of nutrition labelling mostly comes from studies that assess the performance of nutrition labelling systems (25), or the impact of certain labelling design and content elements on behavioural outcomes (i.e. awareness, understanding, use, choice, purchase and dietary intake), that may inform the development or revision of labelling policies (26-33), rather than from evaluations of nutrition labelling policies as a whole. Few modelling studies are available that estimate the impact of labelling on health outcomes.

However, policy evaluations are starting to emerge on a diverse range of nationally implemented front-of-pack labelling systems, including for example in Australia (34, 35) and Chile (36).

There is typically high awareness of nutrition labelling (including nutrient declarations, FOPL and claims) (37-47), and awareness tends to increase over time, also with information campaigns (43, 44, 46, 47). Studies have shown that if claims are present, nutrient declarations are less referred to by consumers (48, 49). Evidence on consumer label use shows mixed results depending on the label assessed, how it is modified and whether a label is presented along another label. Whether or not supplementary nutrition information (such as FOPL) assists in interpreting nutrient declarations, depends on the FOPL. However, studies have shown that nutrient declarations presented together with FOPL improve attention to any nutrition information (27, 50, 51). To assess the use of FOPL, a number of studies are available that use measures, such as response time required for a

task to compare FOPL (29-33), showing more favourable results for interpretive compared to non-interpretive FOPL systems. A 2011 review, for example, found that understanding of quantitative reference information (%DV, serving sizes) is poor and that front of pack labelling may aid understanding more than the nutrition information provided on the back of pack (52).

Such emerging evidence forms the basis for one of the WHO guiding principles, which states that FOPL systems should be interpretive, based on symbols, colours, words or quantifiable elements. Nonetheless, it is prudent for countries to undertake consumer testing of proposed FOPL systems to ensure their suitability for the target market.

Overall, available evidence to date suggests that nutrition labelling is indeed an important policy tool for promoting healthy diets. However, as no single intervention can address malnutrition in all its forms, the implementation of nutrition labelling policies is recommended as part of a comprehensive policy approach to creating a healthy and enabling food environment.

Call to action

To reduce all forms of malnutrition, improve nutrition and promote healthy diets, governments are called upon to implement comprehensive policy approaches to create healthy food environments, including nutrition labelling policies. Taking into consideration relevant global, regional and national legal frameworks and guidance from recognized authoritative bodies, governments are called upon to implement nutrition labelling, first and foremost nutrient declarations

followed by FOPL that informs the consumer of nutritional properties of a food to aid purchase and consumption decisions. Governments are also expected to regulate nutrition and health claims to prevent labelling in a manner that is false, misleading or deceptive, or is likely to create an erroneous impression about any characteristics of the product.

Acknowledgements

This policy brief was prepared by Dr Katrin Engelhardt, Ms Kaia Engesveen, Dr Chizuru Nishida, Ms Camilla Haugstveit Warren and Dr Rain Yamamoto, Department of Nutrition and Food Safety, World Health Organization (WHO).

Valuable inputs and critical review were also provided by the following experts who contribute to the Science & Technology in Childhood Obesity Policy (STOP) project: Dr Anu Aaspõllu, Prof Tiina Laatikainen, Ms Päivi Mäki, Dr Susanna Raulio, Prof Franco Sassi and Dr Marco Silano. The STOP project (<http://www.stopchildobesity.eu/>) received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 774548. The STOP Consortium is coordinated by Imperial College London and includes 24 organisations across Europe, the United States and New Zealand. The content of this publication reflects only the views of the authors, and the European Commission is not liable for any use that may be made of the information it contains.

WHO gratefully acknowledges the financial support provided by the Government of Japan and the Government of Sweden, for the production of this policy brief.



¹⁵ A Recognized Authoritative Scientific Body (RASB) is an organization supported by a government or competent national and/or international authorities that provides independent and transparent authoritative scientific advice (adapted from the definition provided by Codex Alimentarius in [CAC/GL 2-1985](#)).



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Nutrition labelling: policy brief

ISBN 978-92-4-005132-4 (electronic version)

ISBN 978-92-4-005133-1 (print version)

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Layout: Alberto March



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2016-2025

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