



Global Regulatory Landscape for Nutrient Profiling:

What is Here and What is Coming



Food Safety

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Nutrient Profiling The Global Landscape

Purpose of Nutrient Profiling: Front of Pack Labeling (FOPL)

- Despite nutritional and health recommendations from international public authorities, morbidity and mortality from non-communicable diseases continues to rise.
- Poor diet is the leading cause of mortality and morbidity across the WHO European Region, including contributing to obesity, type 2 diabetes mellitus, CVD and some types of cancer.
- New public health approaches are therefore being set up, including nutritional information on front of pack labeling for food products to assist in improving the nutritional status of populations.

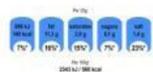
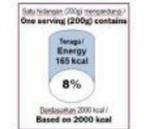
Purpose of FOPL

- **Nutrition labelling provides an important tool to support consumers to make healthier food choices and may also drive food product reformulation:**
 - These simple, often graphical labels provide at-a-glance information on nutritional quality on the primary display panel of foods and beverages to complement detailed nutrient declarations.
 - The extent that FOPL will improve population food choices depends, at least partly, on consumers' ability to understand the information presented and their motivation to apply it.

Purpose of FOPL

- **Globally, countries are now considering or have implemented FOP labels to communicate concise and useful nutrition health-related information to consumers to complement detailed nutrient declarations.**
- **A range of FOP labels have become widely used internationally and could be more effective in communicating information that informs product choices better than just nutrition data and ingredient lists.**
 - However, multiple schemes for FOP labels can lead to an inability to make comparisons across products or retailers.
 - In addition, just the presence of a FOP label may create the consumer perception that a product is healthier.

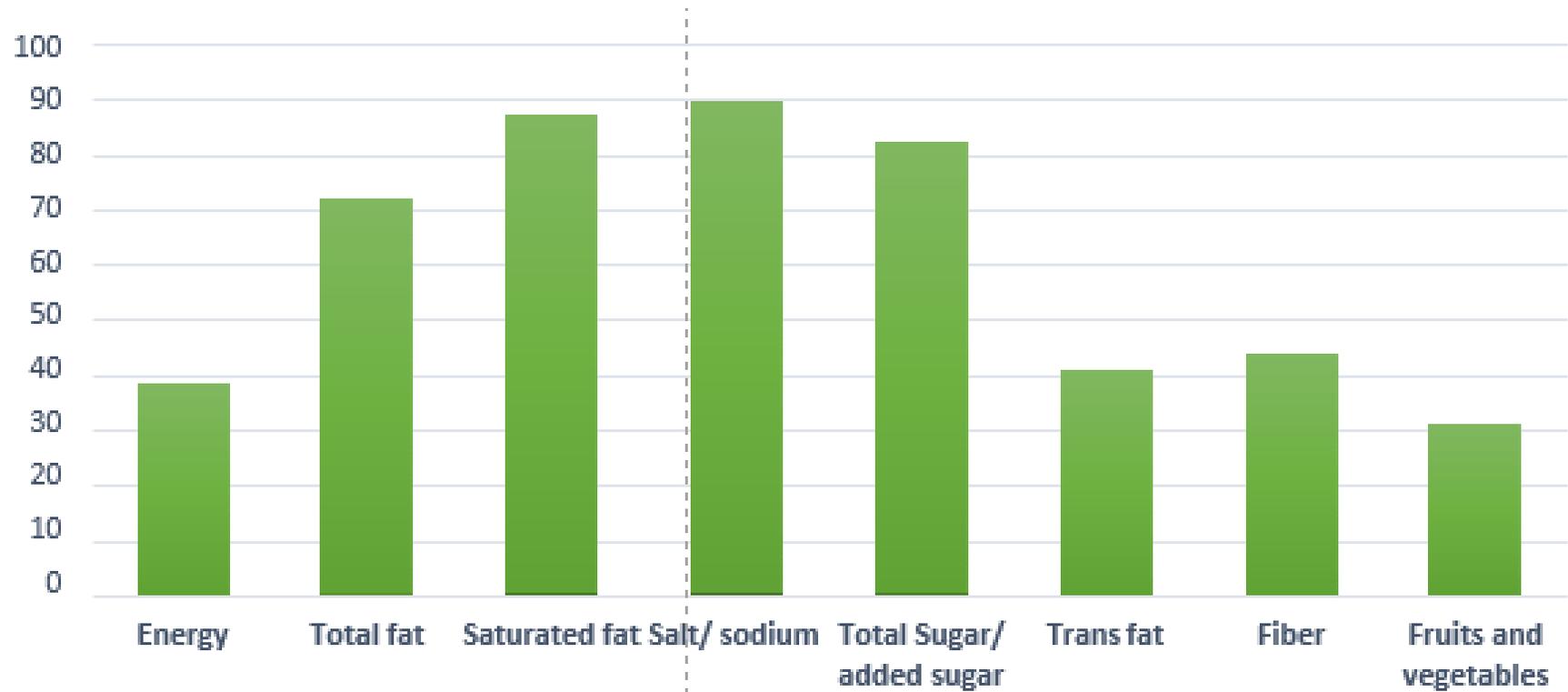
FOP Nutrition Labels by Regulatory Form (Label Format And Legal Framework)

	Nutrient-Specific systems		Summary Indicators		
	Non-interpretive	Interpretive	Interpretive	Spectrum Rating (includes positive and negative signposting)	Negative signpost
Mechanism	Use numerical information to quantify nutrients as a proportion of recommended daily intake without making evaluation	Use meaningful colour, words and/or symbols to evaluate nutrient levels across broad categories (i.e. food, drink)	Use symbols, words and colour (not necessarily meaningful) to evaluate overall healthier options within category	Use customisable continuum to evaluate overall healthiness across broad categories (i.e. food, drink, oils, dairy); varied use of words, colour	Use symbols, words and colour to highlight overall unhealthy options within category
Illustrative examples	 <p>Reference Intakes (European Union)</p>  <p>Energy icon (Malaysia)</p>	 <p>Traffic Light Label (United Kingdom)</p>  <p>Stop-sign warnings (Chile)</p>	 <p>Nordic Keyhole (Sweden, Denmark, Norway, Lithuania)</p>  <p>Choices Logo (Poland, Czech Republic)</p>	 <p>Nutri-Score (France, Spain, Belgium)</p>  <p>Health Star Rating (Australia and New Zealand)</p>	 <p>Overall warning (not in use)</p>
Governments endorsing: voluntary framework	European Union, Philippines, Malaysia	United Kingdom, South Korea	Sweden, Slovenia, Singapore, Finland, Nigeria, Belgium, Poland, Norway, Denmark, Czech Republic, Iceland, Lithuania, Brunei, Malaysia, Mexico, United Arab Emirates, Croatia, Thailand, Brunei, Malaysia, Zambia*, Israel*	Australia, New Zealand, France, Belgium*, Spain*	
Governments endorsing: mandatory legislation	Thailand, Mexico	Finland, Ecuador, Iran, Chile, Sri Lanka, Peru*, Israel*, Uruguay*			

* Legislation has been enacted (in mandatory systems) or a formal indication of intent to implement has been given by government (in voluntary systems), but labels may not yet appear on pack

(Jones *et al.* *BMJ Global Health*, 2019;4:e001882. doi:10.1136/bmjgh-2019-001882)

Nutrients and Food Components Most Frequently Used in the Development of Nutritional Profiles



(Codex Alimentarius Commission CX/NFSDU 19/41/12)

Nutrition Profiles Intended for FOP of Pre-packaged Foods with their Respective Thresholds of Nutrients of Importance for Public Health

Model	Sugars	Sodium	Saturated fat	Fibre	SOURCE
Traffic light	Low: ≤ 5 g /100 g medium: 5.1 – 22.5 g /100 g High: ≥ 22.6 / 100g	*SAL: Low: ≤ 0.3 g /100 g Medium: 0.4 – 1.5 g /100 g High : ≥ 1.6 g / 100g	Low: ≤ 1.5 g /100 g Medium: 1.51 – 5 g /100 g High : ≥ 5.1g / 100g	Does not apply	Food Standards Agency (FSA) https://bit.ly/2EBIz5c
Choices	It is varied according to the food group (6g “Soup” – 60 g “ Syrups ” /100 g)	It is varied according to the food group (20 mg “Carbonated waters” – 4500 mg “seasoning ” /100 g)	It is varied according to the food group (1,5 g “soup” – 35 g “Oil ” /100 g)	It is varied according to the food group (2g “ Whole grains ” – 5 g “Wholemeal flours ” /100 g)	Choices International Foundation https://cutt.ly/8iKWFF
Health Star Rating (HSR)	Points are assigned based on grams of sugars per 100 grams of the product	Points are assigned according to milligrams of sugars per 100 grams of the product	Points are assigned based on grams of saturated fat per 100 g of the product	Points are assigned according to the grams of fibre per 100 grams of the product	Nutrient Profiling Scoring Criterion (NPSC)/ by Food Standards Australia New Zealand (FSANZ) https://bit.ly/2ZcJPSY
Black Octagonal Sign “HIGH IN”	High in solids: 10 g/100 g High in Liquids: 5g /100 ml	High in solids: 400 mg/100 g High in Liquids: 100 mg /100 ml	High in Liquids: 4 g/100 g High in Liquids: 3 g /100 ml	Does not apply	Ministry of Health https://bit.ly/2WpjsHB
Ecuador traffic light	Low: ≤ 5 g /100 g Medium: 5.1 -15 g /100 g High: ≥ 15 / 100g	*SAL: Low: ≤ 0.3 g /100 g Medium: 0.31 – 1.5 g /100 g High: ≥ 1.51 / 100g	Does not apply	Does not apply	Ministry of Public Health https://cutt.ly/gixz11
Nutri-Score	Points are assigned according to grams of sugars per 100 grams of the product	Points are assigned according to grams of sodium per 100 grams of the product	Points are assigned based on grams of saturated fat per 100 grams of the product.	Does not apply	UK Ofcom Nutrient Profiling Model/ by Food Standards Agency (FSA) https://bit.ly/2U06gs0
Keyhole	It is varied by food group (1g “Minimally processed foods with fruits” - 13 g “Cereals”/100 g)	It is varied by food group * SALT: (0.3 g “Oatmeal” - 1.6 g “Smoked fish”/100 g)	It is varied by food group : (10 % “Sandwiches” - 33% “Milks” / 100 g)	It is varied by food group : (3 g “Whole grains” - 6 g “Flours” / 100 g)	The National Food Agency, is supported by the Nordic Council of Ministers. https://bit.ly/2Zs5SFB

(Codex Alimentarius Commission CX/NFSDU 19/41/12)

Recent Policy Shifts

- Recent policy developments at a national level include a shift away from ‘softer’ positive signposts that highlight healthier options within category such as Sweden’s green ‘Keyhole’, towards formats such as Chile’s ‘stop-sign’ warnings which signal product unhealthfulness and discourage consumption, thereby potentially decreasing sales.
- Resistance to these newer FOPL can be seen in legal challenges launched or threatened under domestic and international law, including at the World Trade Organization (WTO).

Health Evidence Network report on FOPL Policy and Implementation Across EU*

- **Fifteen countries in the WHO European Region were identified as having a government-endorsed policy on interpretive FOPL.**
- **A limited range of FOPL systems were identified to be in use across Europe that provided an indicator for unhealthfulness.**
 - These included the NutriScore system in France, the red warning label in Israel and the color-coded percentage Reference Intake (%RI) system in the UK.
- **In the remaining thirteen countries, endorsement logos have been adopted.**
 - These logos serve to signpost better-for-you choices but provide no direct information to indicate if a product is unhealthful.

*Kelly and Jewell 2019

NutriScore

- **In January 2016, a proposition was taken up and integrated into the French act on modernizing the health system. In order to select the label that would be officially supported by the public authorities, a randomized control trial comparing four labels was conducted in real-world conditions.**
 - The NutriScore label proved to be the most effective in improving the quality of people's shopping carts. It was therefore selected as the official label with an official decree signed on 31st October 2017 by the French Minister of solidarity and health, the Minister of agriculture, and the secretary of state to the Minister of economy and finance.
 - The use of the NutriScore label is still voluntary.
- **In Europe, discussions are currently ongoing to harmonize front-of-pack nutrition labelling, with EU countries considering implementing the Nutri-Score.**
 - On April 27, a cross-sector group, including broader support from industry than has been seen to-date, submitted a letter to the European Commission advocating for mandatory NutriScore labeling.

NutriScore

- **The NutriScore labelling scheme is based on a five-color coded scale going from dark green to dark orange, associated with letters from A to E, according to their overall nutritional quality.**
 - NutriScore equips consumers with information about the general nutritional quality of products on the front of packaging.
 - There are two objectives when using NutriScore: supporting consumers and encouraging the improvement of products. By giving access to information and helping people to compare products at a glance, consumers are pointed towards products with the best nutritional quality. At the same time, producers are encouraged to improve the quality of their products through reformulation and innovation.

NutriScore

- The system is determined by assessing healthy and unhealthy nutrients. The NutriScore system is based on one set of criteria for all pre-packaged food and drink and criteria modifications have been made for specific categories such as cheese, fats and non-alcoholic drinks. This differs from the EU and UK models which only have 'food' and 'drink' categories.
- The underlying nutritional scoring method was developed by the British Food Standard Agency and is known as the 'FSA score'. This score, which goes from -15 to 40, allows a consumer to evaluate the overall nutritional quality of food.
- Based on 100g of product, it incorporates unfavorable factors (negative points) such as calories (kj), saturated fatty acids (g), sugars (g), and sodium (mg); and favorable factors (positive points) such as protein (g) fibre (g), and fruits, vegetables, legumes, nuts, and olive, nut, and colza oils (%).

NutriScore: Comparative Study Across 8 European Countries (Dreano-Trecant et al. 2020)

- **Study evaluated the applicability of the Nutri-Score in various European countries, regarding its ability to discriminate the nutritional quality of foods and its consistency with national dietary recommendations.**
- **The European Food Information Resource (EUROFIR) nutritional composition databases from eight European countries were used.**
- **Nutri-Score demonstrated high discriminating ability for all food groups, and across relevant food groups in terms of purchase, use or consumption in the eight countries, and consistency with nutritional recommendations.**
 - **The vast majority of fruit, vegetable, legume and nut products for which consumption is encouraged had a better ranking with the Nutri-Score (mainly “A” and “B”) compared to sweet, fatty or salty products for which consumption should be limited (mainly “D” and “E”).**
 - **The validation of the ability of the Nutri-Score to discriminate the nutritional quality of products in different markets is particularly important to assess its transferability given the current European context.**

Plain Alaskan Pollack Label



Smoked Salmon Label



NutriScore: Some Issues

- **Critics of excessive meat consumption point out the system’s algorithm may ascribe more positive grades to meat products on account of their protein content.**
 - One of the most prominent criticisms of the Nutri-Score system, its potential to promote additional meat consumption among European consumers, stems from concerns such a side effect could undermine moves to reduce greenhouse gas emissions from agriculture.
- **Defenders of southern Europe’s traditional “Mediterranean diet” argue for their part that Nutri-Score penalizes many of their countries’ traditional foodstuffs but is particularly problematic in its treatment of olive oil, the most fundamental ingredient of that diet.**
 - Spain has indicated olive oil will be exempt outright from its implementation of Nutri-Score grading. The official explanation is that NutriScore would only apply to products containing more “than one ingredient”.
 - France has adapted its version of the NutriScore algorithm when it comes to grading some of the country’s best-known cheeses.

NutriScore: EC Key Draft Proposed Actions

- **Propose harmonized mandatory front-of-pack labeling (Q4 2022)**
 - This recommended action was accompanied by the release of the EC's long-awaited report that evaluates the research, current systems, and perspectives around FOPL in the EU.
 - The report states that given the political interest in and potential positive effect of FOPL, "it seems appropriate to introduce harmonized mandatory FOP nutrition labelling at EU-level."
 - No specific FOPL format preference is mentioned, and the report makes it clear that there is "no clear frontrunner [that] emerges from the literature." However, the positive power of color-coded labels are frequently mentioned in the conclusion section of the FOPL report. This indicates that the forthcoming legislative proposal in 2022 may call for an evaluative, color-coded system akin to Nutri-Score or a traffic light label.
- **Set nutrient profiles to restrict the promotion of food high in salt, sugars and/or fat (Q4 2022)**
 - The EC was set to establish a nutrient profiling model to guide the use of nutrition and health claims in 2009, but the effort was never completed due to "high controversy and strong opposition" from stakeholders.
 - The EC has concluded that there is still a need to prevent positive health messages on foods high in fats, sugars and/or salt, and so they will develop a nutrient profile for this purpose by 2022.
 - Given that the FOPL proposal is planned for release around the same time, it's likely that the EC will look to form connections between both the FOPL and nutrient profile effort.

Health Star Rating System (HSR)

- The Health Star Rating Calculator (HSRC) was developed for use by industry to determine a rating for food and beverage products.
- The HSRC is based on the nutrient content and ingredient information used for the Nutrient Profiling Scoring Criterion (NPSC). The NPSC was developed by Food Standards Australia New Zealand (FSANZ) for the regulation of health claims in Australia and New Zealand and the selection of nutrients and ingredients in the profiling system is based on the evidence base underpinning the 2013 Australian Dietary Guidelines.

Health Star Rating System (HSR)

- For the HSRC this information is used in a different way to the NPSC, in order to profile foods based on nutrient content to generate an HSR score that is then assigned a star rating.
- The NPSC was designed to determine the answer to a simple question for food manufacturers and retailers, that is, is the food eligible to carry a health claim or not?
- The NPSC is applied across the food supply generally. The HSR system is designed to assist consumers to discriminate between foods in the same food category and to compare foods across different food categories, with a possibility of 10 different star ratings able to be displayed for foods ranging from ½ star (least healthy) to 5 stars (most healthy).

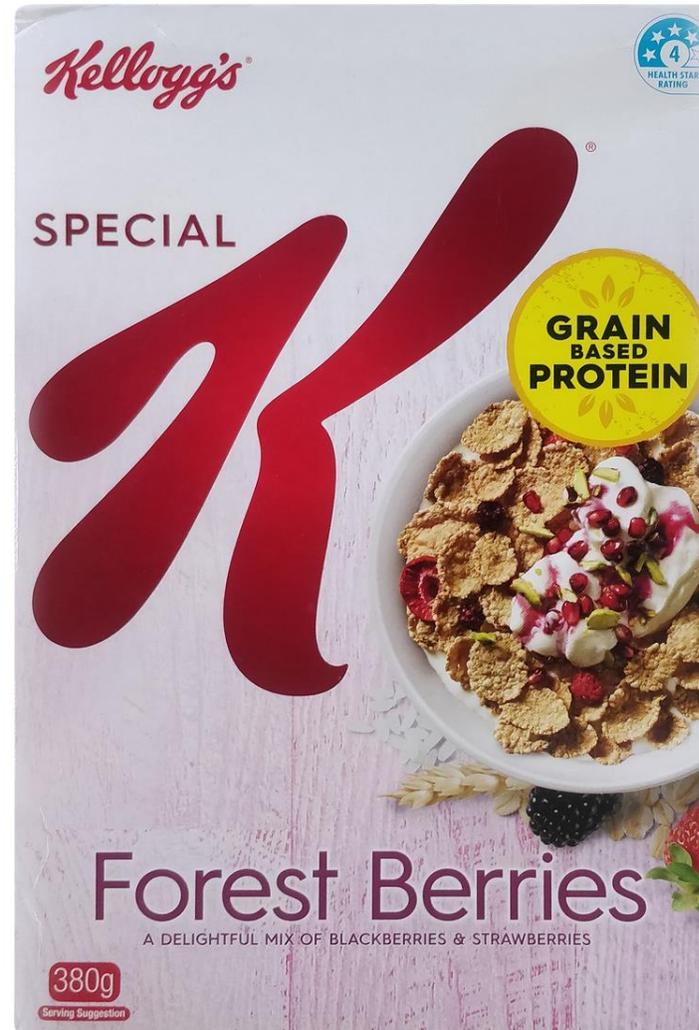
Health Star Rating System (HSR)

- **In June 2014, Australia/New Zealand adopted a voluntary FOP in the form of the HSR.**
 - Aims to provide convenient, relevant and readily understood nutrition information and/or guidance on food packs to assist consumers to make informed food purchases.
- **This system rates the healthiness of packaged foods from half a star to five stars. The system considers the saturated fat, sugar, salt and fiber, protein, nut, legume, fruit or vegetable content of the food and determines the number of stars by assessing the positive and negative nutrients.**
 - Negative attributes: Energy, Sugar, Saturated Fat, Sodium.
 - Positive nutritional attributes: Fiber, Protein, Fruits, Vegetables, Nuts, Legumes.
- **Process:**
 - Determine HSR category.
 - Determine Form of food for the HSR.
 - Calculate Baseline Points (Energy, Sugar, Saturated Fat, Sodium).
 - Calculate Modifying Points (Protein, Fruits, Vegetables).
 - Calculate Final HSR Score (Baseline – HSRV – HSRP – HSRF).

Kellogg's Coco Pops Label – New Zealand



Kellogg's Special K Label – New Zealand



Pan American Health Organization Nutrient Profile Model

- **The Pan American Health Organization Nutrient Profile model (PAHO), published in 2016, proposed new criteria to define “excessive” levels of sugar, salt, and fat in processed food and drinks.**
- **Underpins much of what is being done with traffic lights in Latin America.**
 - The purpose of the model is to provide a tool that can be used in the design and implementation of policies related to the prevention and control of obesity/overweight, including restriction in the marketing of unhealthy foods and beverages to children, the regulation of school food environments and the use of FOP warning labels.
 - The model specifies that products whose ingredients include artificial or natural non-caloric or caloric sweeteners should be defined as “containing other sweeteners”, which should be limited or avoided.

Traffic Light

- **Countries adopting include: Chile, Argentina, Brazil, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, El Salvador, Uruguay, South Korea, Sri Lanka, Iran, UK.**
- **It is a color-coded system where information is displayed as energy only or energy plus: fat, saturates, sugar and salt. The colors help consumers to interpret how ‘healthy’ a product is. The red, amber and green colors are set by the government and provide an at-a-glance view of fat, saturates, sugars and salt levels in a portion of a food or drink.**
 - **A green lozenge indicates a low level of nutrient, a red lozenge indicates a high level.**
- **This scheme includes a lot of information, including the contribution that nutrients make towards the daily allowance. However, reference intakes only show you the amounts of negative nutrients that a product contains such as fat, sugars, salt and do not include positive nutrients such as fiber.**
- **Foods exempted from labeling include those: without added sugars, honey or syrups; without added sodium and without saturated fats; those sold in bulk or portioned out, divided and prepared at the request of the public; infant formula; commercially prepared minced baby food, unless they contain added sugar; food prepared for medical use; food for weight control regimens; dietary supplements and certain foods for athletes; and table-top sugar substitutes.**

Traffic Light Label Ecuador



Pan American Health Organization Nutrient Profile Model

- The inclusion criteria for the critical nutrients addressed in the PAHO NP Model (free sugars, sodium, saturated fat, total fat, and trans-fatty acids) were based on the WHO Population Nutrient Intake Goals to Prevent Obesity and Related NCDs (PNIGs) to prevent obesity and related NCDs described in WHO/FAO Diet, Nutrition and the Prevention of Chronic Diseases

Pan American Health Organization Nutrient Profile Model

- **The PAHO NP model classifies a food product as “excessive” in one or more critical nutrients if its relative nutrient content is higher than the corresponding maximum level recommended in the WHO population nutrient intake goals.**
 - Because the consumption of food products classified as excessive in one or more critical nutrients increases the likelihood that the diet will exceed the recommended nutrient goals, consumers should be aware of these recommendations and limit their intake of these foods in order to achieve a healthy diet.
 - The food and beverage products that should be evaluated with the PAHO NP Model are limited to processed and ultra-processed products, which typically contain elevated amounts of sodium, free sugars, saturated fat, total fat, and trans-fatty acids added by the manufacturer.

Columbia

- The Ministry of Health has proposed a mandatory FOP warning label system to be implemented November 2022.
- The FOP labeling system would apply to foods high in added sugar, sodium or saturated fat. The nutrient criteria has not yet been released, but the Ministry shared the thresholds will be “harmonized with the regional regulatory trend.” This signifies the criteria will likely resemble that of similar systems in place in other Latin American countries, like Chile or Uruguay. The proposal also includes a voluntary positive seal.
- With this FOP labeling system, Colombia follows the lead of several other countries in Latin America that have enforced warning labels, such as Chile, Peru, Uruguay and Ecuador.
- Most recently, Mexico announced its intention to implement mandatory FOP warning labels in January 2020. It is likely these types of labeling systems will continue to emerge – in Latin America, particularly, but also globally.

Pan American Health Organization Nutrient Profile Model: Some Weaknesses

- **The NOVA classification system is represented as a system to classify foods according to the nature, extent, and purpose of the industrial processing they undergo. In application, the classification is principally based on the presence or absence of food additives since an otherwise unprocessed food can advance from group 1 (unprocessed or minimally processed) to group 4 (ultra-processed) by the addition of a single flavoring compound or a color or emulsifier, regardless of the use of processing technology.**
 - The scientific evidence being used to support the hypothesis that “ultra-processed” foods are unhealthy is based on observational data associating the highest quintile of ultra-processed foods intake with obesity. In observational research, lifestyle factors that differ between individuals with different dietary patterns are not controlled and can affect study results.
- **In addition to critical nutrients, “other sweeteners” were included in the model.**
 - The rationale for their inclusion is that habitual use of sweet flavors (sugar-based or not) promotes the intake of sweet food and drinks, including those that contain sugars. Evidence for this is not based on RCT but rather observational research.

Food Labels in the United States

- **Globally, countries are now considering or have implemented FOP labels on food products to communicate concise and useful nutrition-related information to consumers.**
- **Similar labeling policies for the U.S. have been considered but not yet adopted, in part because of legal constraints imposed by the First Amendment.**
 - Evaluated utilizing the test developed in the Supreme Court case, *Zauderer v. Office of Disciplinary Counsel*.
 - Applicable when the government compels purely factual information in the commercial context. Commercial speech is speech that proposes a commercial transaction, such as advertising and labeling.

Food Labels in the United States

- Constitutional if warnings and disclaimers are reasonably related to the State's interest in: preventing deception of consumers; require purely factual, accurate and uncontroversial information and; are not unjustified or unduly burdensome.
 - FOP labels which only disclose nutrient-specific data could likely meet First Amendment scrutiny.
 - Interpretive FOP labels which provide factual information with colors or designs to assist consumers interpret information could likely meet First Amendment scrutiny.
 - Labels that provide no nutrient information and only an image or icon to characterize the entire product would not likely withstand First Amendment scrutiny.

Food Labels in the United States

- **Food labels in the U.S. are governed by the Nutrition Labeling and Education Act.**
 - This requires a standardized Nutrition Facts label, ingredients list, and allergen information, and that certain health and nutrition claims abide by specific requirements.
 - Much of the factual information is on the back or sides of food packages, and relatively little standardized health-related information is mandated for the FOP.
 - The U.S. federal government began to explore policy options to create a uniform FOP label in 2009.
 - In 2010 and 2011, the IOM issued two reports, including a proposed FOP system, and recommended that FOP labels should apply to as many foods as possible. The FDA did not take action, however, announced in 2018 a potential voluntary “healthy” FOP icon.

Food Labels in the United States

- **American Society for Nutrition Annual Meeting (2020)**
- **Panel Discussion: The Ethics of Eating**
 - Food and beverage warning labels are “ethically defensible,” because:
 - *Warning labels are likely to improve health behaviors and outcomes*
 - *Negative responses to warning labels are minor*
 - *Labels are likely to promote autonomy*

In Conclusion

- **FOP Labels have the potential to improve dissemination of nutrition-related information to consumers that facilitates healthier food choices.**
- **Implementation, however, must be standardized to prevent an inability for the consumer to make comparisons across products or to create inaccurate perceptions about the healthfulness of a product.**

Thank You

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