Global Health Advocacy Incubator
Changing Policies to Save Lives

RESOLVE TO SAVE LIVES

POLICY BRIEF

Front-of-Package Warning Labeling: A Policy Tool to Control and Prevent Diet-Related Noncommunicable Diseases

The burden of noncommunicable diseases (NCD), such as cardiovascular diseases, diabetes and cancer, has risen steadily over the past few decades, becoming the leading cause of death globally (World Health Organization, 2018, 2021b). An unhealthy diet is a preventable risk factor for NCDs, contributing to 11 million deaths and 255 million disability-adjusted life-years[1] worldwide (Afshin et al., 2019; Stanaway et al., 2018).

Ultra-processed products (UPP) [2] have become increasingly available and widely consumed in recent years (Monteiro et al., 2019). These industrial formulations are primarily made from modified or recombined food components with little to no whole foods. They often include industrial substances and food additives that enhance color, taste, aroma and texture, while also extending shelf life (Monteiro et al., 2019). UPPs are typically high in nutrients of concern, such as sodium, sugars and saturated fats, and contain ingredients of concern, such as non-sugar sweeteners (NSS). A growing body of research links high UPP consumption to poor diet quality, all forms of malnutrition and diet-related NCDs (Askari, Heshmati, Shahinfar, Tripathi, & Daneshzad, 2020; Lane et al., 2020; Lane et al., 2024; Lane et al., 2022; Pagliai et al., 2021). Healthy food policies, such as front-of-package labeling (FOPL), marketing restrictions, public food procurement and service policies and taxation of unhealthy products, can help reduce the consumption of UPPs, thereby contributing to the prevention and control of diet-related NCDs and improving overall diet quality.

[1] Disability-adjusted life years (DALY): a year of healthy life lost due to premature death or disability from disease and injury.

[2] According to the NOVA classification system, UPPs are a formulation of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes. They contain cosmetic additives and are usually high in sodium, sugars and fats.

Why Implement Front-of-Package Labeling Policies?

Consumers are usually provided with nutrition information through back-of-package nutrient declarations, such as the Nutrition Facts table and the ingredients list (World Health Organization, 2021a). These nutrient declarations are mandatory in many countries, but evidence shows that consumers often have difficulty understanding them or rarely use them when making food choices (Goverment of Canada, 2022; Persoskie, Hennessy, & Nelson, 2017; World Health Organization, 2021a). In contrast, FOPL provides clear and accessible nutrition information, supporting consumers' rights to make healthier choices (Pan American Health Organization, 2020; World Health Organization, 2019).

FOPL is a key healthy food policy that governments are increasingly adopting and implementing to address the growing burden of diet-related NCDs. The World Health Organization (WHO) has identified FOPL as a cost-effective measure to promote healthy diets and control and prevent NCDs, naming it as a "best buy" intervention (World Health Organization, 2024). Several years of evidence support the effectiveness of FOPL in steering consumers away from foods and beverages that are high in nutrients of concern (e.g., sodium, sugar and saturated fat) that have been associated with increased risk for several NCDs (Croker, Packer, Russell, Stansfield, & Viner, 2020; Song et al., 2021).

Mandatory Front-of-Package Warning Labels Are Most Effective in Shaping Healthier Food Environments Globally

Various FOPL systems (e.g., multiple traffic lights, Nutri-score, warning labels) have been implemented globally, either on a voluntary or mandatory basis. However, **mandatory front-of-package warning label (FOPWL) systems have proven to be more effective than other FOPL systems** at helping consumers make healthier food choices (Croker et al., 2020; Song et al., 2021). In fact, warning labels are the only FOPL system with real-world implementation evidence showing a significant impact on improving consumer purchasing behaviors (Taillie et al., 2024; Taillie et al., 2021).

The purpose of an FOPWL system is to inform consumers about excessive amounts of nutrients of concern in food and beverage products and present this information in a simple, easily understandable visual format, helping consumers work toward the public health goal of reducing the consumption of these nutrients of concern (Pan American Health Organization, 2020). FOPWL systems focus on helping consumers—regardless of socio-economic standing, education level or health status—identify less healthy products by displaying warning labels on food products that contain excess levels of nutrients of concern, such as sodium, saturated fats and sugars, or that include ingredients of concern such as NSS. To date, **ten countries**, including Argentina (República Argentina, 2022), Brazil (Mialon, Khandpur, Mais, & Martins, 2021), Canada (Goverment of Canada, 2022), Chile (Ministerio de Salud de Chile, 2015), Colombia (El Congreso de Colombia, 2021.), Israel (Shahrabani, 2021), Mexico (Secretaria de Economia de Mexico, 2020; White & Barquera, 2020), Peru (Diez-Canseco et al., 2023), Uruguay (Ares et al., 2021) and Venezuela (FAO, OPS, & UNICEF, 2022) have implemented mandatory FOPWL systems for food products that are high in nutrients of concern or contain excessive amounts of these nutrients. Several other countries are considering adopting similar **"high in" or "excess" mandatory FOPWL systems** (Crosbie et al., 2022; da Silva Gomes et al.; Kroker-Lobos et al., 2023; Pettigrew et al., 2022; White-Barrow et al., 2023) (Figure 1).

The purpose of an FOPWL policy is to quickly and clearly inform consumers about excessive amounts of nutrients of concern (such as sugar, sodium and saturated fat) and ingredients of concern (such as non-sugar sweeteners) using easy-to-interpret visuals to discourage the purchase of unhealthy packaged foods.

Mandatory FOPWL systems, such as the one first implemented in Chile in 2016 (Figure 2), have proven effective in changing consumer purchasing behaviors (Taillie et al., 2024; Taillie et al., 2021; Lindsey Smith Taillie, Marcela Reyes, M Arantxa Colchero, Barry Popkin, & Camila Corvalán, 2020), promoting industry-driven food reformulation (Quintiliano Scarpelli, Pinheiro Fernandes, Rodriguez Osiac, & Pizarro Quevedo, 2020; Rebolledo, Ferrer-Rosende, Reyes, Smith Taillie, & Corvalán, 2025; Reyes et al., 2020) and improving diet quality (Fretes et al., 2023). For instance, **the proportion of foods and beverages requiring a "high in" front-of-package warning label decreased from 71 percent to 53 percent** after the full implementation of the law, and the levels of critical nutrients declined across all food and beverage categories (Rebolledo et al., 2025). Furthermore, recent evaluations found that, overall, households reduced their purchases of nutrients of concern by 20 percent for sugar, 14 percent for sodium, 10 percent for saturated fat and 8 percent for total calories (Taillie et al., 2024).

Notably, because the Chilean law did not include NSS as an ingredient of concern, food and beverage companies reformulated their products to replace sugar with NSS, **increasing the presence of NSS in the packaged food supply** after the implementation of the Chilean law (Zancheta Ricardo, Corvalán, Taillie, Quitral, & Reyes, 2021). This reformulation allowed many products to avoid displaying warning labels, leading to a significant rise in NSS intake, especially among children (Rebolledo et al., 2022).

Other countries, such as **Argentina, Mexico and Colombia**, have learned from the Chilean experience and included a precautionary label in their FOPWL regulations, warning consumers about the presence of NSS and advising against its consumption by children (Figure 3). Additionally, these countries have adopted a robust, evidence-based Nutrient Profile Model—the WHO / Pan American Health Organization (PAHO) Nutrient Profile Model (Pan American Health Organization, 2017)—which defines which products should display a FOPWL.

Initial evaluations of other countries that have implemented a "high in" or "excess" FOPWL system indicate a reduction in the percentage of food and beverage items displaying a FOPWL after implementation (Saavedra-Garcia, Meza-Hernández, Diez-Canseco, & Taillie, 2022), indicating industry reformulation and demonstrating consumers' use and comprehension of the FOPWL (Arellano-Gómez et al., 2023; Ares et al., 2021; Batis et al., 2023; Machín et al., 2023; Salgado et al., 2025; Shahrabani, 2021).

Contrary to industry arguments, implementing mandatory FOPWL has not led to employment or wage losses, nor has it increased the price of food (Díaz, Sánchez, Diez-Canseco, Miranda, & Popkin, 2023; Paraje, Colchero, Wlasiuk, Sota, & Popkin, 2021; Paraje, de Oca, Corvalán, & Popkin, 2023; Paraje, Montes de Oca,

Wlasiuk, Canales, & Popkin, 2022). Modeling studies have shown that implementing mandatory FOPWL could potentially avert or delay an important number of diet-related NCD deaths, prevent obesity and save millions in healthcare costs (Basto-Abreu et al., 2020; Faria et al., 2023; Flexner, Ahmed, et al., 2023; Flexner, Ng, et al., 2023; Pan American Health Organization, 2023).

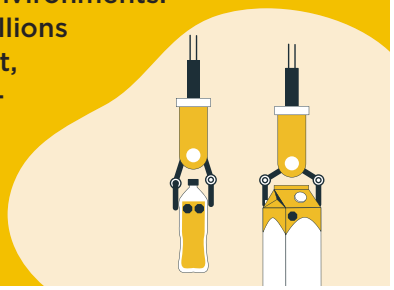
The evidence is clear: Mandatory FOPWL is a cost-effective, evidence-based policy to promote healthier food environments. When compared to other FOPL systems, FOPWL is the most effective at significantly improving consumer food choices, reducing the consumption of nutrients of concern and lowering the risk of non-communicable disease.

What Can Governments Do to Improve Food Environments and Curb the Rising Tide of NCDs?

To curb the rising tide of NCDs and facilitate healthier food environments, **governments must prioritize the adoption and implementation of mandatory "high in" or "excess" FOPWL systems**. This policy empowers consumers with critical nutrition information and has been proven to influence consumer behavior toward healthier food choices.

We urge decision-makers to act swiftly, aligning their policies with global best practices and ensuring the long-term health of their populations by embracing **FOPWL** as a **cornerstone of national health strategies**. Now is the time to act, as the health and well-being of millions depend on decisive, evidence-driven policy measures.

Governments must act now to implement mandatory front-of-package warning label systems to combat all forms of malnutrition and reduce the burden of noncommunicable diseases. FOPWL on products with excess nutrients of concern both empower consumers to make healthier food choices and promote healthier food environments. The health of millions depends on swift, decisive action—there's no time to wait.



Global Best Practices on Adopting FOPWL Policies

- **FOPWL must be a mandatory** government policy that applies to all packaged products; voluntary FOPL by the food and beverage industry has proven ineffective (Bablani et al., 2022; O B J Carter 2013; Ronit & Jensen, 2014).
- **A mandatory back-of-package nutrient declaration** policy should be implemented that requires all nutrients and ingredients of concern to be listed. If a country already has such a policy in place, it must ensure that all relevant nutrients and ingredients of concern are declared to facilitate effective policy enforcement and monitoring (Kim, Ellison, Prescott, & Nayga, 2021).
- **FOPWL must be guided by a strong, evidence-based NPM** (see NPM best practices below) (Scarborough, Rayner, & Stockley, 2007).
- **FOPWL should highlight only nutrients of concern** and should not contain or include positive seals or labels, as per the

NPM. Positive seals or labels send mixed messages, confusing customers about overall healthfulness of a product (Stoltze, Busey, Taillie, & Carpentier, 2021).

- **FOPWL should include an endorsement from the government** to increase its credibility (Feunekes, Gortemaker, Willems, Lion, & Van Den Kommer, 2008).
- The food and beverage industry should not have a seat at the table in shaping FOPWL policies, and the **policy process should be free from conflicts of interest** for other stakeholders (Champagne et al., 2020; Global Health Advocacy Incubator, 2021).
- **FOPWL should be interpretative, simple and easily visible**, with established size limits for all types of packaging and straightforward formats, colors and icons (Hersey, Wohlgenant, Arsenault, Kosa, & Muth, 2013; Talati, Pettigrew, Ball, et al., 2017; Talati, Pettigrew, Neal, et al., 2017).
- **FOPWL should be implemented alongside a suite of other healthy food policies**, including but not limited to sweetened beverage and UPP taxes, marketing restrictions and public food procurement and service policies (Organization, 2023; L. S. Taillie, M. Reyes, M. A. Colchero, B. Popkin, & C. Corvalán, 2020).
  - For example, products displaying a warning label could be prohibited from being marketed, advertised, sold or served in public institutions and could also be taxed at a higher rate.
- FOPWL should be implemented alongside **restrictions on any health and nutrition claims** (Acton & Hammond, 2018; Duran, Ricardo, Mais, Martins, & Taillie, 2019; Lia Nobrega, 2019).
- The government, academic sector or civil society organizations (without conflict of interest) should **evaluate the effectiveness of the FOPWL** following implementation (Villalobos Dintrans, Rodriguez, Clingham-David, & Pizarro, 2020; White & Barquera, 2020).

Global Best Practices for Adopting and Implementing NPMs

When developing an NPM, government should:

- Use strong scientific **evidence that is free of conflict of interest**.
- Establish a **transparent process** without industry interference.
- Adopt existing NPMs from WHO regions that have been **developed with rigorous standards** (e.g., PAHO, South-East Asia Region Organization and African Region Organization).
- Keep monitoring emerging evidence and lessons learned to **continuously improve standards**.

NPMs should:

- Limit nutrients of concern consistent with **WHO population nutrient intake goals** (e.g., sodium, free sugars, saturated fats and trans fats).
- Limit ingredients of concern, **such as NSSs**, consistent with WHO guidelines.
- Apply to the **general population**, not just to specific subgroups, such as children
- Include thresholds for **all nutrients and ingredients of concern** that are associated with non-communicable diseases and are markers of ultra-processed products.
- Apply to only two categories—**solids and liquids**—and not to multiple product-specific categories.
- Establish **one threshold** for each nutrient of concern.
- Apply to only **processed and UPPs**.
- **NOT include nutrients to encourage** (e.g., vitamins, minerals, fiber and protein).

For more details on NPM recommendations, please refer to the Nutrient Profile Models Position Paper.

Annexes

Figure 1. FOPWLs proposed in South Africa (Bopape et al., 2022).

Figure 2: FOPWLs used in Chile that include a Ministry of Health endorsement [left to right: "high in sugar," "high in calories," "high in saturated fat" and "high in sodium"] (Ministerio de Salud de Chile, 2015).

Figure 3. FOPWLs used in Mexico that include a Secretary of Health endorsement [top, left to right: "excess calories," "excess sugar," "excess saturated fat," "excess trans fat" and "excess sodium"; middle: "Contains sweeteners, not recommended for children"; bottom: "Contains caffeine, avoid in children"] (Secretaria de Economia de Mexico, 2020).

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