

Marketing of unhealthy foods and non-alcoholic beverages to children

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The UN Convention on the Rights of the Child states that parties should act appropriately to combat disease and all forms of malnutrition (1). Every child has the right to adequate nutrition. Yet today, the need to protect, promote and support good nutrition has never been greater.

Millions of children worldwide are consuming too many ultra-processed foods and non-alcoholic beverages that are high in saturated fats, trans-fatty acids, free sugars, or salt, with devastating consequences for their health and development (2-4). Today, unhealthy diets are a leading cause of death and disability globally, while overweight and obesity are on the rise across the world.

Widespread changes in children's food environments are combining with poverty and inequality to undermine children's nutrition and health. The food environment, including how foods are marketed, plays a critical role in influencing children's diets. Today, the food and non-alcoholic beverage (hereafter food) marketing landscape around the world is dominated by promotions for unhealthy products which shape social norms, increase children's preference and consumption of these foods, and damage children's health. A significant body of evidence indicates that introducing restrictions on the marketing of unhealthy food protects children from harm. This policy brief explains how effective marketing restrictions can be a powerful tool to safeguard children's right to a healthier future.

1. Childhood overweight and obesity and diet-related diseases are on the rise

The prevalence of overweight amongst children and adolescents, from infancy to the age of 19, is on the increase almost everywhere (2-4). In 2020, an estimated 39 million children under the age of 5 years were affected by overweight or obesity, and over 340 million children and adolescents aged 5-19 were affected overweight or obese in 2016 (4). Further, the prevalence of childhood overweight and obesity amongst children and adolescents continues to increase rapidly, rising from 4% in 1975 to just over 18% in 2016 (4). Once considered a problem of high-income countries, overweight and obesity are now on the rise amongst both children and adults in low- and middle-income countries (LMICs) as well, particularly in urban settings.

Childhood obesity and diets high in ultra-processed foods have lifelong health consequences, with increased risks of non-communicable diseases (NCDs) including heart disease, diabetes, and some cancers which may increase morbidity and mortality (5, 6). Children living with overweight and obesity may also experience psychological and psychosocial impacts, such as weight stigma, social isolation, depression, low self-esteem, and poor educational attainment (6, 7). As the world has seen during the COVID-19 pandemic, children and adults living with overweight and obesity can also be more susceptible to infectious diseases- leading to disastrous consequences (8, 9).

The economic cost of obesity is also startling. In 2019, the global healthcare costs attributed to obesity were estimated at more than USD 990 billion per year (10). A recent pilot study of eight countries found that the economic impact of inaction on obesity is projected to double to an average of 3.6% of GDP by 2060 (11). The same study also shows us that if we implement prevention policies now, we can drastically reduce these future economic consequences.

2. Unhealthy food environments undermine children's rights

Food environments around the world make it harder and harder for children to access and afford healthy diets that appeal. Fuelled by the actions of a powerful food and beverage industry, the globalisation of food systems is driving a transition towards unhealthy food environments where highly processed, unhealthy foods and beverages are now more available, convenient, cheaper, and promoted than ever before (12-14). This transition of food environments has precipitated a global shift towards unhealthy diets which have become the major driver of overweight, obesity and diet-related NCDs around the world (15, 16).

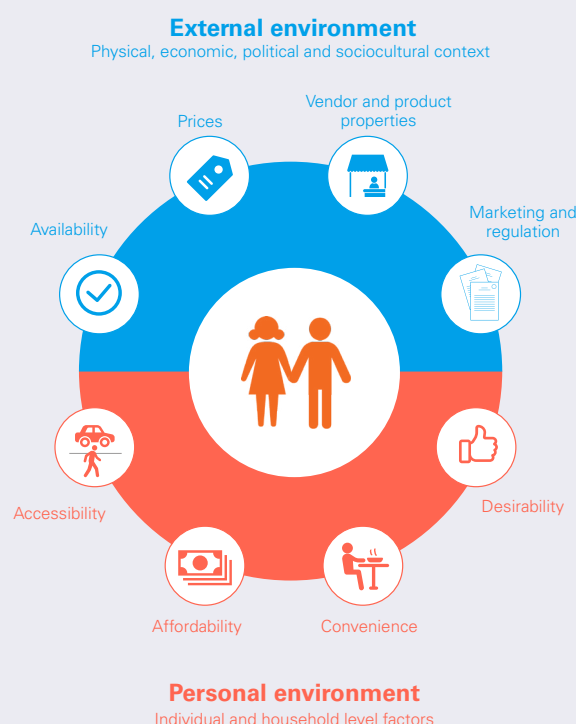
To curb this shift towards unhealthy diets, the World Health Organization (WHO) has urged its member states to implement a comprehensive suite of food environment regulations and policies. Evidence-based policies include the implementation of a government-led, mandatory FONPL system for packaged foods and beverages, food and beverage taxes, and marketing restrictions on unhealthy foods and beverages (15, 17).



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Box 1. Food environments

Food environments are **spaces where children and their families interact or engage with food**. Depending on how they are structured, they may either help or harm children's nutrition.



An **unhealthy food environment** is a food environment with low availability, accessibility, desirability and affordability of healthy foods; and high availability, affordability and promotion or marketing of unhealthy foods. Unhealthy food environments lead to increased consumption of unhealthy foods and beverages. It is increasingly recognized that unhealthy food environments violate multiple child rights.

Children deserve to live, learn and play in spaces where nutritious and affordable food is available for all.

They should be protected from promotion of unhealthy foods and beverages. Families and caregivers should be supported to provide healthy diets. The F&B industry should be incentivised and regulated to act in the best interest of children.

3. Harmful marketing contributes to the unhealthy diets and poor health of children

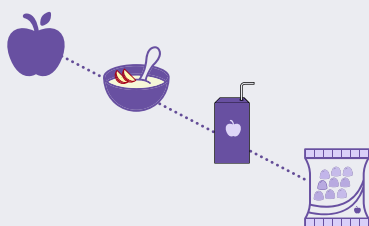
Consistent evidence from around the world shows that the majority of food and beverage marketing, across all media and settings, is classified as unhealthy and dominated by ultra-processed foods (18, 19). Both younger and older children up to the age of 18 years are exposed to large volumes of unhealthy food marketing, with negative consequences for their diets and health (20, 21). Clear evidence shows that unhealthy food marketing is highly persuasive and powerful in influencing children. It creates social norms around foods and eating, increases children's preference and consumption for ultra-processed foods, and increases total energy intake (21-23). Across the life course this leads to weight gain and an increased risk of overweight and obesity, as well as a range of NCDs such as type 2 diabetes, cardiovascular diseases and some forms of cancer (24-26). Indeed, in 2016 the WHO Commission on Ending Childhood Obesity concluded that "there is unequivocal evidence that the marketing of unhealthy foods and sugar-sweetened beverages is related to childhood obesity" (23). Children in low and middle income countries may be increasingly vulnerable to unhealthy food marketing as transnational food and drink companies pivot their marketing efforts and budgets to these emerging markets (27).



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Box 2. What are ultra-processed foods?

Food processing generally refers to any action that alters food from its natural state, such as drying, freezing, milling, canning, or adding salt, sugar, fat, or other additives for flavor or preservation. Most foods and beverages are processed in some way before purchase or consumption.



Ultra-processed foods and beverages, however, are industrially manufactured formulations of food substances, typically containing excess amounts of nutrients of concern, such as sugar, sodium, and saturated or trans fats, and are often highly calorie dense. Ultra-processed foods are designed and manufactured for maximum profit: they contain low-cost ingredients, have long shelf-lives, are hyper-palatable, and are highly branded and marketed to consumers. They are typically calorie-dense and high in free sugars, refined starches, unhealthy fats, and sodium.

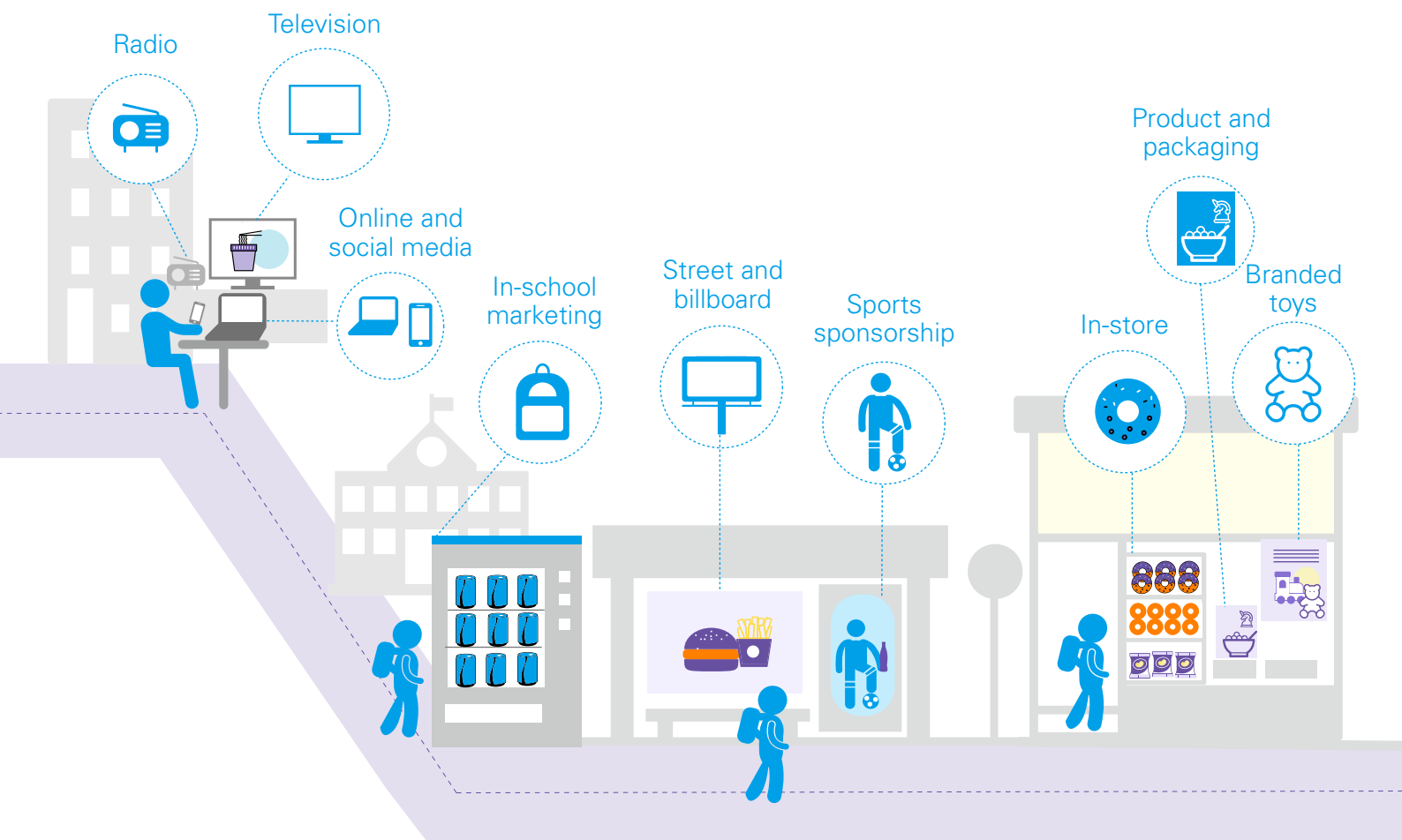


A large and growing body of research has found **strong associations between high ultra-processed food intake and many elevated health risks**, including increased overweight and obesity, type 2 diabetes, cardiovascular disease and all-cause mortality.

Note: See "Ultra-processed foods, diet quality, and health using the NOVA classification system" for more information / <https://www.fao.org/3/ca5644en/ca5644en.pdf>

Children encounter unhealthy food and beverage marketing through a range of different channels from an early age, and the ‘nag factor’ or ‘pester power’ – when children beg their parents for food that they have seen marketed- can be a key driver of families’ food and beverage purchase decisions. Television remains an important channel through which children are exposed. Children start viewing television from a young age and food and beverage manufacturers dedicate significant portions of their marketing budgets towards television advertising (28, 29). However, children are increasingly exposed to marketing through other channels, including radio, street/billboard, retail, in-school marketing, product placement in media, sports sponsorship and branded

toys and other products (28, 29). In recent years, digital marketing has come to the forefront debate (30). Online food and beverage marketing includes advertising through online games, placement of ads on websites popular among specific demographic groups, promotion of food products on branded websites, as well as through mobile devices and social media websites. Children are increasingly frequent internet and social media users and so it makes sense that unhealthy food and beverage corporations are tapping into these new promotional avenues. To properly address the harmful influence of unhealthy food and beverage marketing these multiple marketing channels need to be addressed in restrictions.



4. Why marketing restrictions for unhealthy food and beverages to children are important

Food marketing threatens children's rights and governments that have ratified the Convention on the Rights of the Child have a legal obligation to ensure that the best interests of the child are the primary consideration in all actions concerning them, and to take all available measures to make sure children's rights are respected, protected, and fulfilled (31). The Committee on the Rights of the Child and Special Rapporteurs on the Right to Food have noted that the food industry spends billions of dollars on persistent and pervasive marketing strategies to promote unhealthy food to children, and have called for such marketing to be regulated (32). International resolutions and frameworks on the prevention of overweight, obesity and noncommunicable diseases support the implementation of restrictions on the marketing of unhealthy foods to children. In 2010, the 63rd World Health Assembly unanimously endorsed the WHO Set of Recommendations of the marketing of foods and non-alcoholic beverages to children (33). This recognized that a significant amount of marketing around the world is for foods high in fats, sugars, or salt (HFSS) and that this was a risk to children's health. As noted in the Set of Recommendations, governments are in the best position to set direction and overall strategy to achieve population-wide public health goals and should therefore set the scope of a country's marketing restrictions. However, in 2016 the WHO Commission on Ending Childhood Obesity highlighted the failure of Member States to seriously implement the recommendations and recognized the many ways in which marketing reaches children today including via digital media (23). The WHO Independent High-Level Commission on NCDs again called for restricting marketing of unhealthy products to children (33).

“Recognizing that industry self-regulation is ineffective, Governments should impose strong regulatory systems to ensure that the food industry does not violate citizens’ human rights to adequate food and nutrition.”

- Special Rapporteur on the Right to Food, 2016.

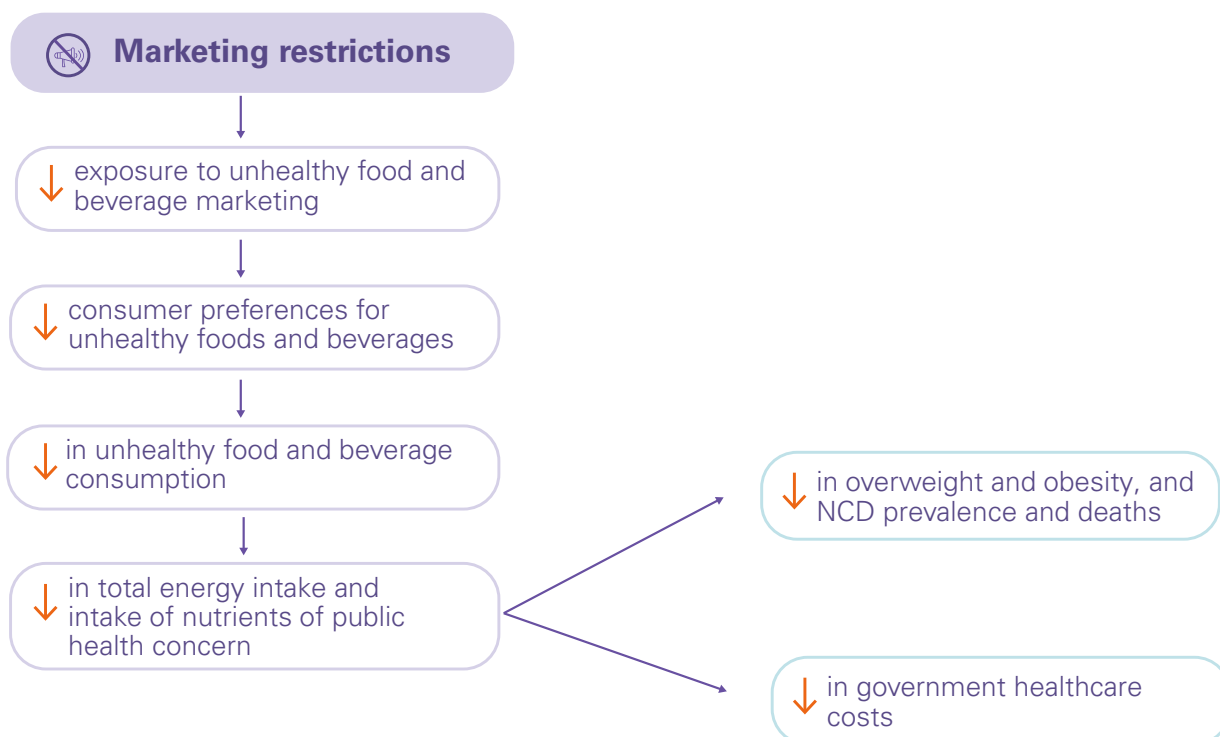


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5. How do policies that restrict unhealthy food and beverage marketing work?

The figure below shows the pathway by which policies restricting unhealthy food and beverage marketing could work to influence consumption of these unhealthy products and subsequently improve population health outcomes.

Figure 1. How do policies that restrict unhealthy food and beverage marketing work?



6. What are the likely impacts of policies that restrict unhealthy food and beverage marketing?

Impact	
Impact of marketing restrictions on exposure to unhealthy food and beverage marketing	<p>In South Korea, the Special Act on Safety Management of Children's Dietary Life resulted in an 81% reduction in the volume of unhealthy food advertising on television during regulated hours (34).</p> <p>In Chile, the proportion of cereal packages using child-directed strategies pre-implementation of marketing restrictions (36%) was significantly lower post-implementation (21%) (35).</p> <p>Restrictions on marketing of unhealthy foods and beverages through children's television in Chile (36) and the UK (37) reduced children's exposure to unhealthy food and beverage marketing by 35% and 52% respectively at times covered by the restrictions.</p>
Impact of marketing restrictions on consumption and energy intake	<p>A systematic review and meta-analysis found that children who were <i>exposed</i> to unhealthy food and beverage marketing were 10% more likely to select the advertised foods or beverages (23).</p> <p>Following the introduction of Chile's Law of Food Labeling and Advertising, consumption of high-sugar beverages declined by 20-30% (38). There is some evidence that consumption of other 'high-in' foods also declined by up to 8% in response to these marketing restrictions, though further research is needed (39).</p> <p>Australian and UK modelling estimated that if all unhealthy food and beverage television advertising was eliminated during daytime hours children's energy intake would decline (40).</p>
Impact of marketing restrictions on health outcomes	<p>Australian and UK modelling estimated that if all unhealthy food and beverage television advertising was eliminated during daytime hours children's BMI would decline, with impact on prevalence of overweight and obesity and substantive reductions in the incidence of type-2 diabetes, heart disease, stroke and cancer (41).</p>
Impact of marketing restrictions on economic outcomes	<p>Australian modelling estimated that eliminating all unhealthy food and beverage television advertising during daytime hours would result in a reduction in healthcare expenditure of AUD 78.3 million (approximately USD 56.5 million) (40). UK modelling estimated that eliminating all unhealthy food and beverage television advertising during daytime hours would result in a reduction in healthcare expenditure of £7.4 billion (approximately USD 10 billion) (41).).</p>

7. What are some key considerations for the design of marketing restrictions?

In order to protect children up to the age of 18 years, as per the definition of a child under the Convention on the Rights of the Child, national governments should adopt and implement a comprehensive legal ban on all unhealthy food and beverage marketing that children are exposed to, across all settings and media.

Marketing restrictions must ensure that the following aspects are covered by restrictions:

Policy element	Specifics	Country examples
Protecting all children	Marketing restrictions should protect children of all ages from exposure to unhealthy food and beverage marketing.	Broadcast regulations restricting food marketing in Ireland (42) the Republic of Korea (43) and Turkey (44), apply to children up to the age of 18 years. In Ireland, for example, commercial communications for food products defined as high in saturated fats, trans-fatty acids, free sugars, or salt according to a nutrient profile model are not permitted in children's programmes and shall not include licensed characters (42). Children's programmes are defined as those where more than 50 per cent of the audience is under 18 years old.
Adopting a broad definition of marketing to children	The concept of 'marketing to children' should be broad. Potential inclusions may include products, settings, times and programming frequented by children.	Chile's Food Labelling and Advertising Law (45) includes a ban on advertising for foods high in saturated fats, trans-fatty acids, free sugars, or salt: (i) that are considered to be child-targeted; ii) where >20% of the audience comprises children aged <14 years; and iii) where advertising appeals to children by including characters, toys or other strategies considered to be directed to children. The legislation was updated in June 2018 to include a time-based restriction, where all advertising of foods high in fat, salt and sugar is banned on television programmes between the hours of 6:00 and 22:00. Nevertheless there are still notable gaps in terms of digital marketing.
Including a broad set of marketing communication channels	Marketing restrictions should include the full range of channels through which children may be exposed to unhealthy food and beverage marketing, including television, radio, billboard, in-school and online advertising.	In Quebec, Canada, section 248 of the Quebec Consumer Protection Act (46) bans any commercial advertising directed at children under 13 years of age on television, radio, print, internet, mobile phones and signage, as well as the use of promotional items. The ban covers all forms of marketing, including the marketing of foods and beverages.
Covering a broad set of persuasive techniques that appeal to children	Marketing restrictions should also protect children from related techniques that may be used to influence food and beverage purchasing, including sports sponsorships, promotions and deals, and gifts, toys and prizes.	In Peru, the Law Promoting Healthy Eating for Children and Adolescents (Law number 30021) (47) includes restrictions on advertising aimed at children and adolescents under 16 years of age through any medium. This means that companies cannot advertise age-inappropriate portion sizes or use real or fictional characters, gifts, prizes or any other benefit to encourage purchase or consumption of food or drinks.

Applying a strict nutrient profile model	A nutrient profile model is used to determine which foods and beverages are restricted from advertising. Criteria are most often based on nutrient and energy contents (e.g. HFSS may not be advertised).	The Turkish Broadcast Regulation (44) applies restrictions on the marketing of foods to children based on the WHO Europe nutrient profile model. Specific food categories, including chocolate and candies, energy bars, sweet biscuits and waffles, potato chips and sugar-sweetened beverages, are prohibited from being advertised during children's programming.
Adopting an effective enforcement mechanism	An enforcement mechanism to ensure compliance with the policy must be developed. This should include sanctions for lack of compliance.	In Quebec, Canada, the Office for Consumer Protection (46) can enforce the Consumer Protection Act in three principal ways: notifying the actors concerned about the rules that apply to their activities; negotiating with said actors to voluntarily change their practices; or filing criminal proceedings against the actors for violating the Act. Fines can be levied on any actor in the advertising process (from the conception phase to its distribution), ranging from 600–100,000 Canadian dollars.

*Adapted from a forthcoming WHO/UNICEF publication titled **Implementing policies to protect children from the harmful impact of food marketing: a child rights-based approach**.*

In addition to exploring the different types of restrictions, other key considerations when designing such policies include setting clear legislative objectives, being clear on which products are included, and robust enforcement mechanisms.

- Governments should **set clear legislative objectives**, with a short-term objective to reduce children's *exposure* to unhealthy food marketing. Policies that focus only on marketing that is 'intended' or 'directed' at children are limited in scope as children and adults share many of the same physical and digital spaces.
- Government's should **be clear about which foods are 'permitted' or 'not permitted' for marketing**. A potential framework for this is the various WHO regional nutrient profile models. This includes prohibiting the marketing of foods and beverages containing artificial sweeteners, as increasing evidence suggests that these products may increase the risk of adverse health outcomes (48). Consideration should be made for categories of food where marketing is never permitted, irrespective of nutritional composition, as per a number of the WHO regional models. Such categories are typically not recommended in food-based dietary guidelines and might include confectionery, cookies/biscuits, cakes or soft drinks.

- **A robust enforcement mechanism** to ensure compliance with the policy must be developed, as well as a system for monitoring compliance. The enforcement criteria should include sanctions for lack of compliance. Enforcement structures from existing advertising laws, such as those on tobacco and alcohol, may provide suitable frameworks.

8. How to implement food and beverage marketing restrictions?

The role of government

To ensure that the process of implementing unhealthy food and beverage marketing restrictions is both efficient and successful, **policymakers should consider and follow several key steps:**

- Determine country-specific aims and regulatory objectives:** It is first necessary to determine the aims and objectives of the marketing restrictions. Government should retain responsibility for setting the regulatory aims and objectives. Key definitions should be determined at the outset. Objectives of marketing restrictions should be drafted strategically to reflect clear, measurable pathways of effect (e.g., changes in exposure and power of marketing; reducing the appeal of unhealthy foods). While marketing restrictions will contribute to broader goals (e.g., the prevention of NCDs or longer-term changes in overweight and obesity prevalence in children and adults), difficulty in producing short-term evidence of these outcomes make them less suited as an explicit objective of marketing restrictions when it comes to drafting regulation.
- Establish a government-led process but include stakeholder consultation:** A government-led process is more effective than voluntary, industry-led schemes. They are also seen as more credible by consumers. Governments should take the lead in gathering baseline data and commissioning additional research, as required. The policy development process should be safeguarded from undue food industry interference. Stakeholders should be engaged in consultation, but industry should not be invited to co-design or be part of decision-making processes. Governments should document each stage of the policy design and ensure decisions are objective and evidence-based in order to craft a strong, legally-defensible measure.
- Ensure that the policy identifies and allocated responsibility to the relevant body or bodies **with legal authority to implement the measures** across all types of platforms and jurisdictions within the country.
- Consideration must be given to how the policy will be **monitored and evaluated for effectiveness**. Monitoring and evaluation

is essential for determining policy success and refining policy design where necessary. The government body that is responsible for monitoring should be established early. If possible, baseline monitoring should be conducted prior to implementation (e.g. on exposure to marketing tactics, prevalence/frequency/amount of food advertising, and food consumption) to ensure the policy can later be monitored.

- Prior to implementation, governments should also **allocate a budget to support implementation, monitoring, enforcement and evaluation**. This should be accompanied by increases in capacity to support the above activities.
- Implementation of unhealthy food and beverage marketing restrictions should be accompanied by a robust **public communication and education campaign**. This will ensure public support for the policy and that consumers are aware of their rights.



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9. How advocates can support government efforts

To support the development and implementation of marketing restrictions, academics, NGOs and other advocates can foster conducive environments for, and develop evidence in support of, such policies. Actions to achieve this can include:

- **Help identify the problem by providing evidence in support of unhealthy food and beverage marketing restrictions:** Academics and civil society can produce policy-relevant evidence on exposure and power of marketing. They can also provide helpful summaries of global evidence on the effectiveness of marketing restrictions in a timely manner.
- **Expand understanding of the existing legal and political context:** It is important to understand if there are existing laws that could impact the development of marketing restrictions. Likewise, it is important to understand where in government potential support for marketing restrictions may come from.
- **Support advocacy and education campaigns:** Public support for unhealthy food and beverage marketing restrictions is crucial for successful implementation. Education campaigns can increase public awareness of the benefits of marketing restrictions and minimize the impacts of industry rhetoric against marketing restrictions. NGOs can amplify government messaging or develop their own campaigns, where resources allow.
- **Form coalitions in support of unhealthy food and beverage marketing restrictions:** United voices are more likely to raise awareness of and support for marketing restrictions. NGOs should reach out to government agencies, fellow NGOs and academic institutions to ensure that consistent messaging is used when campaigning.
- **Minimize industry influence:** The food and beverage industry will work to counter any proposed unhealthy food and beverage marketing restrictions. NGOs should ensure that conflicts of interest are declared through the consultation and policy development process. NGOs can help with arguments so that they are ready to counter the likely statements made by industry.
- **Provide support for monitoring and evaluation:** There is the potential for monitoring and evaluation of unhealthy food and beverage marketing restrictions to be neglected. NGOs can and should provide support for this to be conducted. Collaboration with academic institutions is one avenue for ensuring accurate evaluation.



10. What are the arguments used by the food industry to counter unhealthy food and beverage

“Industry self-regulation is sufficient”

The food and beverage industry often claims that self-regulation or voluntary codes developed by industry are effective at reducing the impacts of unhealthy food and beverage marketing. In many countries around the world such self-regulation is the only limit on unhealthy food and beverage marketing (49, 50). Industry self-regulation has been shown to have no or minimal impact on children’s exposure to unhealthy food and beverage marketing, or the quantity of unhealthy food and beverage marketing, across a range of media and countries (51-55). While industry claims strong adherence to voluntary codes, evidence shows that such voluntary systems do not reduce children’s exposure to unhealthy food and beverage marketing (49, 50).

Self-regulation by industry, such as pledges to promote food “responsibly” to children, contain significant gaps that prevent them from reducing the exposure of children to unhealthy food marketing. These gaps relate to limitations in the age ranges of children protected; exemptions in the marketing techniques, media and programmes used; and weaknesses in the categorization of unhealthy foods. Industry-led initiatives are also not effectively enforced, monitored, and evaluated; as such, they cannot be substituted for a mandatory, child-rights compliant implementation of the WHO set of recommendations.

“The quantity of food and beverage marketing is already declining”

Evidence that unhealthy food and beverage marketing is declining is largely based on studies of television advertising expenditure (56-60). This should not be taken as indicative of overall marketing exposure, or of behaviour change. As marketing techniques have evolved drastically over the years, children are exposed to even more unhealthy food and beverage marketing through new types of media, especially within the digital space (61, 62).

“Food and beverage marketing does not influence consumption or health outcomes”

Clear evidence suggests the opposite: that unhealthy food marketing creates social norms, increases children’s preference and consumption of these foods, and increases total energy intake (21-23). If it didn’t influence consumption, the food and industry beverage industry wouldn’t spend USD 14 billion a year on marketing their products in the US alone (63).

“Parents and caregivers are responsible for what their children eat. Marketing is just information and people have a right to make their own decisions.”

The predominance of marketing of unhealthy foods undermines dietary recommendations. Marketing negatively influences food values and preferences and undermines efforts of parents and other caregivers to encourage healthy eating. The overabundance of marketing for unhealthy foods also distorts the information landscape, impacting children directly and making it more difficult for parents to navigate. Restricting unhealthy food marketing is an important policy action to protect children, improve their daily food environment to support children in making it easier to make healthier decisions, and to support parents in providing better care for their children.

“Marketing restrictions will reduce employment and real wages”

The public expects the government to act in the best interests of children and seek to protect their health and well-being, including by restricting harmful marketing practices. Chile’s 2016 Food Labelling and Advertising Law had no impact on industry labour market outcomes (aggregate employment and average real wages) (64). Governments that have ratified the CRC have an obligation to ensure the enjoyment of the highest attainable standard of health for all children in their territories. In upholding this right, they have a broad margin of discretion in determining how to do so most effectively, including through the use of legislation/regulations.

11. Examples of effective elements in existing unhealthy food and beverage marketing restrictions from around the world



Chile's Food Labelling and Advertising Law

In 2016, the government of Chile introduced the **Food Labelling and Advertising Law as part of a broader strategy to address high rates of obesity in Chile** (35, 36, 64, 65). The law placed marketing restrictions on products HFSS or calories. This included banning the use of child-directed marketing techniques on the packaging of unhealthy foods, such as cartoons, animations, and toys or any other content that could attract the attention of children under 14-year-old. The advertising of unhealthy food is also prohibited on television programs aired between 6am and 10pm.

It is the responsibility of the regional departments of the Ministry of Health to monitor the implementing of the law, in coordination with other government agencies, academia, NGOs and consumer associations. To support the Ministry of Health in these efforts, the Television National Council have signed an agreement for monitoring all advertisements to respect the law. Sanctions for any breaches of the Food Labelling and Advertising Law include reprimands, fines or prohibition from selling an advertised product (65).

Since the law's introduction, there has been a significant reduction in children's exposure to television food advertising (by 35% for preschoolers and 52% for adolescents), and this did not differ by socioeconomic position (36). The proportion of all cereal packages using child-directed marketing techniques was significantly lower post-implementation (21%), compared to pre-implementation (36%) (35). In addition, contradicting to the claims by industry, the law has had no observable impact on industry labor market outcomes, including aggregate employment and average real wages (64).

Gaps do, however, remain and there are opportunities for the Chilean government to close these loopholes. Such gaps in the existing law include a lack of restrictions on digital marketing, point of sale marketing, brand advertising and corporate sponsorship of sporting teams and events. Restrictions on price promotions on unhealthy foods and beverages should also be considered.



UK HFSS advertising restrictions

To reduce children's exposure to HFSS food and beverage advertising, the **UK government introduced a ban on the scheduling of HFSS advertising during children's airtime and around programmes with a disproportionately high child audience**. This policy was introduced in a phased approach from, with full compliance expected by 2009. All foods considered to be high in saturated fat, salt and sugar were included under the advertising restrictions.

The government-approved regulatory and competition authority for the broadcasting, telecommunications, and postal industries of the UK (OfCom) is responsible for the ongoing monitoring, evaluation, and review of the advertising restrictions.

In response to the introduction of the HFSS advertising restrictions, children saw around 37% less HFSS advertising in 2009, compared with 2005 (37). This was particularly the case amongst younger children aged 4-9 years, who saw 52% less HFSS advertising, compared to older children aged 10-15 years, who saw 22% less HFSS advertising. There was full compliance with the policy by 2009, with children's exposure to HFSS advertising being eliminated during targeted children's airtime. Despite an increase in the volume of HFSS advertising aired at other times throughout the day, children's exposure to HFSS advertising decreased at all times before 9pm (37).

By 2023, the UK plans to ban all HFSS advertising online and on social media, and all HFSS television advertising before 9:00pm (66). These new restrictions represent one of the first significant efforts by government to comprehensively tackle the issue of online advertising of unhealthy foods and beverages by a national government. As children are increasingly exposed to HFSS advertising through online and social media channels (30), these new regulations address a key gap in the existing UK legislation, as well as building upon the existing HFSS television advertising restrictions.

The UK also plans to restrict location and volume-price based promotions of HFSS products in-store and online, by 2023 (67). Location based promotions refer to product placement at store entrances, aisle ends and checkouts, and online equivalents (entry pages, landing pages for other food categories, and shopping basket or payment pages). Volume-price based promotions refer to 'buy-one-get-one-free' and '3 for the price of 2' offers. Both location-based and volume-price based promotions are a key means by which unhealthy foods and beverages are promoted to consumers and encourage them to consume more than they originally intended to (68). Children, and their 'pester power', are particularly vulnerable to location-based promotions. Under the new restrictions, these promotions will be prohibited in all medium to large-sized food retailers. Restricting price promotions, including volume-price promotions, on sugary drinks has been modelled to both improve health and reduce healthcare costs (69).

The foods that will be prohibited from promotion under the new guidelines will be determined by the same nutrient profiling system used in the existing HFSS advertising restrictions, showing the advantage of a strong nutrient profiling model.

Acknowledgements

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Appendix 1: Glossary of key terms

Marketing: The WHO defines marketing as any form of commercial communication of messages that are designed to, or have the effect of, increasing the recognition, appeal and/or consumption of particular products and services (70). This includes any acts to advertise or otherwise promote a product or service.

Ultra-processed foods and beverages: Ultra-processed foods and beverages are formulations of ingredients and food additives created by series of industrial techniques and processes (71). They are typically high in salt, sugar and/or fat, and include fast-foods, sweet and salty snacks, ready-made meals, many meat products, and SSBs.

Appendix 2: How have other jurisdictions implemented unhealthy food and beverage marketing restrictions and what have the impacts been?

Jurisdiction and name of policy	Policy objective/scope	Food Classification System	Advertising content and media	Monitoring and enforcement	Evidence of impact
Chile's Food Labelling and Advertising Law (2016) Updated to include a 10pm broadcast watershed (2018)	Introduced as part of a broader strategy to address high rates of obesity. Also included front of pack warning labels and school food restrictions.	Foods high in sodium, saturated fats, sugars or calories	All marketing on the packaging of unhealthy foods are banned if the marketing includes 'child-directed' techniques and incentives, such as cartoons, animations and toys or any other techniques or content that could attract the attention of children under 14-year-old. Time-based restriction on unhealthy food advertising on television programs aired between 6am and 10pm. Outside of these hours marketing of unhealthy foods which is considered to be 'directed to children' is prohibited.	Monitoring the implementation of the law is carried out by regional departments of the Ministry of Health, in co-ordination with government agencies, academia, NGOs, consumer associations and food marketing and consumers' rights organizations. For broadcast restrictions, the Ministry of Health and the Television National Council have entered into an agreement for monitoring.	<ul style="list-style-type: none"> Reduction in exposure of unhealthy food marketing to children, with significant decreases found in exposure to unhealthy food advertising on TV and a reduction in child-directed marketing strategies on breakfast cereal packages post implementation of the Law (35, 36). Significant reduction in children's exposure to food advertising with child-targeted appeals on television (by 35% for preschoolers and 52% for adolescents) but did not eliminate it (36). Percentage of all cereal packages using child-directed strategies before implementation (36%) was significantly lower after implementation (21%). Decrease driven by reduction in the percentage of "high-in" cereals using child-directed marketing techniques (35). No impact on industry labor market outcomes (aggregate employment and average real wages) (64).
South Korea's Special Act on Safety Management of Children's Dietary Life (2013)	To promote children's health by prescribing matters necessary for supplying safe and nutritionally balanced foods to equip children with healthy eating habits.	Specific food categories considered to be high in calories, total sugar, saturated fat and sodium.	Unhealthy food advertising before, during and after television programmes aired between 5pm and 7pm and during other children's programmes is prohibited.	Advertisers who breach television regulations for food marketing are liable for fines up to ten million won (\$10K USD).	Reduction in the volume of unhealthy food advertising on television (34).
UK HFSS advertising restrictions (phased in from 2007 to 2009)	To reduce the exposure of children to HFSS advertising, as a means of reducing opportunities to persuade children to demand and consume HFSS products.	Foods considered to be high in saturated fat, salt and sugar.	Ban on the scheduling of HFSS advertising during children's airtime and around programmes with a disproportionately high child audience. By 2023, the UK plans to ban all HFSS advertising online and on social media, and all HFSS television advertising before 9:00pm (66). The UK also plans to restrict location and volume-price based promotions of HFSS products in-store and online, by 2023 (67).	The government-approved regulatory and competition authority for the broadcasting, telecommunications, and postal industries of the UK (OfCom) was responsible for the ongoing review of the restrictions.	<p>Compared with 2005, in 2009 (37):</p> <ul style="list-style-type: none"> Children saw around 37% less HFSS advertising. Younger children (4-9 years) saw 52% less advertising and older children (10-15 years) saw 22% less advertising. Children saw 40% less HFSS advertising on the commercial PSB channels and 33% less advertising on commercial non-PSB channels. Exposure to HFSS advertising was eliminated during children's airtime. Despite an increase in the volume of HFSS advertising aired throughout the day, children's exposure to HFSS advertising fell at all times before 9pm and by 25% between 18:00-21:00.

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