

PREVENTING CARDIOVASCULAR DISEASE THROUGH SALT REDUCTION

STRATEGIES FOR SUCCESS

Eating too much salt increases blood pressure and the risk for cardiovascular disease.

Globally, nearly 2 million people die each year from heart attacks and strokes caused by excess salt consumption.¹ Four out of five of these deaths occur in low- and middle-income countries, and nearly half are among people in the prime years of their lives.²

Salt reduction is possible.

Included in this resource are strategies governments can use to reduce salt consumption — including rationale, steps for implementation, resources needed and examples from around the world.

¹ Global Burden of Disease (GBD) Results Tool. Institute for Health Metrics and Evaluation. 2019. <http://ghdx.healthdata.org/gbd-results-tool>

² Mozaffarian D, Fahimi S, Singh GM, et al. Global sodium consumption and death from cardiovascular causes. N Engl J Med. 2014 Aug 14;371(7):624–34.



OUR APPROACH TO SALT REDUCTION

The Resolve to Save Lives (RTSL) approach to salt reduction is based on the [SHAKE Technical Package from the World Health Organization \(WHO\)](#). According to this framework, a comprehensive sodium reduction strategy should include a **surveillance** program to identify common sources of salt, monitor salt intake and evaluate progress; implementation of a multi-faceted set of **interventions**; and an **advocacy** plan to win support from key stakeholders and policymakers.

Surveillance

Surveillance is a critical component of salt reduction and includes:

Identification of population salt intake and its sources

Understanding the population's salt intake, major sources of salt in the local diet and levels of salt in common foods is fundamental for designing targeted interventions and influencing key decision-makers to take action.

- **Salt intake:** [Population-based surveys with 24-hour urine collection are the gold standard.](#)
- **Sources of salt:** Effective salt reduction strategies target [the main sources of salt in the diet](#), including:
 - Salt added during food preparation in the home
 - Foods prepared outside the home (restaurants, street food, school canteens, etc.) and;
 - Packaged foods.
- **Salt content of commonly consumed foods:** [Identifying salt content](#) in key categories of packaged foods, home-cooked foods and/or restaurant/street foods, based on the population's main sources of salt intake, enables development of appropriate salt reduction strategies.

Monitoring and evaluation

Critical for accountability, [tracking changes in both salt intake in the population and salt levels in foods](#) can be used to assess progress and advocate for continued investment where needed.





Salt reduction strategies

RTSL has identified a core set of interventions that are both effective and scalable for each of the different sources of salt consumption.



✓ Packaged foods

- Mandatory salt reduction targets for packaged food*
- Front-of-package warning labels*
- Marketing restrictions
- Fiscal policies



✓ Salt added at home

- Increase uptake of low-sodium salt*
- Mass media campaigns



✓ Salt added outside the home

- Healthy public food procurement and service policies*

* See the sections below for summaries of these key salt reduction interventions

Reducing salt in packaged food

1. **Mandatory salt reduction targets for packaged food.** Regulations that mandate a maximum limit for salt in packaged food are an effective way to reduce salt in packaged food. Salt limits are defined by food category and lowered over time, allowing industry to reduce salt gradually. There have also been successful voluntary initiatives, but they require strong government commitment to a coordinated process and public monitoring. See [Mandatory salt reduction targets for packaged food](#) for more information.
2. **Front-of-package warning labels.** Simple, prominent warning labels on the front of food packages are an effective, efficient means of communicating with consumers at the point of purchase about the (un)healthfulness of food and beverages. Use of these labels may also push manufacturers to reformulate products to avoid being visibly labeled as unhealthy. See [Front-of-package warning labels](#) for more information.
3. **Marketing restrictions.** Unhealthy food and beverages are often marketed to children in sophisticated ways, leading to unhealthy food preferences and behaviors and compromising their life-long health. WHO recommends restricting or prohibiting the marketing of unhealthy foods to children (or in media children are likely to be exposed to) through mandatory, comprehensive and evidence-based policies. See [Restrictions on marketing unhealthy foods to children](#) for more information.
4. **Fiscal policies.** Taxation is a well-established approach to reducing consumption of tobacco and alcohol. Taxes on sugar-sweetened beverages have been gaining momentum and, when substantial enough, have been shown to reduce sugar consumption. A small number of countries have instituted junk food taxes or taxes on products high in sodium, sugar or saturated fat, which may be effective in



reducing sodium content in foods and purchases of high-sodium foods. Taxes can also be paired with subsidies for healthy foods (e.g., fruits and vegetables).

Reducing salt added outside the home

5. **Healthy public food procurement and service policies.** In many countries, millions of meals are consumed in government institutions such as schools and hospitals. These policies promote healthy diets that are lower in sodium by setting nutrition standards for the service and sale of meals and snacks in these settings. See [Healthy public food procurement and service policies](#) for more information.

Reducing salt added at home

6. **Increase uptake of low-sodium salt.** Multiple trials have found that the use of low-sodium salt (in which some of the sodium is replaced with potassium) can reduce blood pressure and cardiovascular disease. Interventions can promote consumer awareness, increase availability and lower the cost of low-sodium salt. See [Increase uptake of low-sodium salt](#) for more information.
7. **Mass media campaigns.** Public education through rigorously tested and evaluated mass media campaigns can increase consumer awareness of the dangers of salt consumption and win their support for salt reduction policies. Mass media campaigns can also encourage consumers to reduce the amount of salt in their home cooking and purchase lower-salt foods, where available.

Policy advocacy and communications

An advocacy plan is critical to gaining support and influencing relevant decision-makers to promote salt reduction strategies, interventions and policies. Advocacy goals may include building general support for salt reduction from the government (including commitments to reduce salt intake in the jurisdiction and prioritize salt reduction within the government agenda). Advocacy may also aim to convince government officials to support and promote specific policies leading to a reduction in salt intake (e.g., adopting salt targets for packaged food or front-of-package labeling). See [Policy advocacy and communications](#) for more information.

For additional resources, see:

- [Resolve to Save Lives Sodium Reduction Framework](#)
- [Resolve to Save Lives Sodium Reduction Resource Library](#)
- [Resolve to Save Lives Annotated Bibliography on Sodium Reduction](#)
- [Global Sodium Reduction Strategies Course](#)





Mandatory salt reduction targets for packaged food



What is it?

- Targets are most commonly set by government as maximum thresholds for sodium content in key categories of packaged food (e.g., bread, condiments); they may also set thresholds for average salt content by food category, ideally weighted by sales, if sales data is available.¹ Targets allow for gradual salt reduction in packaged food products, often aiming for an average reduction of 20–25% in salt content over five years, to start.² Implementation requires a clear plan with interim goals and close public monitoring.
- Global sodium benchmarks (maximum targets) for more than 60 food categories were developed by WHO in 2021, which established a common standard to guide countries in setting national-level salt targets policies.³ Salt reduction targets should be set as mandatory regulations. In some cases, voluntary targets have been set by national governments; however, this strategy is less likely to be effective or followed by industry.

Why choose this intervention?

- Packaged food accounts for a large and growing proportion of sodium intake in most countries, including low- and middle-income countries. Setting mandatory sodium targets for packaged food can lead to substantial sodium reduction nationally and globally.
- There is often wide variation in salt content between similar products, indicating that salt reduction is feasible without sacrificing consumer acceptance.
- Reducing the salt content in packaged food changes the food environment without requiring consumer action, making healthier choices the default.
- Reducing salt in packaged foods does not limit consumer choice; consumers can choose to add salt on their own, if desired.

What is needed?

- A packaged food database including average salt content by category to inform the development of targets and monitor progress.
- Expert guidance on the functional role of sodium in each food category to help set targets.
- Advocacy and support from civil society, researchers and scientific associations to help ensure government action and counter potential challenges from vested interests.
- Staff to coordinate the project, build and maintain the database, set targets and consider technical feedback from industry associations, food manufacturers and academics.
- Mandatory salt target policies are strongly recommended; however, if voluntary programs are implemented, ongoing dialogue between the government and the private sector will be required to obtain industry commitments to meeting the salt reduction targets.

How to implement

- 1 Prepare**
 - Determine processed food contribution to overall salt intake to determine a percentage reduction goal.
 - Secure government commitment and high-level support.
 - Consult key stakeholders.
- 2 Develop food categories and build a database**
 - Develop a list of key food categories, including major contributors to salt intake, for which to set targets and monitor progress.
 - Build and maintain a packaged food database, organized by food category; use to assess the range of sodium by category and by manufacturer, and evaluate opportunities for sodium reduction.
- 3 Set and refine targets**
 - Determine which type of target to use: maximum (upper limit on salt in food) or mean (sales weighted average).
 - Adapt WHO global sodium benchmarks (maximums) to the local food environment; consider mean and range of sodium, functional properties of sodium and product varieties within a food category.
 - Consider your country's overall sodium reduction goals, (i.e., % reduction in daily sodium intake in X number of years) and develop a clear schedule and timeline to gradually reduce the sodium targets over time to help reach your overall goal.



Mandatory salt reduction targets for packaged food

How to implement *cont.*

4 Engage stakeholders and food industry

- Share draft categories and targets with industry for feedback.
- Establish strong “conflict of interest” guidance to counter industry interference.
- Prohibit positive health claims for companies that lower sodium in products (e.g., claiming “now with lower sodium”).

5 Monitor and evaluate

- Establish a monitoring framework for industry accountability and compliance.
- Consider industry feedback, implementation gaps and post-implementation challenges.
- Monitor changes to salt content and salt intake over time through surveys, food market data and analysis, and/or industry reports.
- Report results publicly.

Where has this been implemented?

- As of early 2023, 65 countries have implemented policies to reformulate food to contain less sodium through mandatory (21 countries), mandatory and voluntary (6 countries), or voluntary (38 countries) approaches. Bread and bread products are the most targeted food category for sodium reduction, followed by processed meat, poultry, game or fish; ready-made and convenience foods and composite dishes; and savory snacks. The number of food category targets varied; however, it was most common to set only one target, usually for bread, or a small number of categories.⁴
- The Pan American Health Organization (PAHO) has updated and expanded their regional sodium targets, lowering current target values and increasing the number of food categories to which the targets apply.⁵
- In 2013, Argentina set mandatory maximum sodium levels for 18 food categories. By the time the law took effect, the median levels of 15 of the 18 categories had already met the target.⁶ Although a 2019 evaluation found that more than 90% of relevant products were in compliance with the law, almost 50% of products exceeded the values recommended by the updated PAHO Regional Targets, indicating a need to strengthen the Argentine targets.⁷
- The UK government led a successful voluntary program, with target thresholds first set in 2005 and progressively lowered. By 2011, salt intake, as measured by urinary excretion, had decreased by approximately 15%. A detailed nutrition database, consistent monitoring and publicly sharing results were crucial to success.⁸
- In 2021, the U.S. Food and Drug Administration officially issued voluntary targets for reducing sodium in packaged and processed food over the next 2.5 years, with a goal to decrease average daily sodium intake by 12%.^{9,10}
- Kuwait's largest bread manufacturer, responsible for 80% of the market, reduced the salt content of its products by 20%.¹¹



RESOURCES

- Downs SM et al. Setting targets for salt levels in foods: A five-step approach for low-and middle-income countries. *Food Policy*. 2015 Aug 1;55:101–8.
- World Health Organization. The SHAKE Technical Package for Salt Reduction. 2016. Geneva.
- World Health Organization. WHO Global Sodium Benchmarks for different food categories. 2021.
- WHO global report on sodium intake reduction. Geneva: World Health Organization; 2023. Available at: <https://www.who.int/publications/i/item/9789240069985>
- Pan American Health Organization. Updated PAHO Regional Sodium Reduction Targets. 2021.
- Allemandi L, Tiscornia MV, Ponce M, et al. Sodium content in processed foods in Argentina: compliance with the national law. *Cardiovasc Diagn Ther*. 2015 Jun;5(3):197–206.
- Allemandi L, Tiscornia MV, Guarneri L, et al. Monitoring Sodium Content in Processed Foods in Argentina 2017–2018: Compliance with National Legislation and Regional Targets. *Nutrients*. 2019 Jun 28;11(7):1474.
- He FJ, Pombo-Rodriguez S, MacGregor GA. Salt reduction in England from 2003 to 2011: its relationship to blood pressure, stroke and ischaemic heart disease mortality. *BMJ Open*. 2014;4:e004549.
- Curtis CJ, Clapp J, Niederman SA, et al. US Food Industry Progress During the National Salt Reduction Initiative: 2009–2014. *Am J Public Health* 2016; 106: 1815–1819.
- US Food and Drug Administration. Voluntary Sodium Reduction Goals: Target Mean and Upper Bound Concentrations for Sodium in Commercially Processed, Packaged, and Prepared Foods; Guidance for Industry. 2021.
- Alhamad N, Almalt E, Alamir N, et al. An overview of salt intake reduction efforts in the Gulf Cooperation Council countries. *Cardiovascular diagnosis and therapy* 2015; 5: 172–177.



Front-of-package warning labels



What is it?

Simple, prominent labels on the front of food packages are an effective and efficient means of communicating with consumers at the point of purchase about the (un)healthfulness of food and beverages.

Interpretive front-of-package nutrition labelling (FOPL), which provides a simple interpretation of nutrition information for consumers using minimal or no numerical information, is recommended by WHO as a key policy to promote healthy diets and reduce non-communicable diseases, including heart disease, worldwide.¹

Interpretive labels can include nutrient-specific systems like “high-in” warning labels or summary indicator systems like the *Health Star Rating* or *Nutri-Score* systems.² Simple warning labels that indicate which products are high in sugar, salt and saturated fat are most effective at helping consumers easily identify unhealthy products and discouraging them from choosing high-sodium and ultra-processed food.^{3,4}

Chile's pioneering strategy



Chile has been a pioneer, requiring black octagonal warning labels to be prominently displayed on packaged foods that exceed sugar, salt, saturated fat or calorie limits since 2016. Products with warning labels cannot be purchased by schools or marketed to children.⁵

Initial results indicate that labels have resulted in reformulations of products by manufacturers and significantly reduced purchase of products high in sodium, calories, sugar and saturated fats.^{5,6}

Since Chile's law went into effect, warning labels have been adopted by nine additional countries. Learning from Chile's experience, including how industry took advantage of loopholes in the law, countries are now passing even stronger warning label policies.⁷

Why choose this intervention?

- Consumers need an easier way to make healthier choices from the wide array of food items available to them. Back-of-pack nutrient tables can be hard to decipher. Simple, front-of-package warning labels are immediately visible, easily understandable, and effective in discouraging consumers from unhealthy choices.
- Requiring front-of-package warning labels drives product reformulation, as manufacturers strive to meet nutrition standards and avoid having their products labelled as unhealthy.
- For even greater impact, FOPL can be easily tied to [healthy public food procurement policies](#) and rules for marketing to children, e.g., products with labels cannot be marketed to children or purchased for/by government institutions.

What is needed?

- A strong [nutrient profile model](#) to set clear and meaningful criteria for labeling⁸
- Warning labels that are interpretative, simple and visible
- Strong support from the public and policymakers
- An advisory committee that can provide expertise and consultation in policy research and label design and development
- A strong and coordinated strategy to counter industry opposition
- A well-designed system to monitor and enforce compliance
- Outreach to consumers to educate them on the risks of consuming food carrying warning labels

How to implement

1 Prepare

- Define the public health problem and explain how FOPL can address the issue.
- Review and collate scientific evidence supporting FOPL and assess political feasibility.
- Form an expert advisory committee to lead research, label and policy development, and defend FOPL from industry opposition.
- Adopt a strong, evidence-based [nutrient profile model](#).

2 Advocate

- Build public and policymaker support for a strong mandatory FOPL policy through a comprehensive communications strategy and engagement from civil society.



Front-of-package warning labels

How to implement *cont.*

3 Design an effective label

- Conduct research to understand consumer knowledge and purchasing habits. Test label designs and identify an effective label through focus groups and (if needed) a randomized controlled trial.
- Develop graphic design guidelines on label appearance, such as placement, size and color.

4 Where feasible, adopt complementary measures to prohibit products with warning labels from being served/sold in schools or marketed to children

5 Establish an enforcement system to monitor and assure compliance

- A government agency or an independent group that does not have conflicts of interests should be assigned to conduct regular monitoring of the FOPL policy to ensure food companies' adherence. This may involve conducting market surveys to compare nutrient content levels and the presence/absence of a warning label.

6 Evaluate policy impact on consumer purchasing and reformulation of products

- Evaluation studies may be conducted to assess the effect of the FOPL system on changes to:
 - consumer understanding;
 - product purchases;
 - population dietary intakes; and
 - nutrient compositions of food products (reformulation).⁹

Where this has been implemented?

- Finland was the first country to implement a mandatory “high salt” warning label in 1993 for select food categories. As a result of this and other salt reduction interventions, there was an observed reduction of about 15% in average salt intake between 1979 and 2007.¹⁰
- Mexico, Peru, Uruguay, Colombia and Argentina have adopted a similar model to Chile’s mandatory warning label policy (which uses simple black and white stop sign warning labels to flag packaged foods high in sodium, sugar, saturated fat and calories).¹¹ Israel, Canada and Brazil also adopted mandatory warning label policies using a different design.¹²
- As of January 2023, mandatory FOPL policies have been passed in at least 16 countries around the world.¹²



RESOURCES

- 1 Global Food Research Program, University of North Carolina at Chapel Hill. Front-of-package (FOP) Food Labelling: Empowering consumers and promoting healthy diets. 2021. https://www.globalfoodresearchprogram.org/wp-content/uploads/2021/10/FOP_Factsheet_UNCGFRP.pdf
- 2 World Cancer Research Fund International. Building momentum: lessons on implementing a robust front-of-pack food label. 2019.
- 3 Taillie LSHM, Popkin BM, Ng SW, et al. Experimental studies of front-of-package nutrient warning labels on sugar-sweetened beverages and ultra-processed foods: A scoping review. *Nutrients*. 2020. 12(2):569. doi:10.3390/nu12020569
- 4 Vital Strategies, Global Food Research Program, University of North Carolina at Chapel Hill. What's in Our Food? A guide to introducing front-of-package nutrient labels. 2020. <https://www.vitalstrategies.org/wp-content/uploads/Whats-in-Our-Food-guide-to-introducing-front-of-package-labels.pdf>
- 5 Reyes M, Taillie LS, Popkin B, et al. Changes in the amount of nutrient of packaged foods and beverages after the initial implementation of the Chilean Law of Food Labelling and Advertising: A nonexperimental prospective study. *PLOS Medicine* 2020; 17(7): e1003220. <https://doi.org/10.1371/journal.pmed.1003220>
- 6 Taillie LS, Bercholz M, Popkin B, et al. Changes in food purchases after the Chilean policies on food labelling, marketing, and sales in schools: a before and after study. *The Lancet Planetary Health* 2021, Aug 1;5(8):e526-33.
- 7 Rebolledo N, Bercholz M, Adair L, Corvalán C, Ng SW, Taillie LS. Sweetener Purchases in Chile before and after Implementing a Policy for Food Labeling, Marketing, and Sales in Schools. *Current Developments in Nutrition*. 2023 Feb 1;7(2):100016.
- 8 World Health Organization. Guiding principles and framework manual for front-of-pack labelling for promoting healthy diets. 2019. Available at: <https://www.who.int/publications/m/item/guidingprinciples-labelling-promoting-healthydiet>
- 9 Resolve to Save Lives. Nutrient Profile Models: A critical tool to enable nutrition policy interventions. 2022. https://linkscommunity.org/assets/PDFs/318_cvh_nutrient-profile-models_fact-sheet_0622_rev-a_v4.pdf
- 10 Pietinen P, Valsta LM, Hirvonen T, et al. Labelling the salt content in foods: a useful tool in reducing sodium intake in Finland. *Public Health Nutr*. 2008;11(4):335-340. doi:10.1017/
- 11 Reyes, M, Garmendia, ML, Olivares, S, et al. Development of the Chilean front-of-package food warning label. *BMC Public Health* 19, 906 (2019).
- 12 Global Food Research Program at UNC-Chapel Hill. Front-of-package labels around the world. 2023. Available at: <https://www.globalfoodresearchprogram.org/resource/front-of-package-label-maps/>



Restrictions on marketing unhealthy foods to children



What is it?

- Mandatory restrictions on marketing unhealthy foods protect children's health by reducing exposure to marketing tactics that adversely influence their food preferences.
- To promote healthy diets and reduce non-communicable diseases, the World Health Organization (WHO) recommends mandatory and comprehensive marketing restrictions that protect children of all ages from exposure to the marketing of foods and non-alcoholic beverages high in saturated fatty acids, free sugars, and/or sodium (HFSS).^{1,2} Comprehensive marketing controls apply to different channels including television and online, on product packaging, on price promotions and product placement, and in schools and community settings.

Where has this been implemented?

- As of 2024, 16% of countries had a policy in place restricting the marketing of unhealthy foods in school settings.³
- As of 2023, 13 countries had limits on marketing unhealthy foods to children in broadcast media. In 7 of those countries, restrictions also apply to digital marketing.⁴
- Chile and the UK now have passed broad time-based broadcast restrictions that ban advertising during peak viewing times of children after switching from a content-based broadcast restriction. The UK's policy also prohibits paid online advertising of unhealthy foods.^{5,6}

Chile's pioneering strategy

- In 2016, Chile implemented the Food Labeling and Advertising Law, which, among other measures, banned marketing of unhealthy packaged foods to children younger than 14 years old in media that self-identifies as having a child audience or in media with an audience that is 20% children or larger. Due to limited effectiveness of the initial measures,⁷ the government expanded the marketing ban in 2018 so that unhealthy products could not be advertised on television from 6am to 10pm, the window of time during which children view television.^{8,9} Along with the other provisions of the law, this resulted in significant reductions in purchases of unhealthy foods. A key strength of Chile's policy is that it combines marketing restrictions with front-of-package warning labels and restrictions on sales in school, all based on the same nutrient profile model.¹⁰

Purchase changes ¹¹	Reduced exposure to unhealthy food advertising ¹²
Significant reduction in unhealthy nutrients from overall food purchases	Significant reduction in unhealthy food ads
Energy: ↓ 23% Sodium: ↓ 22% Sugar: ↓ 37% Saturated fat: ↓ 16%	All programming: ↓ 73% Programming appealing to children: ↓ 90%

Why choose this intervention?

- Evidence shows that exposure to marketing of unhealthy foods increases children's consumption of such products.¹³⁻¹⁷
- In a systematic review, mandatory marketing restrictions were found to significantly reduce consumption and purchase of HFSS foods.¹⁸
- The costs of inaction are high. Overconsumption of foods high in salt, sugar, and saturated fat has economic costs including medical costs, opportunity costs of premature death and treatment for chronic conditions, and productivity losses. Marketing restrictions help counter the status quo costs by reducing consumption of unhealthy products which reduces health expenditures, increases productivity, increases life years and reduces disability.
- For even greater impact, marketing restrictions can be easily tied to other healthy food policies that are based on an evidence-based government-led nutrient profile model, e.g., front-of-package warning labels, taxation, and healthy public food procurement and service policies.

What is needed?

- A strong nutrient profile model to classify foods as unhealthy and qualify for the restrictions
- Strong support from the public and policymakers
- Robust conflict of interest guidelines to combat industry opposition
- Dedicated budget allocation



Restrictions on marketing unhealthy foods to children

How to implement

1 Prepare

- Establish a government-led working group to reach consensus on the priorities for intervention and identify best measures and how to implement.
- Develop a situational analysis of both the marketing environment and legal and regulatory environment to inform about constitutional and other legal restrictions on development of laws and regulations in this area.

2 Design the policy

According to country experiences, scientific evidence and WHO recommendations, (WHO 2023a) best practice policies:

- Are mandatory. Voluntary industry-led self-regulation has repeatedly been shown to be ineffective.
- Protect children of all ages (up to 18).
- Use a strong and government-led nutrient profile model, such as a single category model (originally developed by WHO PAHO), to set clear and meaningful nutrition criteria that ensure that foods high in saturated fatty acids, trans-fatty acids, free sugars and salt cannot be marketed to children.
- Are sufficiently comprehensive to minimize exposure for all ages, including marketing controls:
 - through different channels, including television, digital, public transportation, and street/billboards,

- on product packaging, including limiting child-appealing characters on packaging and banning the inclusion of toys in packaging,
- on price promotions and product placement, and
- in schools and community settings, including sales, marketing, donations and corporate sponsorship.

3 Implementation

- Identify what monitoring and enforcement mechanisms will be used and which agencies are responsible for
 - monitoring compliance,
 - handling complaints/claims of noncompliance, and
 - issuing penalties to violators.
- Coordinate with relevant sectors (broadcasting, education, commerce, etc.) on implementation.
- Educate the public about the new policy.

4 Evaluation

- Establish frameworks with measurable indicators on process, outputs, and outcomes to evaluate the implementation and impact of the policy.

RESOURCES

- WHO. (2023a). Policies to protect children from the harmful impact of food marketing: WHO guideline. WHO.
- Perry, M., Mardin, K., Chamberlin, G., Busey, E. A., Taillie, L. S., Carpentier, F. R. D., & Popkin, B. M. (2024). National policies to limit food marketing and competitive food sales in schools: a global scoping review. *Advances in Nutrition*, 100254.
- Perry, M., Mardin, K., Chamberlin, G., Busey, E. A., Taillie, L. S., Carpentier, F. R. D., & Popkin, B. M. (2024). National policies to limit food marketing and competitive food sales in schools: a global scoping review. *Advances in Nutrition*, 100254.
- UNC Global Food Research Program. (2024). Restrictions on marketing food to children. University of North Carolina at Chapel Hill. Retrieved March 24, 2025, from <https://www.globalfoodresearchprogram.org/resource/maps-restrictions-on-marketing-food-to-children/>
- Government of Chile. Sobre Publicidad de los Alimentos. Ley 20869. (2015). Available at: <https://www.bcn.cl/leychile/navegar?idNorma=1083792>. Accessed 10 January 2025.
- UK Government. (2022). Health and Care Act 2022. Retrieved from <https://www.legislation.gov.uk/ukpga/2022/31/contents/enacted>. Accessed 10 January 2025.
- Dillman Carpentier, F. R., Mediano Stoltze, F., Reyes, M., Taillie, L. S., Corvalán, C., & Correa, T. (2023). Restricting child-directed ads is effective, but adding a time-based ban is better: evaluating a multi-phase regulation to protect children from unhealthy food marketing on television. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 62.
- Correa, T., Reyes, M., Taillie, L. S., Corvalán, C., & Dillman Carpentier, F. R. (2020). Food advertising on television before and after a national unhealthy food marketing regulation in Chile, 2016–2017. *American journal of public health*, 110(7), 1054–1059.
- Jensen, M. L., Dillman Carpentier, F. R., Adair, L., Corvalán, C., Popkin, B. M., & Taillie, L. S. (2021). TV advertising and dietary intake in adolescents: a pre-and post-study of Chile's Food Marketing Policy. *International Journal of Behavioral Nutrition and Physical Activity*, 18, 1–11.
- Nutrient profile models classify or rank foods according to their nutritional composition for reasons related to preventing disease and promoting health
- Taillie, L. S., Bercholz, M., Rebolledo, N., Popkin, B., Reyes, M., & Corvalán, C. (2023). Decreases in purchases of energy, sodium, sugar, and saturated fat three years after implementation of the Chilean Food Labelling and Marketing Law. *medRxiv*, 2023-11.
- Dillman Carpentier, F. R., Mediano Stoltze, F., Reyes, M., Taillie, L. S., Corvalán, C., & Correa, T. (2023). Restricting child-directed ads is effective, but adding a time-based ban is better: evaluating a multi-phase regulation to protect children from unhealthy food marketing on television. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 62.
- Kent MP, Pauzé E, Roy E-A, Billy ND, Czoli C. Children and adolescents exposure to food and beverage marketing in social media apps. *Pediatric Obesity*. 2019;14(6). doi:10.1111/ijpo.12508.
- Lapierre M, Fleming-Millici F, Rozendaal E, McAlister AR, Castonguay J. The effect of Advertising on Children and Adolescents . *Official Journal of the American Academy of Pediatrics*. November 2017. doi:10.1542/peds.2016-1758V.
- Xian, J., Zeng, M., Cai, Z., Xie, C., Xie, Y., Sharma, M., ... & Shi, Z. (2021). Influence of the request and purchase of television advertised foods on dietary intake and obesity among children in China. *BMC Public Health*, 21(1), 1130.
- Boyland, E. J., Nolan, S., Kelly, B., Tudur-Smith, C., Jones, A., Halford, J. C., & Robinson, E. (2016). Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults. *The American journal of clinical nutrition*, 103(2), 519–533.
- WHO & United Nations Children's Fund. (2023b). Taking action to protect children from the harmful impact of food marketing: a child rights-based approach. World Health Organization.
- Alfraidi, A., Alafif, N., & Alsukait, R. (2023). The Impact of Mandatory Food-Marketing Regulations on Purchase and Exposure: A Narrative Review. *Children*, 10(8), 1277.



Healthy public food procurement and service policies



What is it?

Public food procurement and service policies can promote healthy diets by setting healthy standards for the service and sale of meals and snacks in schools, hospitals, childcare centers and worksites. They can also include healthy standards for food purchased by the government for their social support programs and venues, food served in meetings and conferences, and food in stores and vending machines on government property.¹

Healthy public food procurement and service policies are holistic and promote the core principles of a healthy diet including:

- Limiting free sugars
- Limiting sodium and ensuring that salt is iodized
- Shifting from saturated fats to unsaturated fats and eliminating industrially-produced trans fats
- Increasing consumption of whole grains, vegetables, fruits, nuts and pulses
- Ensuring the availability of free, safe drinking water

Why choose this intervention?

- **Large and inclusive reach.** Government agencies and other institutions serve food to large numbers of people every day, including vulnerable populations such as children and hospital patients.
- **Public health benefits.** In addition to increasing the availability and consumption of healthier food in public settings, healthy public food procurement policies can reinforce government priorities on nutrition, improve consumer knowledge and dietary preferences, create demand for more nutritious food with lower salt content and improve population health.
- **Economic benefits and increased productivity.** Improved health and nutritional status reduce the risk of cardiovascular diseases and diet-related complications, lowering health care costs and increasing productivity.
- **Promotion of local agriculture.** Policies promoting fresh and healthy food can direct large government budgets allotted for food toward local farmers and producers, potentially boosting local economies and increasing employment opportunities.

What is needed?

- High-level government commitment from multiple agencies and designated staff
- Working group and project coordinator to convene agencies
- Nutritionist(s) to develop and refine standards and to support recipe modification and implementation by government agencies
- Funding and staffing for trainings, materials and monitoring

How to implement

1 Prepare

- Determine which agency has the authority to create food procurement policies at national and local levels, obtain buy-in and identify policy entry points.
- Convene a working group across government agencies or ministries.
- Assess current food procurement and service practices and policies.

2 Develop

- Determine the policy scope.
- Establish clear and comprehensive food- and/or nutrient-based standards; consider complementary criteria for marketing restrictions, sustainability and food safety goals.
- Define and enact policies in collaboration with other government agencies; establish plans and timelines for implementation, monitoring and evaluation.

3 Implement

- Develop and periodically update implementation plans.
- Communicate the objectives and scope of the policy to target populations, government staff and food chain actors.
- Integrate the policy standards into new and existing contracts.
- Build capacity for implementation by providing training and technical assistance.
- Develop supporting materials and tools.

4 Monitor, enforce and evaluate

- Set up monitoring and enforcement mechanisms.
- Monitor compliance and act on compliance/noncompliance.
- Evaluate implementation through review of procurement contracts, surveys, site visits and potentially via direct assessment of served food (i.e., composite analyses).
- Communicate the results to the public.
- Revise the policy based on results.



Healthy public food procurement and service policies

Where has this been implemented?

- Brazil's National School Feeding Program sets nutrition criteria for school meals provided to 40 million students, including minimum servings of fruits and vegetables, a ban on sugary drinks, and limits to added sugar, fat, saturated fat, trans fat and sodium. Procurement of processed and ultra-processed foods is restricted to 20% of federal funding. Additionally, the program requires that 30% of all foods procured for school meals come from family farmers.²
- In 2021, Quezon City, Philippines enacted and piloted the county's first model healthy procurement policy model. An Executive Order requires the provision of nutritionally-balanced and fresh food that is free from trans fat, encourages more fruit and vegetable options, sets limits on products high in free sugars and sodium, and requires that all food served at government-run institutions and events meet these nutritional criteria.³
- New York City requires all city agencies to meet nutrition standards for an estimated 250 million meals and snacks served per year. These standards are comprehensive and address meals and snacks served, food and beverages available from vending machines, food sold in cafeterias, and food provided at meetings and events.⁴
- Chile has coupled school nutrition standards with front- of-package labeling; any foods that have warning labels for sodium, sugar or saturated fat cannot be sold at school kiosks or marketed to children, including on school property.⁵



RESOURCES

- 1 World Health Organization. Action framework for developing and implementing public food procurement and service policies for a healthy diet. 2021.
- 2 Lamonatto TR, Paz Arruda Teo CR. Food and nutritional recommendations for the National School Feeding Program: an analysis of recent history. Demetra: Food, Nutrition & Health/ Alimentação, Nutrição & Saúde. 2021 Jan 1;16.
- 3 Quezon City.gov.ph. QC First to Implement Healthy Food Procurement Policy. 2021. <https://quezoncity.gov.ph/qc-first-lgu-to-implement-healthy-food-procurement-policy/>.
- 4 NYC Health. Nutrition: At Work and in City Facilities. <https://www1.nyc.gov/site/doh/health/health-topics/healthy-workplaces.page>.
- 5 Reyes M, Garmendia ML, Olivares S, et al. Development of the Chilean front-of-package food warning label. BMC public health. 2019 Dec;19(1):1-1.



Increase uptake of low-sodium salt



What is it?

Low-sodium salts typically replace 10% to 50% of the sodium chloride (the harmful ingredient in salt) with alternative minerals, most commonly potassium chloride, an essential mineral known to help lower blood pressure.

Low-sodium salt tastes like regular salt¹ and can be used in cooking (at home and in restaurants), as well as by food manufacturers to replace regular salt.

Interventions and policies to increase the uptake of low-sodium salt should address:

- **Availability to consumers**, by tackling production and regulatory challenges, such as infrastructure and supply chains;
- **Awareness and promotion** through education and social marketing campaigns;
- **Affordability**, through economies of scale, subsidies, vouchers, or taxation of regular salt; and
- **Advocating for buy-in and support** from policymakers and other government stakeholders and within sectors such as the medical field, nutrition groups and civil society.²

Why choose this intervention?

- In many countries, most salt in the diet is added during cooking or at the table. Because long-term dietary behavior change is difficult to initiate and maintain, reducing sodium before purchase is the most sustainable way to reduce salt consumption.
- Switching to low-sodium salt in cooking has been shown to dramatically reduce the risk of stroke, heart attack and death.³
- While there is some risk of increased potassium intake for people with advanced kidney disease or who are otherwise prone to hyperkalemia, the benefits far outweigh this risk.⁴ Measures can be taken to minimize risk, such as placing government-regulated and standardized warning statements on low-sodium salt packages (e.g., “This product contains potassium. If you have been told to limit potassium in your diet, please consult your doctor or other health care professional before use.”).

What is needed?

- Government leadership and commitment to enacting policies that increase uptake of low-sodium salt
- Industry engagement and support from medical and nutrition community leaders, civil groups and other stakeholders
- A strategy to make low-sodium salt affordable for consumers
- Communication materials to share with the press and the public through traditional and social media as part of awareness campaigns
- Funds for development, placement and evaluation of media campaigns
- Staff to conduct initial assessments and monitor progress

How to implement

1 Assess the market landscape

- Conduct a market analysis to gather information including whether low-sodium salt is available on the market, what types of products are available, who the key market players are, the current market size and share, pricing information, and the supply chain logistics.
- Review current regulations to determine whether criteria for how low-sodium salt is defined has been previously set. If not, this will likely be needed in a new regulation.

2 Advocate for action and commitment from government, industry and civil society

- Work with key stakeholders to ensure that the risks and benefits are clearly understood.
- Advocate for government-regulated and standardized warning statements on low-sodium salt packages as well as development of government-led strategies to increase use of low-sodium salt.

3 Increase availability of low-sodium salt

- Incentivize/subsidize manufacturers to produce low-sodium salt.
- Strengthen the supply chain and increase production/decrease production costs.

4 Generate consumer demand

- Educate consumers on the benefits and availability of low-sodium salt using multi-layered strategies, such as mass media campaigns, community programs and social marketing strategies.
- Educate and engage health care providers, physicians, scientists, advocates and other civil society leaders to encourage the public to use low-sodium salt in their diets.



Increase uptake of low-sodium salt

How to implement *cont.*

5 Make low-sodium salt affordable to consumers

- Provide subsidies, either to producers during manufacturing or at other points during the distribution process, such to consumers at points-of-sale.
- Increase taxation on regular salt to fund subsidies for low-sodium salt.
- Implement a government voucher program.

6 Monitor and evaluate progress

- Measure the change in low-sodium salt purchases over time using sales data or self-reported user data.
- Assess changes in population sodium and potassium intake using urine samples (24-hour if possible, otherwise spot urine), if resources allow.

Where has this been implemented?

- Trials conducted in China, India and Peru have demonstrated that promotion and subsidization of potassium-enriched low-sodium salt substitutes are effective and low-cost interventions to lower blood pressure and/or reduce sodium intake at home.⁴⁻⁸ Further, the SSaSS trial, conducted in China, found decreased rates of stroke, major cardiovascular events and death among participants using the low-sodium salt substitute.³
- To address the rising prevalence of hypertension and high sodium consumption in Singapore, in September 2022 the Singapore Health Promotion Board announced a three-pronged approach to cut Singaporeans' sodium intake by 15% over the next five years by replacing half of the salt sold in the market with low-sodium alternatives. This approach includes 1) expanding the range of low-sodium salt in the market, 2) scaling up the current Healthier Ingredient Development Scheme to push for reformulation of lower-sodium sauces and seasonings, and 3) increased investment in public education. This is the first time a country has developed a national-level strategy for increasing population uptake of low-sodium salt; Singapore is building the evidence base for best practices regarding low-sodium salt interventions.⁹



RESOURCES

- 1 Saavedra-Garcia L, Bernabe-Ortiz A, Gilman R, et al. Applying the Triangle Taste Test to Assess Differences between Low Sodium Salts and Common Salt: Evidence from Peru. PLOS ONE 2015; 10(7): e0134700. <https://doi.org/10.1371/journal.pone.0134700>
- 2 Ajenikoko A, Ide N, et al. Core Strategies to Increase the Uptake and Use of Potassium-Enriched Low-Sodium Salt. Nutrients 2021, 13, 3203. <https://doi.org/10.3390/nu13093203>
- 3 Neal, B, Wu Y, Feng X, et al. Effect of Salt Substitution on Cardiovascular Events and Health. The New England Journal of Medicine 2021. <https://www.nejm.org/doi/full/10.1056/NEJMoa2105675>
- 4 Li N, Yan LL, Niu W, et al. The Effects of a Community-Based Sodium Reduction Program in Rural China-A Cluster-Randomized Trial. PLoS One 2016; 11: e0166620. 2016/12/10. DOI: 10.1371/journal.pone.0166620.
- 5 Xu A, Ma J, Guo X, et al. Association of a Province-Wide Intervention With Salt Intake and Hypertension in Shandong Province, China, 2011-2016. JAMA Intern Med. 2020;180(6):877-886. doi:10.1001/jamainternmed.2020.0904
- 6 Shao S, Hua Y, Yang Y, et al. Salt reduction in China: a state-of-the-art review. Risk Manag Health Policy 2017; 10: 17-28. 2017/03/07. DOI: 10.2147/RMHP.S75918.
- 7 Yu J, Thout SR, Li Q, et al. Effects of a reduced-sodium added-potassium salt substitute on blood pressure in rural Indian hypertensive patients: a randomized, double-blind, controlled trial, The American Journal of Clinical Nutrition, Volume 114, Issue 1, July 2021, Pages 185-193, <https://doi.org/10.1093/ajcn/nqab054>
- 8 Marklund M, Singh G, Greer R, et al. Estimated population wide benefits and risks in China of lowering sodium through potassium enriched salt substitution: modelling study. BMJ. 2020;369:m824. 2020. doi:10.1136/bmj.m824
- 9 HPB aims to replace at least half of salt in market with lower-sodium alternatives, as hypertension rises in Singapore. Taufik Zalizan, Today Online. September 28, 2022 <https://www.todayonline.com/singapore/salt-replace-lower-sodium-alternative-hypertension-2005411>.



Policy advocacy and communications



What is it?

Policy advocacy and communications play an important role in all salt reduction strategies, policies and interventions.

Policy advocacy is the deliberate process of informing and influencing decision-makers to support a specific policy change and implementation process. Policy advocacy is often organized and carried out by civil society organizations working as a coalition; government officials may also act as champions for a specific policy or intervention, pushing policy action forward and winning support from other decision-makers or sectors of the government.

Communications is the creation and distribution of messages across written, visual or spoken mediums. Communications activities build awareness and support for a policy change or intervention among policymakers, the public and other key stakeholders.

Why use policy advocacy and communications to support salt reduction interventions?

- Changing public policy requires ongoing engagement with decision-makers, influencers, champions, partners/coalitions and other stakeholders.
- Industry often strongly opposes effective nutrition policies; strong, visible support from a wide range of actors can counter opposition. A well-designed advocacy strategy can bring a broad group of stakeholders together to achieve a common goal.
- Influencing opinions and decisions may require various messages, channels and messengers tailored to the various stakeholders involved in policy change.

What is needed?

- Knowledge of the evidence base and research gaps
- An understanding of the political and social contexts, policy processes, and political opportunities and threats for the proposal and passage of a policy
- Political mapping, which may include the priorities of elected leaders, the timing of elections, and past policy successes and challenges
- Stakeholder mapping to inform coalition building and advocacy opportunities, such as identifying policy champions who can speak to journalists

- A strategic plan that serves as a roadmap for the policy advocacy process. This plan should be regularly adapted to reflect any contextual changes
- A communications plan to inform consumers and other stakeholders about why the policy is needed, how it will work and how it will improve health
- Resources to support staff time, research activities and media efforts
- Direct engagement with elected and/or appointed government officials
- Research, messaging and legal justifications to address opposition from industry
- A monitoring and evaluation plan to track progress and document lessons learned

How to implement

1 Plan

- Conduct a landscape analysis to assess the health burden of excess sodium consumption, socio-political context, policy and legal environment, stakeholders, and potential partners.
- Based on the findings of the landscape analysis, identify the specific problems, root causes, barriers, solutions, and opportunities for reducing sodium consumption to define your advocacy issue.
- Set clear policy objective(s) that are specific, measurable, achievable, relevant, and time bound (SMART). The policy objectives should include the following components:
 - Decision making body with the power to act on the advocacy issue
 - Desired change relative to the advocacy issue
 - Specific policy intervention
 - Desired timeframe for the action to occur

Example: The National Institute for Health Protection in Country "X" will set mandatory salt target for key categories of packaged food to reduce population sodium consumption by 10% (from 10 g/day to 9 g/day) between 2023 and 2025

- Develop a strategic plan that includes the policy objectives, advocacy strategies and tactics, timelines, indicators of success, and resource needs.

Common Advocacy Tactics: policy analysis and research (collection/generation of evidence to inform other tactics), public education, advocacy capacity building, demonstration programs, public awareness campaigns, communications and messaging, media advocacy, coalition building, champion development, and policymaker education.



Policy advocacy and communications

How to implement *cont.*

2 Engage

- Engage a broad, diverse coalition of civil society organizations that agree on a shared policy goal; this coalition should meet regularly to agree on common actions, amplify messages and ensure a coherent call to action.
- Implement a communication plan tailored to the target audiences and disseminate key messages to engage decision-makers, influencers, and champions who will play a critical role in achieving the policy objectives.

3 Monitoring and evaluate

- Track progress towards the policy objectives and ensure that advocacy strategies/tactics are adaptable to contextual changes.
- Document overall achievements and lessons learned to ensure continued momentum around sodium reduction.

Where has this been implemented?

- **Broad coalition building:** In Thailand, a range of stakeholders, including health organizations and academic partners, established the Low Salt Network (LSN) to address high salt intake in 2012. LSN proposed the National Policy for sodium reduction in 2015; a year later, the Ministry of Public Health issued an action plan for sodium reduction. The current policy focus is on developing maximum sodium limits and front-of-package labeling policy; in 2021 the Thai government announced plans to set a tax on four categories of high sodium products.¹
- **Paid media strategy:** South Africa's Healthy Living Alliance, a coalition of civil society organizations that advocates for affordable and nutritious food for all, created a print and television campaign, called "What's in My Food?" in 2019 in support of a proposed front-of-package warning label policy. The campaign highlighted the hidden salt, sugar and saturated fat in common foods and the need for clear information on the front of packaged food to help consumers make healthy and informed food choices.²
- **Direct policymaker engagement:** In 2021, a healthy public food procurement policy was passed in Quezon City, Philippines. The city-level policy was developed in coordination with a non-profit public interest law organization, ImagineLaw. Together, the Quezon City Health Department and ImagineLaw established a diverse working group, conducted environmental assessments to build the evidence base, and regularly engaged city and national policymaking bodies to garner full local government support and to use the model policy as the basis for scaling up nationwide.³

Writing a communications plan

A comprehensive communications plan considers key stakeholders and aligns tactics with each phase of the policy process.

- Identify your target audiences (including decision makers from your advocacy plan, others that may influence them, e.g., the public)
- Develop persuasive messages for each audience
- Identify the best way to reach each audience (e.g., direct outreach, social media, television ads)
- Plan tactics to bring your messages to your audiences. Examples include:
 - Paid media campaigns (often mass media or boosted social media)
 - Media campaigns should be evidence-based and focused on a clear, consistent key message
 - Campaigns can be run in multiple phases to align with key milestones in the policy process
 - Materials may include graphic imagery and explicit warnings related to sodium consumption
 - Messages targeted at specific audiences can be delivered through channels such as radio and newspapers
 - Earned media outreach (coverage by media outlets that is not paid for)
 - Create a strategic plan to generate news coverage about sodium reduction, including developing relationships with journalists, in advance of the policy announcement
 - Conduct outreach and be responsive to inquiries from media sources
 - Offer fact sheets and resources on sodium reduction that are easy for journalists to reference,
 - Consider engaging researchers and other academic partners as spokespeople to disseminate information and serve as a trustworthy source for news outlets
 - Owned media (channels controlled by coalition members to disseminate information, including:)
 - Government or partner websites with resources for journalists and other advocates
 - Newsletters for supporters
 - Social media
 - Virtual and in-person events hosted by government and/or CSOs

RESOURCES

- 1 Thailand plans to implement salt tax to promote healthier living. The Straits Times. <https://www.thestar.com.my/aseanplus/aseanplus-news/2021/12/13/thailand-plans-to-implement-salt-tax-to-promote-healthier-living> Accessed on 8/23/22.
- 2 <https://whatsinourfood.org.za/>
- 3 Policy in Practice: Healthy Public Food Procurement in Quezon City, Philippines. Resolve to Save Lives. https://linkcommunity.org/assets/PDFs/253_cvh_quezon-city-case-study_fact-sheet_0122_rev-a_v6-72.pdf. Accessed on 8/23/22.