



Reducing Cardiovascular Disease Through Salt Reduction

Strategies for Success

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

**Globally, more than a 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 life.¹**

**Salt reduction is possible. This packet describes six strategies
governments can use to reduce salt consumption, including rationale,
how to implement and what resources are needed.**

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Institutional nutrition standards

WHAT IS IT?

Institutional nutrition standards aim to improve the health of food served by organizations to their client populations. This intervention focuses primarily on government standards.

Nutrition standards can be developed for government agencies or private sector organizations. They can include standards for food purchased by the organization, for foods and meals served by the organization and for stores and vending machines on the property.

School nutrition standards are the most common. Standards can also be developed for other sites such as hospitals, child care centers, and worksites.

While nutrition standards include salt reduction, they are usually more holistic. Standards may include:

- Limits on salt, saturated fat, trans fat, sugars and calories
- Minimum servings of fresh fruit and vegetables, whole grains
- Requirements related to pricing, promotion and placement of some foods, such as restrictions on marketing foods high in salt or other unhealthy nutrients
- Guidance on meal service, water availability, and complementary nutrition education

RATIONALE

- Government agencies and other institutions serve food to large numbers of people every day, including vulnerable populations, such as children and hospital patients
- Nutrition standards can reinforce existing government priorities around improving nutrition, create opportunities for healthy food messaging, change norms, and create demand for foods with lower salt
- Children often cannot leave school or childcare centers to purchase other food and the food served is a significant part of their diet (5 – 15 meals per week)

HOW TO IMPLEMENT

1. Determine what agency has the authority to create mandatory institutional nutrition standards at national and local levels
2. Build a coalition across government agencies or ministries, possibly starting with a focus on children to increase political support
3. Conduct an assessment of current food preparation and procurement practices and policies
4. Define and enact policies in collaboration with other government agencies; provide model language and implementation support at the local level
5. Implementation
 - Create materials for food preparers, food service managers, and procurement contract managers
 - Train stakeholders, including policy makers and food vendors
 - Provide dedicated technical assistance and create repository of best practices
 - Encourage education and curriculum advocating for healthier foods and rationale for changes in food service
6. Evaluate implementation through review of procurement contracts, surveys, site visits, and potentially direct assessment of served food (i.e. composite analyses)

WHAT IS NEEDED

- High-level government commitment from multiple agencies and designated staff
- Project coordinator to convene agencies
- Nutritionist to develop and refine standards and to support recipe modification and implementation by government agencies
- Funding for trainings and materials

WHERE HAS THIS BEEN IMPLEMENTED

- The UK, Australia, the U.S., and many large cities have school nutrition standards in place for food both served and purchased (in vending machines and school stores). Despite variations in interventions, a 2014 literature review found that these strategies improved the healthfulness of purchased food.¹⁴
- 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.¹⁵
- Chile has coupled school nutrition standards with front-of-pack labeling so that any foods that have warning labels for salt, sugar or saturated fat cannot be marketed in or near schools or to sell to children under 14.¹¹

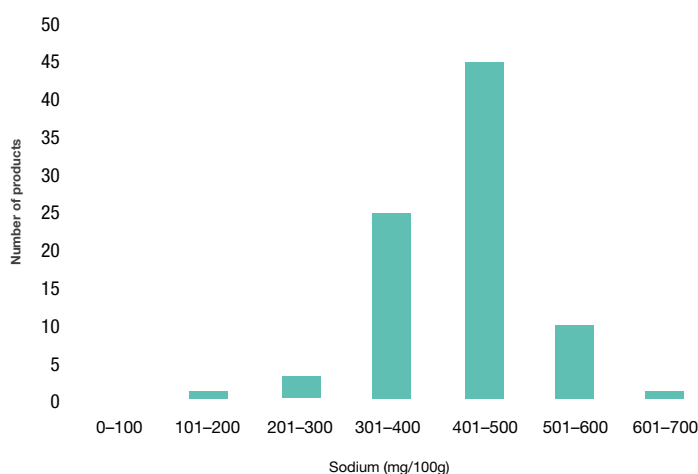


Industry salt reduction targets

WHAT IS IT?

- Targets allow for gradual salt reduction in packaged food products over time, often aiming for an average reduction of ~20 – 25% in salt content over 5 years, to start.
- Salt reduction targets can be mandatory (preferred) or voluntary, and should include public monitoring and a clear plan with interim goals.
- Effective targets are set for specific food categories (e.g. bread) and take into account functional aspects of the salt content of foods and the flavor profile.
- Targets can be a maximum threshold or the average salt content of products in a category, ideally weighted by sales.

SALT CONTENT CAN VARY WIDELY AMONG SIMILAR FOODS



RATIONALE

- In most countries, including low- and middle-income countries, packaged foods account for a large and growing proportion of salt intake
- Among similar foods, there is often wide variation in salt content across products, indicating that salt reduction is feasible without sacrificing consumer acceptance
- Reducing the salt content of packaged food changes the food environment without requiring consumer action, making the healthy choice the default
- It creates choice as consumers are able to add salt back on their own, if desired

HOW TO IMPLEMENT

1. Set Goals and Timeline
 - Assess processed food contribution to salt intake to determine percentage reduction goal
 - Build database of processed foods to understand and monitor food supply
 - Establish monitoring schedule to assess progress
 - Commit to publicly reporting on changes
2. Build Database and Develop Food Categories
 - Use database to define categories, set targets, engage with industry, and monitor progress
 - Organize products in database by food category
 - Comprehensive initiatives (e.g. UK) can include over 60 food categories; however, if there are a few key categories that make up a large proportion of sodium intake, it may be easier to focus on these at the beginning
3. Set and Refine Salt Targets
 - Use targets from other countries as a reference
 - Consider mean and range of salt within category; assess market feasibility
 - Consider product varieties within the category and functional properties of salt
4. Engage Industry
 - Make national commitment to salt reduction
 - Reach out to food associations and processed food companies
 - Use detailed food category analysis to demonstrate opportunities for reduction
 - Create transparent, structured process to engage industry; solicit feedback and commitments
5. Publicly monitor progress to targets
 - Update database in target years
 - Analyze by category and by company
 - Publicly announce progress, including outreach to the media

WHAT IS NEEDED

- Government leadership with commitment to support a monitoring system
- Advocacy and support by civil society, researchers, and scientific associations to encourage industry to participate, ensure support across government, and counter potential backlash from vested interests
- Staff to coordinate the project, build and maintain a database, set targets and lead outreach to industry associations and food manufacturers
- A packaged food database to inform the development of targets and monitor progress
- Technical assistance on the functional roles of sodium in each food category to help set targets and address industry concerns

WHERE HAS THIS BEEN IMPLEMENTED

- The UK government led a successful voluntary program; targets were first set in 2005 and salt intake, as measured by urinary excretion, decreased by approximately 15% over 7 years.⁵ A detailed nutrition database and consistent monitoring were crucial to success.
- Following the UK model, New York City developed voluntary targets as part of the National Salt Reduction Initiative in 2009. As with most voluntary targets, New York involved industry by requesting feedback during the target-setting process and encouraging industry commitments. Progress and industry commitments were monitored and publicly reported, with a clear framework for making decisions if targets were not met by the end date. In New York, reductions in the sales-weighted mean salt density of 7% were reported in packaged food over 5 years.⁶
- Argentina, Belgium, Bulgaria, Greece, Hungary, Mauritius, Netherlands, Paraguay, Portugal, Slovak Republic and South Africa have all set mandatory maximum levels of salt in at least one food category, often bread.⁷ Argentina's and South Africa's regulations are the most extensive, with 18 and 13 categories, respectively.
- Argentina's approach includes both mandatory targets for packaged food and voluntary targets for local producers, such as small bakeries. Most packaged foods met the mandatory salt targets and there was a reduction of 18% in the salt content of bread between 2009 and 2010.⁸ Penalties were established for companies if mandatory requirements were not met.
- In Kuwait, the largest manufacturer of bread, responsible for 80% of the market, reduced the salt content of bread by 20%.⁹

Promotion of low-sodium salt

WHAT IS IT?

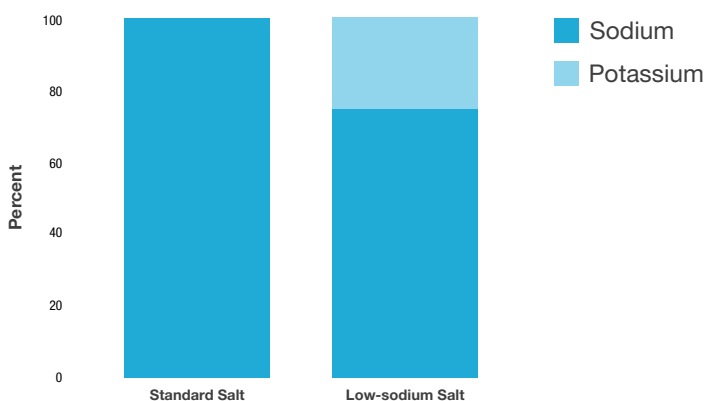
Low-sodium salts are salts in which up to 25% of the sodium chloride (the harmful ingredient in salt) has been replaced with potassium chloride. A similar approach can be applied to condiments such as soy and fish sauce.

Promotion of low-sodium salt may be done as part of a general campaign for salt reduction.

Ideas for promotion include:

- Advertisements paid for by companies that make low-sodium salt
- Public health campaigns around low-sodium salt, including traditional media, social media and community mobilization
- Product placement and promotion in stores
- Subsidies to equalize price between low-sodium salt and standard salt

DIFFERENCE IN COMPOSITION BETWEEN REGULAR SALT AND LOW-SODIUM SALT



RATIONALE

- In many countries, most salt in the diet is added during cooking or at the table
- Initiating and maintaining long-term behavior change related to food is difficult, so making changes to foods before consumers purchase them provides the most sustainable way to reduce salt consumption
- In addition to decreasing sodium intake, using low-sodium salt increases potassium intake, which reduces blood pressure and helps prevent CVD²
- Low-sodium salts can be used by restaurants and packaged food companies, in addition to home cooks
- While there is some risk to people with advanced kidney disease, the benefits far outweigh the risk and can be mitigated through provider and consumer education³

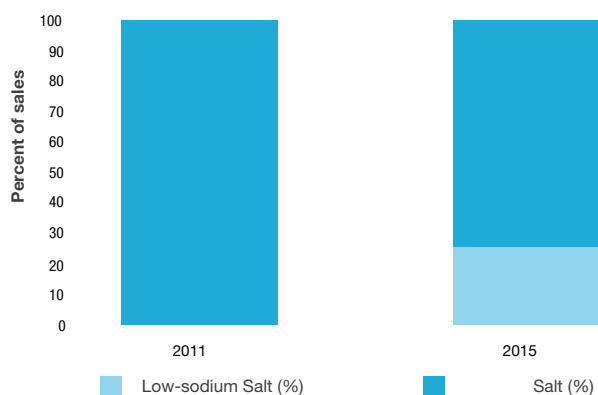
HOW TO IMPLEMENT

1. Assess current landscape:
 - Determine availability of low-sodium salts; major companies and brands
 - Estimate market share of low-sodium salts compared to overall salt market, using industry data
 - Assess consumer knowledge, attitudes and behavior toward salt and low-sodium salt and their impact on health
 - Evaluate provider knowledge, attitudes and behavior toward salt and low-sodium salt
2. Consider complementary media campaign, including social media strategies and a strategy to ensure media coverage
3. Engage advocates, scientists, physicians and other civil society leaders to make the case to government and the public
4. Choose method(s) with large scale, sustainable impact:
 - Encourage or require industry action: promote low-sodium salts
 - + Work with grocery store associations and/or regulators to ensure prominent placement of low-sodium salts and an adequate supply
 - Subsidize low-sodium salt
 - + Determine level of subsidy needed to increase purchase of low-sodium salt
 - + Conduct economic analysis including costs and benefits of low-sodium salt subsidies
5. Monitor change in low-sodium salt purchases over time using industry and other data

WHAT IS NEEDED

- Government leadership with commitment to convene industry, medical community leaders, and others to encourage promotion of low-sodium salt
- Industry engagement
- Communications materials to share with press, on a website, and on social media
- Staff to conduct initial assessments and monitor progress
- Funds for a subsidy
- Funds for development, placement, and evaluation of media campaigns

SALES OF LOW-SODIUM SALTS INCREASED DURING THE SHANDONG PROVINCE'S SMASH INITIATIVE (SOURCE: UNPUBLISHED DATA)



WHERE HAS THIS BEEN IMPLEMENTED

- Trials have mainly been conducted in China, one in the Netherlands; one community trial used both promotion and subsidization of salt substitutes.³
- As part of the SMASH project in China's Shandong province, the salt industry promoted the use of low sodium salt and use increased from <1% of salt purchased to ~25% over 5 years (unpublished data)
- In 2010, the Beijing government strengthened the supply chain for low-sodium salt and subsidized its use by adding an extra 75g for free to 400g packages available in many grocery stores.⁴

Front-of-pack labels for packaged food

WHAT IS IT?

Prominent labels on the front of packaged food containers that use a simple graphic to indicate if an item meets certain nutrition standards.

There are multiple types, but interpretive labels that clearly warn consumers of items that are high in sugar, salt and saturated fat are most effective in guiding consumers to healthier items.⁴

FRONT OF PACK WARNING LABELS IN CHILE



Chile has been a pioneer in implementing front-of-pack warning labels for packaged food, requiring black octagonal warning levels on packaged foods that exceed the limit of sugar, salt, saturated fat or calories. Products with labels cannot be purchased by schools or marketed to children, and stronger limits were phased in over a 3 year period. The road to implementation was not easy, however, due to major opposition from industry. Though first proposed in 2007, legislation was not passed until 2012. Even then, challenges from industry delayed implementation until 2016. Preliminary results indicate that labels have resulted in reformulations of products by manufacturers.⁵

RATIONALE

- Clearly highlights products with high levels of unhealthy ingredients. These labels are easily understandable and impossible to miss
- Drives product reformulation as companies do not want products to be clearly labeled as unhealthy
- Can link to government nutrition standards and rules for marketing to children. Products with warning labels cannot be marketed or purchased for/by institutions
- Nutrient content information on the back of products is hard for most consumers to interpret

HOW TO IMPLEMENT

1. Determine best interpretative front-of- pack label
 - Consider best practice examples
 - Test labels with consumers to ensure they are effective and understandable
 - If regulatory process will be slow, consider starting with voluntary labeling scheme
2. Determine nutrient standard to use as the basis for the labeling. There are existing standards that can be used as a reference
3. Conduct media campaign to inform consumers
4. Draft regulations to include front-of- pack labeling as part of mandatory nutrition labeling
5. Implement comprehensive labeling policies; integrate with government nutrition standards to support products that meet highest standards
6. Monitor and evaluate policy; develop transparent process for publicly reporting on compliance with labeling, and consumer acceptance and use

WHAT IS NEEDED

- Strong government leadership from high level officials
- Advocacy and support by civil society, researchers, and scientific associations to counter industry opposition
- Coordination among government agencies to integrate labeling into government procurement and policy setting
- Staff to convene scientific researchers, nutritionists, communications experts and other public officials to set the standards for the warning labels and graphic designer to design the labels/logos
- Support to monitor implementation and determine impact of labeling

WHERE HAS THIS BEEN IMPLEMENTED

- Chile's mandatory front of pack labeling program requires packaged foods to use black octagons on the front of packaged foods if they are high in salt, sugar, saturated fat or calories. Chile's policy is linked to its school food standards, preventing school from buying items with one or more warning labels.¹¹
- Finland implemented a mandatory "high salt" warning label in 1993 for select food categories; as a result of multiple interventions on salt, there was an observed reduction of about 15% in average salt intake between 1979 and 2007.⁸



Reduce salt in foods prepared outside the home

WHAT IS IT?

Food prepared outside the home can come from restaurants, street vendors, and institutions, such as schools, hospitals, and workplaces (see information on institutional food standards).

Innovative interventions to lower salt in restaurant food have been developed for chain restaurants, independent restaurants, and institutions, but there is limited research assessing impact and few interventions in the informal food sector.

To date, existing models for restaurants each address a small fraction of the salt in restaurant foods and may need to be combined to see significant impact.

Countries are encouraged to develop innovative restaurant interventions for their regional context, with a strong evaluation design so that promising initiatives can be shared and replicated.

Potential interventions include:

Support reducing salt in restaurant food, prior to serving:

- Set standards for common ingredients and encourage restaurants, wholesalers, and packaged food companies to meet standards; use food safety infrastructure and industry associations to promote/enforce standards
- Support access to a nutritionist or chef who can help reformulate key menu items
- Encourage use of low-sodium salt (see information on low-sodium salt)

Provide consumer information (chain restaurants):

- Require access to nutrition information at the point of sale, including salt content per meal (useful for consumers and policy makers)
- Require warning labels for menu items with high salt content

Develop policies that affect the restaurant environment


- Prohibit high-salt condiments to be placed on restaurant tables; patrons must request them

RATIONALE

- In many countries, food prepared outside the home is a significant, and growing, contributor to salt intake
- Consumers do not know or have control over the amount of salt that is in the foods they eat at restaurants
- These foods are often saltier than foods cooked at home
- Reducing the salt content of menu items can be part of a broader strategy to improve the quality of foods available in the restaurant environment, supporting multiple health goals



New York City's sodium warning icon.

Warning:  indicates that the sodium (salt) content of this item is higher than the total daily recommended limit (2,300 mg). High sodium intake can increase blood pressure and risk of heart disease and stroke.

New York City's sodium warning statement.



HOW TO IMPLEMENT

1. Conduct a preliminary assessment of the food environment outside of the home: how each sector contributes to salt intake (e.g. chain restaurants, independent restaurants, etc.) and the availability of salt content information for menu items and/or ingredients
2. Consider salt reduction in the context of broader plans to improve diet quality; interventions in the restaurant environment can be designed to meet multiple health goals
3. Consider multiple approaches to address different environments, such as chain restaurants, independent restaurants, the informal food sector, and institutions.
4. Determine policy approaches available at national and local levels; consider expansion of the food safety regulatory structure to monitor/implement salt reduction interventions
5. Develop and pilot proposed policy and pre- and post-evaluation before scaling up; if effective, consider providing model legislative language for local level implementation
6. Leverage the restaurant inspection and food safety systems to deliver salt reduction messages and trainings to restaurants and to monitor salt reduction interventions
7. Support evaluations to assess changes in food composition and menu choice

WHAT IS NEEDED

- Political commitment to support multiple interventions in the away-from-home food environment, complementing other salt reduction strategies and broader health goals
- Staff to consider and design policy approaches; legal counsel may be needed to assess feasibility
- Funding to support rigorous evaluations
- Food safety staff that can strongly support policy implementation and ongoing monitoring

WHERE HAS THIS BEEN IMPLEMENTED

- There are a few successful, large-scale interventions to make the salt content of menu items more visible to consumers in chain restaurants:
 - As of 2018, the U.S. requires that nutrition information, including salt content, be available to all customers at all chain restaurants, defined as restaurants with 20 or more locations nationwide.¹²
 - As of 2016, New York City requires that restaurants with 15 or more locations nationwide post high salt warning labels next to menu items that contain more than 2,300mg and include a warning statement on all menus, which includes: "High sodium intake can increase blood pressure and risk of heart disease and stroke".¹³

Behavior change communication to reduce salt use

WHAT IS IT?

Behavior change communication educates the public in order to both motivate them and empower them to achieve a specific objective, such as reducing salt consumption.

Includes both health education and media campaigns (mass media or social media).

One approach that has been successful is the “communication for behavior change” or COMBI method. These campaigns can help change cultural norms and increase demand for healthier products by communicating a clear, simple message across multiple channels over time.⁴

Components include:

- Administrative mobilization and public advocacy
- Community mobilization
- Advertising (TV, radio, billboards, social media)
- Interpersonal communication
- Point-of-service promotion⁷

RATIONALE

- Increasing consumer knowledge and motivation to reduce sodium is one of the only interventions available when the main source of salt is salt added in the home, as in many low- and middle-income countries
- Campaign supports other interventions by increasing demand for lower sodium products, educates the population about changes in institutions, and provides broader support for environmental changes related to reducing sodium consumption
- Graphic ads with explicit warnings for other risk factors, such as smoking, have been shown to change knowledge, attitudes and behaviors in both high and low-income countries^{8, 9}

HOW TO IMPLEMENT

1. Identify main source of salt in the diet (added at home, processed foods, restaurant foods)
2. Develop behavioral objectives(e.g. use low salt condiments; choose lower sodium packaged foods)
3. Conduct research with target audience (e.g. food preparers; grocery purchasers), including focus groups and message testing
4. Develop education and communications strategies
5. Test and refine messages
6. Implement campaign and monitor impact¹⁰

WHAT IS NEEDED

- Government leadership to ensure coordination of messages across channels and agencies
- Integrated strategy to address food industry, institutions, and consumers through multiple avenues using messaging that addresses main source of sodium in the diet
- Political commitment to fully integrate the campaign with other components, such as promotion of low-sodium salts, implementation of nutrition standards, and monitoring of salt intake
- Support for rigorous pre- and post-evaluation to assess change in knowledge, attitudes and behavior related to salt, along with change in sodium intake; gold standard is 24-hour urine collection pre- and post-intervention
- Funding to develop and message test materials and mass media placement

WHERE HAS THIS BEEN IMPLEMENTED

- In Vietnam, an integrated Eat Less Salt communication program was put in place in Viet Tri province that, over a year, used mass media communication, school-based interventions, community-based communication programs and communication targeted at people with hypertension. In Vietnam 70-80% of sodium intake is from salty condiments added during cooking or at the table, and the program aimed primarily to reduce salt from these sources. Sodium intake was reduced by 5%, and overall knowledge about the link between sodium consumption and health risks increased.²⁰
- In Australia, the majority of sodium intake is from processed foods. Over 18 months, a multi-pronged communication plan was put in place to reduce sodium intake both from packaged foods using an app and in the home by using low-sodium salts. After 3 years, measured sodium intake was reduced from 8.8g per day to 8g per day (10% reduction).¹

