



World Health
Organization

Shake
the
habit

SHAKE

Policy Package for Salt Reduction

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SHAKE
THE SALT HABIT

FOREWORD

Raised blood pressure is the leading risk factor for the global disease burden and is estimated to cause 9.4 million deaths every year – more than half the estimated 17 million deaths cause by cardiovascular diseases annually. High consumption of sodium leads to increases in blood pressure among those with normal blood pressure as well as those with already raised blood pressure. High sodium consumption (>2 grams/day, equivalent to 5g salt/day) contributes to high blood pressure and increases the risk of heart disease and stroke.

Sodium is mainly consumed as salt which in the diet can come from processed foods, either because they contain large amounts of salt (such as ready meals, processed meats like bacon, ham and salami, cheese, salty snack foods and instant noodles, among others) or because they are consumed frequently in large amounts (such as bread and processed cereal products). Salt is also added to food during cooking (bouillon and stock cubes) or at the table (soy sauce, fish sauce and table salt). Dietary patterns are being transformed by the increasing production of more and more processed food, rapid urbanization and changing lifestyles. Highly processed foods are becoming increasingly available and affordable.

In 2013, the World Health Assembly endorsed the Global Action Plan for the Prevention and Control of NCDs 2013-20. The Global Action provides Member States, international partners and WHO with a road map and menu of policy options which, when implemented collectively between 2013 and 2020, will contribute to progress on nine global NCD targets to be attained in 2025. One of the targets agreed to by Member States is a 30% relative reduction in mean population intake of salt/sodium by 2025. It is essential that this target is met in order to meet the overall goal of a 25% reduction in premature mortality from NCDs.

Salt reduction is one of the most cost-effective interventions for reducing the burden of NCDs as a large number of deaths and stroke incidences can be averted at a relatively low cost. Worldwide, the average daily salt intake is twice the WHO recommended maximum value and it is estimated that by reducing salt intake by 30%, 815,000 premature deaths will be averted with an estimated return of \$39 for every dollar spent. WHO has taken a lead role in promoting salt reduction as a means to reduce the burden of NCDs.

The **SHAKE** package has been designed to assist Member States with the development, implementation and monitoring of salt reductions strategies to enable them to achieve a reduction in population salt intake. It outlines the policies and interventions which have proven to be effective in reducing population salt intake, evidence on the efficacy of the recommended interventions and a toolkit containing resources to assist Member States to implement the interventions. WHO look forward to continuing to working with Member States to reduce population salt intake and combat the burden of NCDs.

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ABBREVIATIONS

CVD	Cardiovascular disease
COMBI	Communication for Behavioural Impact
DHS	Demographic Health Survey
FoP	Front-of-Pack
MoH	Ministry of Health
NCD	Non-communicable disease
NGO	Nongovernmental organizations
STEPS	STEPwise approach to Surveillance
UN	United Nations
USAID	United States Agency for International Development
WHO World Health Organization	World Health Organization

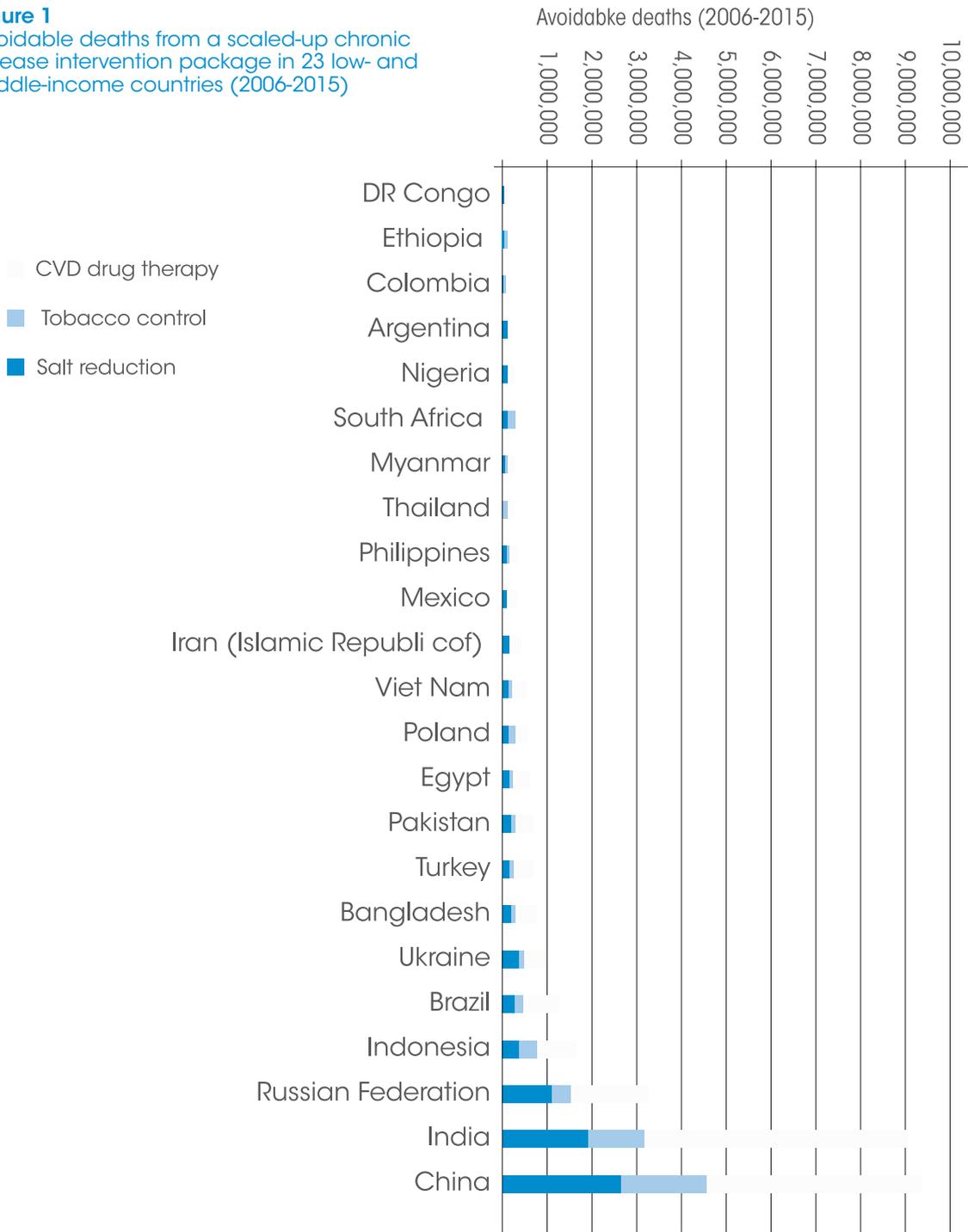
THE SHAKE PACKAGE FOR SALT REDUCTION

Excessive salt consumption may seem harmless, but it is linked to a number of health risks which cause millions of premature deaths annually. The most common of these is high blood pressure, which alone accounts for an estimated 9.4 million deaths each year¹. People worldwide consume significantly more salt than they should. Controlling the threat salt poses to public health is a challenge facing developed and developing countries alike.

The easiest and most cost-effective way of addressing this is simple: reduce the amount of salt people eat. Lowering salt consumption is a practical action which can save lives, prevent related diseases and reduce health care costs for governments and individuals^{2, 3, 4}. The overall goal of the global salt reduction push is a 30% relative reduction in average population salt intake towards the WHO recommended level which is less than 5g per day for adults. This is the only nutrition-specific target and a core component of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-20, which aims to achieve a 25% reduction in premature mortality from avoidable non-communicable diseases by 2025.

The number of countries that are taking action on salt reduction is increasing, but further action is critical to reduce the health consequences of eating too much salt, particularly in low- and middle-income countries where the risk of death from high blood pressure is more than double that of high-income countries⁵. *Figure 1* shows just how many deaths could potentially be averted by scaling up national action to reduce salt intake⁶.

Figure 1
 Avoidable deaths from a scaled-up chronic disease intervention package in 23 low- and middle-income countries (2006-2015)



Source: Scaling up action against noncommunicable diseases: *How much will it cost?* - Prepared by the World Health Organization (2011)

The role of the World Health Organization is to bridge the gap between evidence and policy action, helping countries to understand not only what works, but also how to do it. As part of its mandate and in response to this need, WHO has created the **SHAKE** package.

The **SHAKE** package is a set of common sense, evidence-informed policy options and interventions which support governments to lower population salt consumption. They have been chosen because there is evidence that they work as a complete package, are inexpensive as a public health investment, and because WHO has experience in helping countries implement them to the highest standards. **SHAKE** also provides tools to help countries integrate salt reduction programs with iodine deficiency elimination programs, ensuring that the goals of both initiatives can be achieved.

If the **SHAKE** package were successfully implemented in every country as a comprehensive package, it would save an estimated 2.5 million lives per year and dramatically reduce the burden of noncommunicable diseases (NCDs) on health systems⁷. Few countries are fully embracing all of these policies and many have not acted at all to reduce population salt consumption. It is hoped that with this policy guidance and accompanying practical resources, governments will possess the tools to start reducing the amount of salt consumed by their citizens, and prevent at least some of the millions of premature deaths occurring each year because of too much salt. Well implemented tobacco control programs continue to be one of the most effective and cost-effective ways of reducing the burden of NCDs. However, if salt reduction programs were to be similarly successful, millions of lives deaths could be avoided with minimal resources (*figure 2*)⁸.

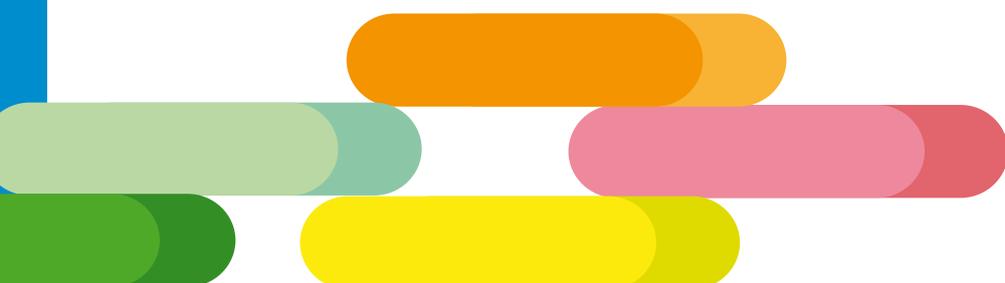
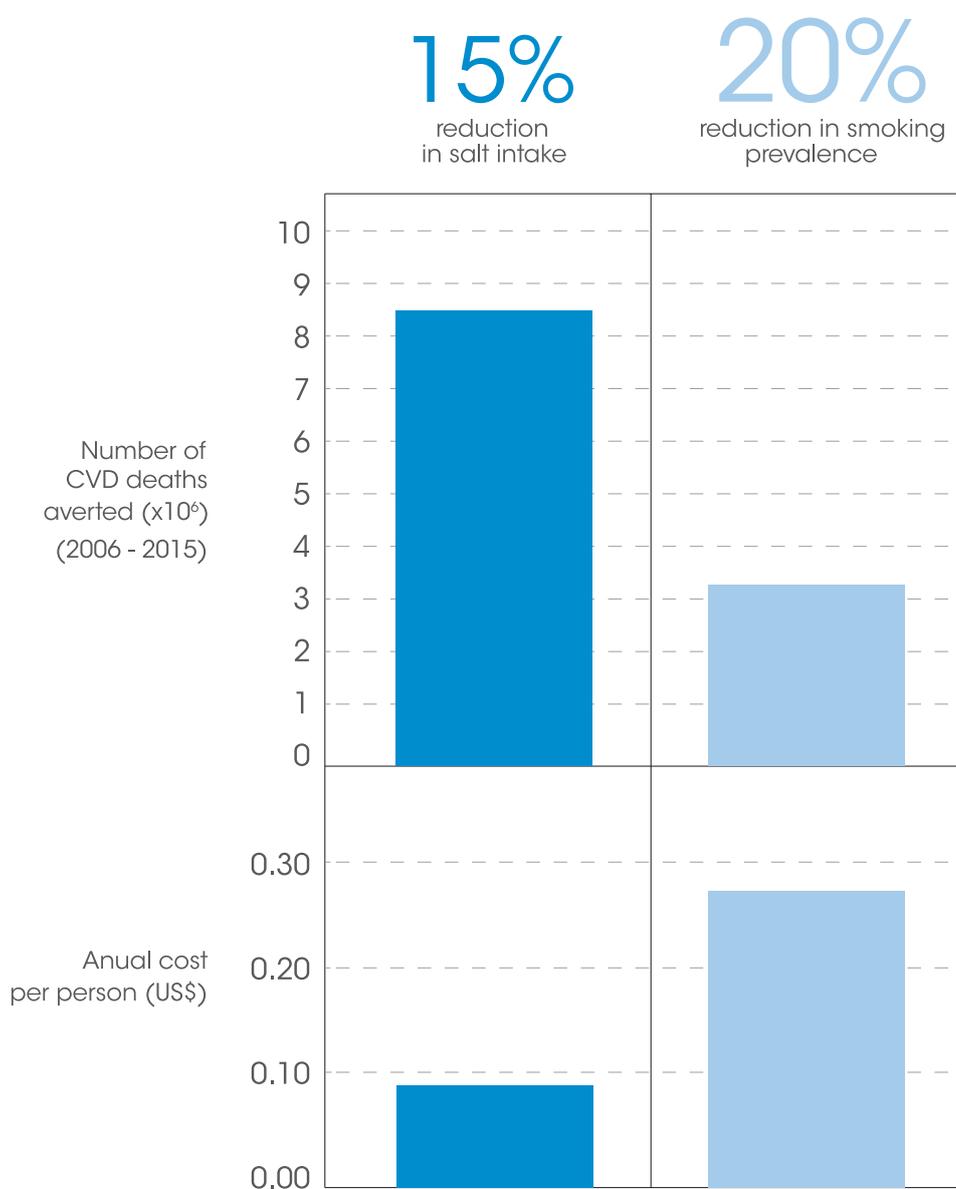


Figure 2
Potential impact on CVD & estimated cost associated with
implementation in 23 low- and middle-income countries



THE **SHAKE** VISION FOR SALT REDUCTION “SHAKE THE SALT HABIT”

The **SHAKE** package envisions a world where average salt intake is ultimately reduced to less than 5 grams per day for adults and less for children. If this is to be achieved, it will result in major benefits to public health and the sustainability of health systems that are struggling to deal with the burden of NCD.

Country experiences have shown us that this is possible. The **SHAKE** package outlines the policies and interventions that must be implemented so that populations can consume less salt as part of a healthier diet. This package is accompanied by a set of tools, resources and case studies which can be used to guide the design, implementation, monitoring and evaluation of national salt reduction programs.

The **SHAKE** package also contains a general framework for the overarching elements needed to create a successful salt reduction strategy: political commitment, program leadership, partnerships and advocacy. It looks at the role of each of these as part of a successful national salt reduction strategy within the five main activity areas of **SHAKE**:

A large, stylized letter 'S' in a pink-to-purple gradient.

I. SURVEILLANCE
MEASURE AND MONITOR SALT USE

A large, stylized letter 'H' in an orange-to-yellow gradient.

II. HARNESS INDUSTRY
PROMOTE THE REFORMULATION OF FOOD TO
CONTAIN LESS SALT

A large, stylized letter 'A' in a yellow-to-green gradient.

**III. ADOPT STANDARDS FOR LABELING
AND MARKETING:**
IMPLEMENT STANDARDS FOR EFFECTIVE AND
ACCURATE LABELING AND MARKETING OF FOOD

A large, stylized letter 'K' in a light green-to-teal gradient.

IV. KNOWLEDGE
EDUCATE AND COMMUNICATE TO EMPOWER
INDIVIDUALS TO EAT LESS SALT

A large, stylized letter 'E' in a dark green gradient.

V. ENVIRONMENT
SUPPORT SETTINGS TO PROMOTE HEALTHY EATING

SUMMARY

Table 1 presents a summary of the policies and interventions of the **SHAKE** package. The policies are complementary and synergistic. For example, adopting front-of-pack labeling may encourage the industry to reformulate food products to contain less salt. Public education and more awareness of the health risks associated with high salt intake may help consumers to read and understand nutrient labeling. Monitoring is critical to gain support for salt reduction, maintain pressure on the food industry and evaluate the results of interventions.

Table 1: SHAKE Policies and Interventions

SURVEILLANCE MEASURE AND MONITOR SALT USE

- Intervention 1** Measure and monitor population salt consumption patterns
- Intervention 2** Measure and monitor the sodium content food
- Intervention 3** Monitor and evaluate the impact of the salt reduction programme

HARNESS INDUSTRY PROMOTE THE REFORMULATION OF FOOD TO CONTAIN LESS SALT

- Intervention 4** Set target levels for the amount of salt in and implement strategies to promote reformulation

ADOPT STANDARDS FOR LABELING AND MARKETING: IMPLEMENT STANDARDS FOR EFFECTIVE AND ACCURATE LABELING AND MARKETING OF FOOD

- Intervention 5** Adopt interpretive front-of-pack nutrient labelling systems
- Intervention 6** Implement strategies to combat the misleading marketing of foods that are high in salt

KNOWLEDGE EDUCATE AND COMMUNICATE TO EMPOWER INDIVIDUALS TO EAT LESS SALT

- Intervention 7** Implement integrated education and communication strategies to raise awareness about the health risks and dietary sources of salt and ultimately change behaviour

V. ENVIRONMENT SUPPORT SETTINGS TO PROMOTE HEALTHY EATING

- Intervention 8** Implement multicomponent salt reduction strategies in community settings including schools, workplaces and hospitals

A comprehensive salt reduction toolkit has been developed based on country experiences from around the world. The toolkit can be accessed at [website address] and provides tools, resources and case studies to assist with implementation of the key interventions.

THE SHAKE PACKAGE

The following policies and interventions have been demonstrated to be an important part of national salt reduction programs in countries around the world. They should be implemented as a package as it appears they work most effectively to reduce salt consumption when used in conjunction with each other.

I. SURVEILLANCE MEASURE AND MONITOR SALT USE



Objective: Establish an effective surveillance system to measure, monitor and evaluate population salt consumption patterns and the major sources of salt in the diet

Many countries lack data on a number of key areas of salt consumption, such as national salt intake levels, dietary patterns and the amount of salt in local food products⁹. This data is essential to be able to plan a program which will target the area of greatest weakness in a country and where the impact of a national salt reduction program would be greatest from a health and investment point of view.

INTERVENTION 1: MEASURE AND MONITOR POPULATION SALT CONSUMPTION PATTERNS

An important step in the development and implementation of a salt reduction strategy is to collect information on population salt consumption patterns which includes three components: population salt intake; community knowledge, attitudes and behaviours related to salt use and; the sources of salt in the diet. All of this information can be gathered in the same population survey. A new stand-alone survey can be set up for this purpose or these components can be integrated into a planned survey such as the WHO NCD STEPwise approach to surveillance¹⁰ or the USAID Demographic and Health Survey (DHS).¹¹ Some countries may already have data from previous surveys that can be used to advocate for salt reduction.

Population salt intake

It is important to know what the average baseline population salt intake is in comparison with the recommended WHO intake of less than 5g per person, per day. This will be useful to convince stakeholders why salt reduction is important and will allow evaluation of the overall salt reduction strategy by repeating the population survey using exactly the same methods each time.

While data on population salt intake is important, it should be emphasized that almost all countries are consuming well over the recommended limit and they should not wait for this data to be available before taking action to reduce population salt intake.

Mean population salt intake can be estimated through 24-hour urinary measurement or spot urine measurements. 24 hour urinary measurement is currently the most accurate method for analysis of population salt intake, and this is recommended if countries have the resources and capacity to do the collection well. Where this is not the case, spot urine measurements can be used as there is some evidence that suggests they can provide a reasonable estimate of mean population salt intake.

Community, knowledge, attitudes and behaviors related to salt

Information on the population's knowledge, attitudes and behaviours related to salt can help establish the extent to which consumers believe salt is a problem. It can also reveal where salt is likely to be coming from in their diet, how they make decisions to purchase particular food items, and how they use salt as a condiment when cooking or eating. This is mainly done through a questionnaire or focus group discussion as part of the population survey.

Sources of salt in the diet

There are a number of dietary methods which can be used to identify the main sources of salt in the diet. Of the dietary methods, multiple 24-hour dietary recalls are preferred as there is evidence that they can accurately assess food consumption patterns. Assessing these early on is important as it will identify key focus areas and stakeholders whose involvement will be critical to ensuring a strategy's success. For example, if the salt being consumed by the population is mostly from bread, then engagement with that industry and reformulation is essential. On the other hand, if the main source of sodium is from salt added during cooking and/or at the table, then it is population behaviour change which should be the main priority.

Any differences between the salt consumption patterns of different population groups will help inform the design of the salt reduction program to target the areas of greatest potential impact.

KEY ACTIONS

IDENTIFY
EXISTING
NATIONAL
DATA ON SALT
CONSUMPTION

DESIGN AND
PLAN SURVEY
IMPLEMENTATION

COLLECT
DATA USING
QUESTIONNAIRES,
URINE
MEASUREMENTS
AND FOCUS
GROUPS

USE DATA TO
INFORM AND
EVALUATE THE
SALT REDUCTION
PROGRAMME

INTERVENTION 2: MEASURE AND MONITOR THE SODIUM CONTENT OF FOOD PRODUCTS

Reducing the sodium levels in foods will be a core component of any salt reduction programme in most countries. It is therefore essential to periodically collect information on the sodium content of foods to track the changes.

There are two main methods countries can use to monitor the sodium content of the food supply. These are:

- Shop and restaurant surveys of declared salt levels in products;
- Direct chemical analysis of foods.

The shop and restaurants surveys are usually carried out by health agencies through inspection of food product labels. Direct chemical analysis of foods can be done by health agencies, but it can also be carried out by the food industry who will then supply results as required by voluntary commitments or regulations. The average levels of salt in the food supply should be measured on a yearly basis and also when new products come on to the market.

Publication and dissemination of the data is important. By publishing baseline levels of sodium in foods and providing regular updates, any changes to the sodium content of foods can be tracked and this information used to encourage the food industry to reformulate and add less salt to foods. This strategy was successfully used in the UK and, as part of a broader program, led to a 55% reduction in the sodium content of some food products . Information on the sodium content of foods can also be used to provide consumers with advice about which products to choose when purchasing food in stores and restaurants.

KEY ACTIONS



Case study: Using data from a baseline survey of population salt consumption patterns to develop a national salt reduction strategy, Mongolia¹³

In 2011 the Mongolian Ministry of Health embarked upon a new initiative to develop a national salt reduction strategy for Mongolia. The first steps were to establish an inter-sectoral working party and organize a series of bilateral meetings and visits to factories as part of a 2-week consultation and training program on salt reduction. An action plan to establish a national baseline on salt consumption patterns and implement a series of pilot initiatives to reduce salt intake was developed. The results of these initiatives were used to inform the national strategy.

Baseline data on salt intake were obtained through a cross-sectional, nationally representative survey on a random sample of 1,040 residents (25-64 years). Data was collected using a questionnaire on demographic and health status and knowledge, attitudes and behaviours related to salt. Participants were asked to recall their dietary intake over the previous 24 hours and provide a single 24-hour urine sample. The dietary recall data was analysed using FoodWorks adapted with Mongolian food composition data from existing tables and product surveys. This information was then used to assess the contribution of different foods to salt in the diet.

Salt intake: Average salt intake was estimated at 11.06 g per day, more than double the WHO recommendations, and the majority (89.2%) of the population consumed over 5 g per day.

Knowledge, attitudes and behaviours: Most people (87.5%) understood the adverse effects of salt on health but almost half reported regularly consuming salty tea and high salt meals. However, about one third were not making any efforts to reduce their consumption of salt, with one fifth unable to correctly name food products high in salt.

Main sources of salt in the diet: The dietary survey identified salted tea, sausage, smoked meat products, pickled vegetables and chips as some of the main sources of salt in the diet.

Pilot initiatives: The pilot initiatives included a Pinch Salt factory intervention and salt reduction in bread. The factory intervention involved reducing salt in factory meals alongside education of factory workers about how to reduce salt consumption. Pre- and post-intervention monitoring was undertaken to determine salt intake using 24-hour urine samples and a questionnaire. Changes in the sodium content of food and meals was measured through laboratory analysis. Both interventions were successful: the salt intake of factory workers was reduced by 2.8g with parallel improvements in consumer awareness, and the salt content of bread in 10 bakeries declined by 1.6% on average.

The effective monitoring of these pilot salt reduction activities demonstrated the potential for salt reduction action in Mongolia and the need to scale-up activities to a national level and were used alongside the results of the baseline surveys and the stakeholder consultation to inform the National Salt Reduction Strategy 2015-2025 which was endorsed by the government in November 2015.

INTERVENTION 3: MONITOR AND EVALUATE THE IMPACT OF THE SALT REDUCTION PROGRAM

It is important that early in the process of developing a salt reduction strategy a program monitoring and evaluation plan is formulated which includes a series of objectives to be achieved with defined indicators and agreed timeframes. In addition to the outcome data collected from interventions 1 and 2, each of the different components of **SHAKE** should have a series of measures attached that enable not just the assessment of the final outcome but also interim monitoring of progress towards the final outcome. The reason for this is that the final outcome of an intervention such as food reformulation (ie lower salt foods) may have a timeframe of three or four years for completion. To ensure that this target is on track to be met, a series of process indicators such as the number of companies participating, the number of meetings held and the commitments made should be recorded regularly and reported publicly. This will enable early detection of problems and allow timely solutions to be found. Process indicators should be assessed every 6-12 months but different measures will vary depending on the measures used and the resources available. Process measures might include:

- Governance indicators: membership of leadership groups and numbers of meetings held.
- Engagement measures: number of food industry members engaged and numbers of reformulation targets set.
- Community outreach: numbers and reach of media interventions, public meetings and community education interventions.

The monitoring process should be done against a set of pre-specified milestones that have been clearly defined and placed in the public domain so that a transparent and objective evaluation can be made at each pre-specified time point. Likewise, commitment to complete and public reporting of the monitoring outcomes is useful so that stakeholders have a clear understanding of what is expected of them and how this compares to what is being achieved. Third parties can then examine the programme and it is anticipated that objectivity and transparency in reporting will encourage stakeholders to deliver on their commitments

and enable issue to be rectified early during the implementation process.

Once a program has started it is possible to collect data about different areas aside from health impact, such as cost-effectiveness. Cost-effectiveness allows the salt reduction programme to be compared directly against other interventions, meaning over time it will become possible to empirically demonstrate the investment case for salt reduction program against other national initiatives.

Monitoring must also consider the common goal of salt reduction and iodine deficiency programs, which is to reduce salt intake while achieving optimal population intake of iodine. Iodine deficiency programs rely on salt fortification as a carrier of iodine so steps need to be taken to synergize programmes and ensure that reduced salt levels do not adversely impact iodine intake. One mechanism of addressing this is by increasing the amount of iodine added to the salt so that iodine intake remains the same even as salt intake decreases.

Case Study: Monitoring and evaluating the actual impact and results of the United Kingdom salt reduction program¹⁴

A major component of the successful UK salt reduction strategy involved working with industry to promote reformulation of food products to contain less salt. This involved working with all sectors of the food industry including manufacturers, retailers, trade associations, caterers and suppliers to the catering industry. The following actions were taken:

- All stakeholders and industry representatives were engaged in a meeting to demonstrate how the reductions in salt levels of foods could help achieve a reduction in population salt intake.
- Industry was called upon to provide action plans outlining how they would reduce salt in their foods.
- Proposed targets for salt levels were set for about 80 categories of food products and released for public consultation.
- Targets were revised and reset every 2 years. Targets were challenging for the food industry to meet but also offered good progress towards meeting the population salt intake goals.
- Regular follow-up meetings with a range of key organizations in each sector of the food industry.
- Established effective one-to-one working relationships with food industry representatives. Strategies and targets were tailored to the needs of different sectors through negotiation of measurable commitments to salt reduction.

Levels of salt in foods have been reduced in some products by up to 55%, with significant reductions in those food categories contributing most salt to the diet. Since 2004, average population salt intake has decreased from 9.5g per day to around 8.1g per day which is estimated to prevent more than 9000 premature deaths and save £1.5 billion every year in health care and other costs, which is around 300 times more than the cost of running the salt reduction programme.

KEY ACTIONS



II. HARNESS INDUSTRY PROMOTE REFORMULATION OF FOOD TO CONTAIN LESS SALT

Objective: Reduced salt content across the food supply

In most developed and an increasing number of developing countries, the majority (70-80%) of dietary salt consumed by the population comes from processed or restaurant foods. Promoting reformulation of foods to contain less salt is therefore essential to reduce population salt intake, and should be one of the first actions considered.

The food industry should be encouraged to reduce salt in foods as much as possible while at the same time ensuring that, where appropriate, salt added to foods is iodized. All Member States of the United Nations, through the Political Declaration on the Prevention and Control of Noncommunicable diseases, have recognised the importance of reformulating food products so that they are consistent with a healthy diet so it is important that immediate action is taken (figure 3)¹⁵.

Salt is added to processed foods and meals for a variety of reasons but primarily because it is a cheap way of adding flavor to otherwise bland foods. When high salt foods are consistently consumed, the salt taste receptors are suppressed which creates the habit of eating highly salted foods and leads to greater consumer demand.

Figure 3
United Nations. Political Declaration on the Prevention and Control of Non-communicable Diseases



“(b) Consider producing and promoting more food products consistent with a healthy diet, including by reformulating products to provide healthier options that are affordable and accessible and that follow relevant nutrition facts and labelling standards, including information on sugars, salt and fats and, where appropriate, trans-fat content”



While the food industry may argue that the high salt content of foods is due to consumer taste preferences, evidence suggests that it is possible to make significant reductions – 40-50% in the salt content of a range of products without people noticing¹⁶. Also, as salt intake falls, the specific salt taste receptors in the mouth become much more sensitive to lower concentrations of salt and this adjustment takes only one to two months. This means that less salty food will taste as salty as the highly salted food prior to the adjustment. Research has shown that consumers do not simply add more salt themselves as a result of salt being reduced in processed foods as it is sometimes suggested. It is therefore unlikely that lowering salt concentrations of food will lead to rejection of the foods and evidence suggests that once salt intake has been reduced, individuals prefer foods with less salt¹⁷.

INTERVENTION 4: SET TARGET LEVELS FOR THE AMOUNT OF SALT IN FOODS AND MEALS AND IMPLEMENT STRATEGIES TO PROMOTE REFORMULATION

A priority component of a successful reformulation plan is the use of target salt levels in foods. Setting clear and progressively lowered targets for salt levels in foods and meals provides a straightforward goal for the food industry to achieve within a specified timeframe. Targets should be reasonable but also challenging for the food industry to achieve. This approach was key in 10 out of the 12 countries that have so far reported a reduction in population salt intake¹⁸.

The easiest way to set targets is to use maximum levels where the maximum sodium content for each food category is set, and the sodium content of all food products within that category must be below the maximum level. This is generally straightforward and transparent, easy to administer and monitor. Maximum levels, however, do not indicate whether the average sodium content across the food supply is changing, making it difficult to predict the impact of targets on average salt intakes. It has also been suggested that maximum targets imply that no reductions are needed in any food meeting the target. Similarly, the setting of benchmarks involves agreeing on the targeted percentage reduction in different food categories within a specific time period.

An alternative method is through weighted average targets which set a sodium content level for a food category that can be met by reducing sodium levels across the product category. This gives the food industry flexibility to reduce salt content more in some products and less in others. Sales weighted average targets, rather than simple crude averages, are the optimum approach but a key challenge is that the sales data required is unavailable in most countries and expensive in others.

As some salt is needed in some foods for functional reasons, engagement with the food industry is an essential first step in order to understand the feasibility of reductions in specific foods as well as to encourage reformulation efforts. In many countries a stepwise approach will be taken based on a 'low-hanging fruit' approach by initially setting targets for foods that contribute a large proportion of salt to the diet. The program can then be expanded to include other foods. Foods that contribute the majority of dietary salt can be highly salted foods such as cured meats, but they can also be moderately salted foods that are consumed in large quantities such as bread. In Argentina, where 25% of the salt consumed by the population is from bread, it is estimated that a planned 1 gram reduction per loaf alone will save 2000 lives per year¹⁹.

Countries that plan to set targets should look at approaches taken by countries with already active food reformulation programs as many targets will be directly transferable from one setting to another. Regional targets have been developed for the European Union²⁰, the Americas²¹ and Pacific Island Countries²². These regional targets can be adapted for use as national targets. Comparing global brands across countries can also identify different salt levels in the same products. This can be a powerful lever to encourage multinational companies to transfer product improvements from one country to another.

Once the targets are agreed this needs to be enforced or implemented preferably by a mandatory approach using legislation or regulation with defined maximum targets. It has been shown that a mandatory approach is more effective than a voluntary one as a way of ensuring food industry cooperation, and all modeling suggests that mandated approaches to implementation would be more cost-effective²³. Argentina, Bulgaria, Belgium, Greece, Hungary, Mauritius, Netherlands, Paraguay, Portugal, Slovak Republic and South Africa have all developed legislative approaches for the control of maximum levels of sodium in selected food categories, mostly for breads²⁴. A mandatory approach levels the playing field across food manufacturing sectors which in itself appears to be an important factor in making reformulation commercially viable. So far only two countries, South Africa and Argentina, have adopted comprehensive legislation to enforce salt targets across a range of foods^{25, 26}.

Case study: Legislation to enforce maximum salt targets in foods, South Africa²⁷

In 2013, the South African National Department of Health (NDOH) passed new mandatory regulations on sodium limits in processed foods with implementation deadlines of 30 June 2016 and 30 June 2019. The process to introduce legislation required extensive collaboration among government, academia and industry, and was guided by international experts to ensure that the experience from the implementation of similar programs, particularly the UK, was taken into account.

Following extensive consultation on the proposals, mandatory maximum salt levels were set for specific foods with high consumption rates including bread, margarine, spreads, salty snacks, processed meats including cured meats and sausages, stock cubes, gravy and soup mixes. These mandatory maximum levels were announced in March 2013 giving companies 3 years to make changes before the legislation took effect. The second phase to be introduced by 2019 will look to further reduce salt content of foods. The legislation includes methods to ensure compliance, such as chemical analysis of foods and penalties for companies that are non-compliant.

Voluntary approaches can be used through industry commitment and pledges. The UK and Kuwait used a voluntary approach successfully, but this required strong government leadership, close collaboration with industry, good monitoring data on the salt content of target foods and, importantly, publication of results to hold the food industry to account. Argentina is using a two-tiered approach that uses legislated targets for processed foods and voluntary targets for local producers. It is recommended that the food industry be given two years to meet targets regardless of the approach used.

Case study: Kuwait salt reduction strategy

A salt reduction strategy was established in January 2013 by the Food and Nutritional Administration, part of the Kuwaiti Ministry of Health (MoH), which involved engaging with sectors of the food industry and making voluntary agreements to reduce salt content in bread and cheese. The highest proportion of sodium in the average Kuwaiti diet comes from Kuwaiti composite dishes (29.4%), closely followed by bread (28%)²⁸. A local company, Kuwait Flour Mills and Bakeries Company is responsible for 80% of bread production in Kuwait. The MoH achieved an agreement with the company to reduce the amount of salt added to their breads by 10%. Besides bread, cheese and corn flakes have been identified as key food products to target for gradual salt reduction over the next 10 years. The Kuwait strategy also targets sandwiches and pastries, crisps and potato fries.

The Kuwait MoH proposed four key steps to reduce salt consumption in partnership with the food production industry and restaurant sector. These include;

- Educate companies on methods to decrease product salt content and the benefits of population salt reduction.
- Emphasize the key role of the private sector in population salt reduction.
- Determine the levels of sodium in locally and imported food products.
- Create a collaborative plan for population salt reduction.

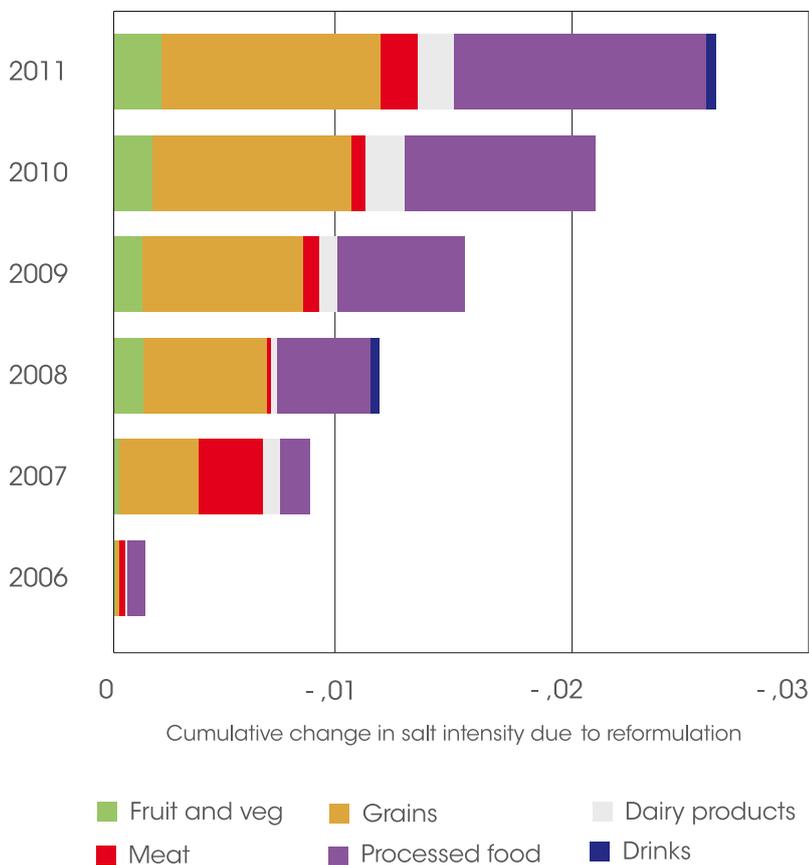
The voluntary bread reformulation agreement in Kuwait produced significant results in a short time frame. In the first three months of implementation, the targeted 10% reduction in the salt content of bread was met and by the end of 2013 the entire range of breads, excluding one type of traditional loaf, had been reduced by 20%²⁹. The company has since pledged to reduce the salt content of bread by a further 10% by mid-2015 however these results are not yet available. It is unclear if these reductions in the salt content of bread have translated to significant reductions in population salt intake. The WHO reports that the proportion of hypertensive adults in Kuwait has decreased from 21.6% to 19.9% between 2010 and 2014. Other members of the Gulf Cooperation Council (GCC), including, Bahrain, Oman, Qatar, Saudi Arabia and the United Arab Emirates, are now instituting similar salt reduction programmes³⁰.

The success of the Kuwait salt strategy demonstrates the efficacy of using voluntary targets to reduce salt content in this context as the majority of bread is produced by a single local company - comparable to the bread industry in many other countries in the Eastern Mediterranean.

Encouraging the food industry to reformulate their products can be challenging. A number of arguments may be employed by industry figures to justify the difficulty of reducing salt content in certain foods. However experiences from around the world have shown that it is technically possible to reduce the amount of salt significantly without affecting the product. In the UK, for example, salt content of processed foods sold in supermarkets was initially reduced by 20%-30% over three years without affecting consumer preference or sales³¹.

Technical limitations are rarely a reason to omit a food category from a salt reduction programme. Within almost every food category, there is already a broad range of salt levels across similar products which demonstrate the technical feasibility of producing lower salt options. In 2012, following the reductions they had already achieved (see figure 4)³², the food industry in the UK commissioned a report that detailed the emerging technologies and ingredients that could be utilized to further reduce salt across eight key food categories³³.

Figure 4
UK product reformulation effect by food group. Change in salt intensity (g per 100g)



Case study: Developing regulations to enforce salt reduction targets, Argentina

The Argentinian Ministry of Health (MoH) established the "MENOS Sal MAS Vida" campaign in 2012 with the aim of reducing population salt intake over two years^{34, 35}. The program adopted a two-tiered approach targeting both national and local producers as well as individuals. The campaign incorporates both mandatory and voluntary industry initiatives for salt reduction. The following mandatory initiatives were negotiated in meetings with industry:

- Targets to reduce sodium content by 5-15% in four key food product groups: (1) processed meats, (2) dairy and cheese products, (3) soups and dressings, and (4) cereals, cookies, pizza and pasta.
- Warnings about salt consumption on food labels.
- Limits on the size of salt sachets.

There are established penalties in the case that these mandatory requirements are not met. Some voluntary agreements for salt reduction were made with local producers not covered by the legislation. This was a result of intersectoral partnerships with the Argentinian Federation of Baked Products and the National Institute of Technology. Local bakers, responsible for approximately 95% of bread production in Argentina, have been encouraged to minimize sodium by 1g per bread loaf or approximately 25%. This is particularly important considering that an estimated 25% of dietary salt intake in Argentinian adults comes from the salt found in bread.

There was an 18% reduction in the salt content of bread between 2009 and 2010⁵⁰. Over the same time period, significant reductions in the salt content of salted cookies, croissants and pizzas were also achieved. The majority of processed foods in supermarkets have met the mandatory sodium targets and only 15.1% of products still exceeded the maximum legislated threshold. There are now 579 commercially available products that have met the targets compared to only 194 products in 2011³⁶. Further, more than 9000 bakeries have complied with a voluntary 25% reduction in the salt content of bread. Most importantly, since 2011 the daily intake of salt has reduced by 2.02g daily which is estimated to prevent 4040 deaths each year. Assessments of the public awareness campaign found that the proportional of individuals adding salt to food after cooking or at the table decreased by 8% between 2009 and 2014.

Besides setting targets for industry, other policy options can be considered to support reformulation. These include the introduction of taxes on high salt foods and the implementation of effective labeling and communication strategies, similar to the approaches used in tobacco control³⁷. Hungary introduced a public health product tax on salty snacks with a sodium content exceeding 1g/100g and condiments (soup and other powder, artificial seasonings) with a sodium content above 5g /100g. Portugal has also introduced a value added tax on salty products³⁸. Whilst there is good evidence of impact for similar initiatives in tobacco control, evidence of the impact of these interventions on salt is not yet well established and modeling of the likely effects of taxation vary in their predictions of revenue³⁹.

KEY ACTIONS

IDENTIFY KEY
FOODS TO BE
REFORMULATED

ENGAGE WITH
FOOD INDUSTRY

SET TARGETS
AND
IMPLEMENT
POLICIES OR
REGULATIONS

MONITOR SALT
CONTENT OF
FOODS AND
LOWER TARGETS
AFTER TWO
YEARS

EXPLORE TAXES
AND OTHER
STRATEGIES TO
ENCOURAGE
REFORMULATION

III. ADOPT STANDARDS FOR LABELING AND MARKETING IMPLEMENT STANDARDS FOR EFFECTIVE AND ACCURATE LABELING AND MARKETING OF FOOD

Objective: The introduction of effective and accurate nutrient labeling systems and non-misleading marketing of foods so that consumers can easily identify foods that are low or high in salt

Nutrient labeling refers to the disclosure of the main nutrients such as salt, fat, sugar and energy content on the food product label. It is a policy tool that Governments, the food industry and nongovernmental health and consumer agencies can use to guide consumer food selection.

In salt reduction, the purpose of labeling is to guide food selection towards healthier choices that contain less salt. Nutrition labeling, in particular front-of-pack labeling, may also encourage reformulation of food products by forcing manufacturers to publicly declare the amount of salt used in a product, which may compare unfavorably with a competitor and thus lose consumer interest.

Nutrition labeling consists of two components: nutrient declarations and front-of-pack labeling. Nutrient declarations are the list nutrient contents on the back of the pack. The inclusion of nutrient declarations is now part of Codex Alimentarius guidelines and should be mandated in all countries.

Front-of-pack labeling is meant to help consumers understand the nutrient declarations, which typically only provide information about the quantity of nutrients, usually in small print size on the back of packages, which can be difficult to understand without context. The difference between a nutrient declaration and front-of-pack labeling system can be seen in *figure 5*.

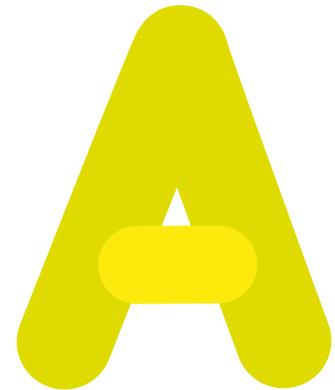
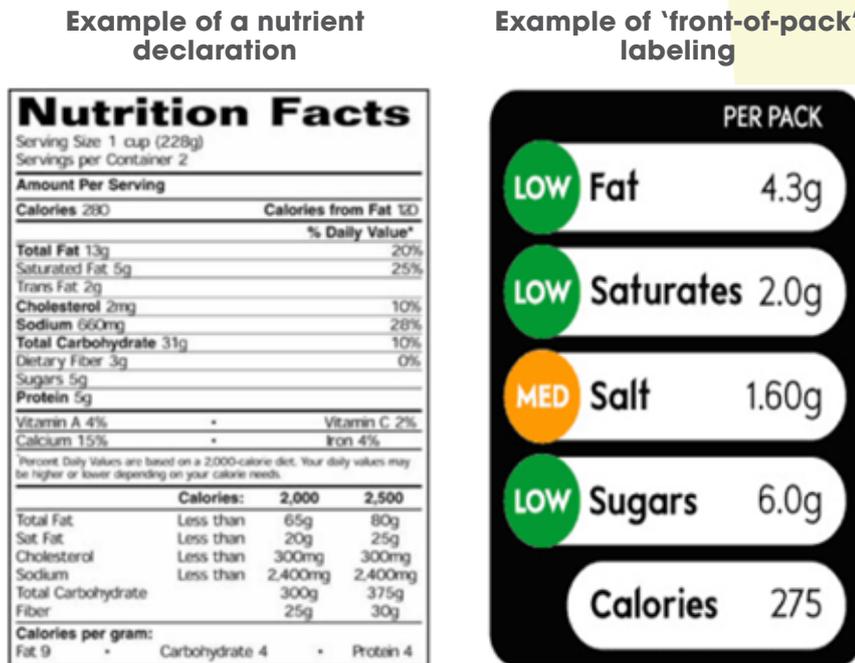


Figure 5
Comparison of a declaration with front-of-pack labelling

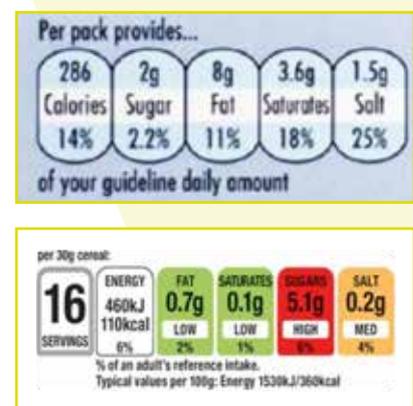


Labelling that allows consumers to make fast evaluations of products and which help people to understand the quantitative information is essential. Evidence indicates that attention to nutrition labels in making food choices is between 25 and 100 milliseconds, making it critical for a message to be understood almost immediately⁴⁰.

The ideal front-of-pack labeling system is one that is interpretive, meaning it can provide an 'at-a-glance' indication of whether a food is high or low in a nutrient or set of nutrients. Labelling schemes such as the 'colour code' system enable consumer to quickly deduce the relative nutritional value of the food. There is consistent evidence that consumers support the introduction of front-of-pack labeling, and that they prefer schemes which are simple and easy to use. These systems have also been proven to help consumers make healthier choices^{41, 42, 43}.

Figure 6 shows the difference between non-interpretive vs interpretive front-of-pack labeling.

Figure 6
Comparison of non-interpretive (up) and interpretive (down) 'front-of-pack' labeling



INTERVENTION 5: ADOPT INTERPRETIVE FRONT-OF-PACK NUTRIENT LABELING SYSTEMS

Countries should introduce clear, interpretive and accurate front-of-pack labeling systems that enable consumers to quickly and easily understand the salt content of foods. This will empower consumers to make healthy choices when purchasing foods.

The UK has been promoting the use of a front-of-pack 'colour coded' labeling scheme since 2006. While uptake was voluntary the front-of-pack labels are now on more than three quarters of supermarket foods and are preferred by consumers as they can see immediately whether a product has a little or a lot of salt^{44, 45}.

Different countries have used different labeling strategies depending on existing practices, cultural norms and consumer preferences. As labelling systems are very easily transferred from one context to another, rather than invent new labeling schemes, countries should adopt schemes from other countries. Mandatory systems, where all products in a food category are incorporated (all breads for example), are ideal from both consumer and health perspectives as they enable consumers to make properly informed choices comparing across all alternatives. Importantly, there is consistent evidence which shows that the introduction of multiple labeling schemes into the marketplace is likely to cause consumer confusion and frustration rather than support effective food choices.

Clear labeling has the greatest impact when implemented alongside a comprehensive education, communication and marketing campaign to inform and educate consumers and the public at large and help them understand the labelling information and the health implications. Nutrient labelling can also facilitate and reinforce the other actions that form part of a comprehensive salt reduction program. For example, in Finland labelling strategies have prompted the food industry to reformulate the content of their products in order to avoid a 'high salt' label. As a result, there has been a 20-25% reduction in the salt levels of bread, meat products, cheeses and ready meals⁴⁶ and a variety of reduced salt products have emerged on the market.⁴⁷

For countries that import a lot of their foods, they may not be able to directly influence the labelling schemes that are in use. For these countries, it is recommended that the Codex Alimentarius standards are enforced and only foods with nutrient declarations in appropriate languages be permitted for import.

KEY ACTIONS

ESTABLISH
WORKING
GROUP

ADOPT BEST
LABELLING
SYSTEM FOR
COUNTRY

CONDUCT
MEDIA
CAMPAIGN
TO INFORM
CONSUMERS

IMPLEMENT
LABELLING
POLICIES

MONITOR
AND EVALUATE
POLICY

INTERVENTION 6: IMPLEMENT STRATEGIES TO COMBAT THE MISLEADING MARKETING OF FOODS THAT ARE HIGH IN SALT

Standards need to be implemented to prevent labelling and packaging which misrepresents salt or salty foods as healthy simply because they contain beneficial amounts of other minerals or nutrients. The widespread promotion of expensive specialty salts such as Sea Salts or Rock Salts as better for health is misleading as such salts contain similar amounts of sodium and are equally bad for health. Recent research suggests that the use of buzzwords such as “wholegrain” and “antioxidants” make consumers think a food product is healthy when it might actually contain very high levels of salt⁴⁸. Combined with inadequate nutrient labelling systems, which many consumers find difficult to understand, misleading marketing can prevent consumers from making accurately informed choices.

Governments can and should act to ban this practice. Comprehensive strategies have been proposed to overhaul regulations around misleading marketing of food products in the US as the current regulations have not been effective⁴⁹. Food companies should only be allowed to make health claims for genuinely healthy food products and regulations should be adopted and enforced to stop misleading marketing practices. This could be achieved by setting limits on the amount of sugar, salt and fat a food product can contain in order for it to be marketed with any claims of nutritional or health benefit. Another method that could be used to combat this practice is the use of ‘high salt’ warning labels to ensure that consumers know that the foods they are consuming contain potentially harmful levels of salt regardless of the marketing strategy used to make the food appear otherwise healthy.

Case study: ‘High salt’ warning labels, Finland

Finland has legislated to make it compulsory for salt warning labels to be displayed on the processed foods that were identified as significant contributors to salt intake in the Finnish diet. There are three components to the labeling strategy: the percentage of salt must be displayed on the package, foods with salt content above a maximum level are required to display a high salt content ‘warning’ label and foods with salt content below a specified level are permitted to display a low salt label. Average salt intake in Finland reduced by about 15% from 1979 to 2007 as a result of systematic action on salt including the labeling regulations which help consumers identify products with reduced salt content.⁵⁰

In addition to regulation, strategies can be used at the point of purchase to reduce the impact of misleading marketing. In food stores and supermarkets, emphatic ‘shelf labelling’, which displays warning labels or the nutrient content of foods at the point of purchase, can also help consumers identify foods high in salt

Figure 7
Finnish ‘high salt content’ warning label: “VOIMAKASSUOLAINEN” to be stated on foods with high salt content



regardless of the marketing strategies used. This strategy is currently being piloted in supermarkets in the Marshall Islands⁵¹. Another option is phone applications, whereby consumers can scan the product bar code and obtain information on the nutrient content of foods and relative healthiness compared to other products. A good example is Australia's *FoodSwitch* app, which is widely used to support consumers to make healthier choices whilst shopping⁵².

As meals are increasingly eaten out of home in restaurants, at food stands and from street vendors, action in these settings can ensure consumers are able to identify options that are low or high in salt. For example, regulations can enforce 'menu' nutrition labeling, which involves placing information about the nutrient content of foods on the table menu or on a visible menu board, as has been the case in New York City.

Case study: High salt warning on menus in restaurants, New York City

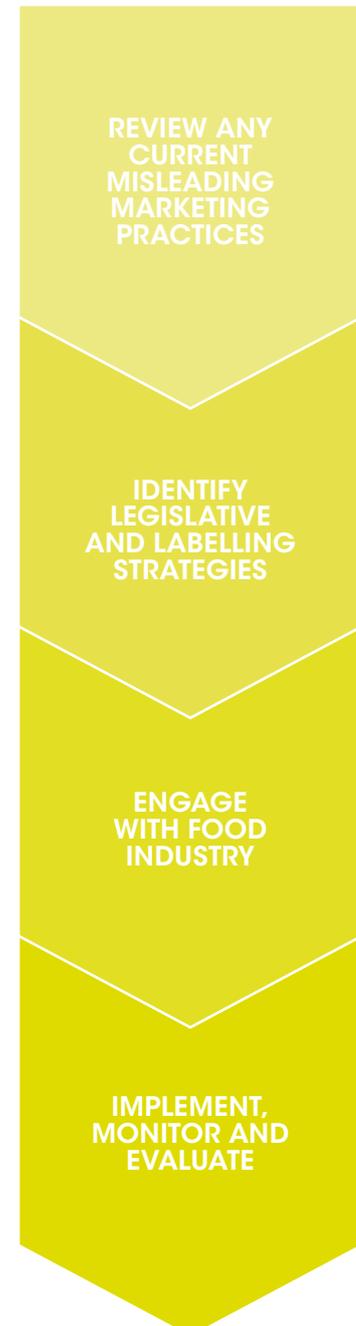
New York City has introduced regulations so that large restaurant chains with 15 or more locations must display high salt warning labels on menu items or combo meals that contain 2,300 milligrams of sodium or more, the recommended daily limit. Evidence suggests health warnings can increase knowledge and decrease purchase and consumption of certain products⁵³. Warning labelling enables consumers to make informed choices in this setting.

Finally, evidence from systematic reviews shows that marketing targeted at children widely promotes foods with high content of fat, sugar or salt⁵⁴. Marketing of foods high in salt to children should be restricted and Governments need to play a leading role. The WHO recommendations on marketing of foods and non-alcoholic beverages to children, passed during the 63rd World Health Assembly, detail the actions Governments should take to restrict the marketing of unhealthy foods to children⁴¹.

Figure 8
Warning labels used on high salt foods in New York City



KEY ACTIONS



IV. KNOWLEDGE EDUCATE AND COMMUNICATE TO EMPOWER INDIVIDUALS TO EAT LESS SALT

Objective: High levels of knowledge and awareness of the health risks of salt and changes in behavior

Consumer knowledge and awareness are essential components of achieving sustainable changes in consumer behavior. Many people are not fully aware of the risks of over consumption of salt and the link with high blood pressure and stroke. Consumers are also often not aware of the major sources of salt in their diet because the high salt levels in processed foods and meals are hidden. Raising awareness of the health impact of high salt consumption and the major sources of salt in diets will help to influence consumer behavior. Targeted behavior change strategies can then be used to empower people to improve their diets and increase demand for lower salt food products.

INTERVENTION 7: IMPLEMENT INTEGRATED EDUCATION AND COMMUNICATION STRATEGIES TO RAISE AWARENESS ABOUT THE HEALTH RISKS AND DIETARY SOURCES OF SALT AND ULTIMATELY CHANGE BEHAVIOUR

In all countries, the public should be informed or educated about the health risks of high salt consumption. In countries where the major source of salt intake is through salt added at the table or while cooking (through table salt or condiments such as soy sauce, for instance), education and communication strategies are particularly important to impact behavior of consumers, cooks and caterers to reduce salt use. In countries where the major source of salt is from processed foods, the target audience would be the food industry in addition to government policy makers. The increased consumer engagement gained through education and communication can create pressure on the food industry to follow through with their commitments to reduce salt.

Strategic health education and communication on diet has been identified as a 'best buy' due to its demonstrated cost-effectiveness⁶. Successful education and communication strategies can lead to changes in social norms on salt consumption, increased demand for healthier and lower salt products, and changes in overall health for individuals and communities. This works best when done as part of a comprehensive package rather than in isolation. Additional actions aimed at fostering an environment conducive to healthy eating are necessary and are likely to have a complementary and synergistic effect on the other key interventions of the salt reduction strategy.



Case study: Implementation of a multicomponent communication and public education strategy, Vietnam

Around 70-80% of the sodium consumed in the Vietnamese diet is from salt, fish sauce and other salty condiments added during cooking or eating so education to change this behavior is critical. A communication for maximum behavioral impact (COMBI) method was applied in one province over a year aiming to reduce population salt intake.

Within the communication strategy, there were five components of integrated actions to help achieve the behavioural objectives. These five areas included: administrative mobilization and public advocacy; community mobilization; advertising; face-to-face engagement and; point of service promotion using tools to support interactions. Within each of these areas a number of actions were applied to achieve the behavioural objectives.

The strategy was evaluated by conducting a baseline assessment and repeating following intervention. Measures in the assessment included salt intake levels; consumer knowledge, attitudes and practice and; blood pressure and anthropometric measurements.

The evaluation found that average salt intake was reduced from 15.5g/day to 13.3g/day. The local population also knew more about the health risks related to high salt intake and 86.5% of the population applied practices to reduce salt intake. Mean blood pressure also reduced following the intervention.

There are different approaches that can be applied in health education and communication campaigns including social marketing, social mobilization, behaviour change communication and communication for development. Social marketing strategies are designed based on commercial marketing principles but with the goal of encouraging a positive behavior. The Communication for Behavioral Impact (COMBI) approach uses multiple communication channels in order to connect schools, communities, health service providers and local authorities and agencies towards the goal of reducing population salt consumption. While contextual differences are important in customizing an effective salt awareness campaign, the key principles remain consistent and can be used to design, deliver and evaluate communication for behavior change strategies that use promotional and educational approaches.

Any communication and education campaign should always begin with clear and specific behavioural objectives that are well informed by knowledge of the issue. Once behavioural objectives are identified, audience research can determine: their attitudes and perceptions; the environment within which behaviours are to be adopted; what can be addressed by education and

communication and; what can be addressed only by other methods. These should then inform strategies designed to undo misperceptions, reinforce benefits, remove barriers and ultimately impact behavior.

A mix of strategies should be applied based around five broad components: public advocacy; community mobilization; advertising; interpersonal communication and; point of service promotion. Consumer messages can then be developed, tested and refined. Messages will generally focus on the link between salt and poor health, the interpretation of low salt labeling, instruction on choosing low salt alternatives and information on preparing low salt meals.

Campaigns should be properly planned and preferably be multi-year instead of one-off initiatives. Innovative platforms such as mobile phones should be utilized to deliver messages as appropriate.

Case study: Implementation of a strategic and targeted communication for behavior change strategy, Australia

A study conducted in Lithgow, NSW Australia aimed to reduce the adult population salt consumption by approximately one gram over an 18 month study period from 2011 to 2014 using the Communication for Behavioural Impact framework (COMBI)⁵⁵. Baseline assessment identified intakes of approximately 8.8g/day in this sample, far in excess of the recommended maximum daily salt consumption⁵⁶. Furthermore, while all participants identified that a diet high in salt can cause serious health problems, few could identify the recommended upper limit of salt intake or identify salt reduction as a priority⁵⁷.

Through a comprehensive consultation process and engagement with a community advisory committee (including local council, dietitians, physicians, teachers) two tools were chosen to engage and assist the community with salt reduction. The first, "*FoodSwitch*", is a smartphone app which allows users to scan the barcodes of packaged foods, providing directional instruction on the amount of food present and a list of similar, healthier foods that are lower in. The second was a salt substitute, comprising a formula which had 70% less sodium than regular salt. These tools were combined with strategies to influence behaviour change using the COMBI framework which utilizes an integrated communication model to enact community advocacy and impact. There are five broad components to this approach:

- Administrative mobilization and public advocacy: for putting salt reduction on the agenda of health workers and local government staff via engagement through a series of meetings. The outcome was for these professionals to advocate for salt reduction within the community.
- Community mobilization: Business, workplaces and school settings were engaged through meetings, presentations and the provision of the tools to enact salt reduction.
- Advertising: local channels of communication including newspapers, social media and radio were targeted with stories about the program
- Interpersonal communication: information booths established in the two main shopping areas and by door knocking individual homes. Tools supplied to support interpersonal communication and engagement across the community,
- Point of service/sale: the salt substitute was made available at local cafes restaurants for use by consumers as well as local bakeries, government buildings, medical centres and pharmacies.

After follow up, the estimated mean urinary salt excretion of the Lithgow population was 8.0g/day, representing a 0.8g/day decline from baseline ($p < 0.001$), with significant increases in knowledge of the recommended upper limit of salt ($p < 0.001$) and the importance of lowering salt intake ($p < 0.001$).

KEY ACTIONS



V. ENVIRONMENT SUPPORT SETTINGS TO PROMOTE HEALTHY EATING

Objective: Salt reduction initiatives implemented through community settings

Settings are defined as places where people live, work and play. There is good potential for reducing salt in the food supply in settings such as schools, workplaces and hospitals as management often have full control over the food served⁵⁸.

Community settings are a platform for local implementation of both national salt reduction policies as well as specific salt reduction interventions. The other components of the **SHAKE** package can be applied within both specific institutional and broader community contexts. This can, for example, include local standards for food outlets, education and communication strategies in schools and workplaces and the development of standards for prepared institutional meals.

INTERVENTION 8: IMPLEMENT MULTICOMPONENT SALT REDUCTION STRATEGIES IN COMMUNITY SETTINGS INCLUDING SCHOOLS, WORKPLACES AND HOSPITALS

A number of approaches have been successful in reducing the levels of salt in food served in schools, workplaces and other institutional settings. The establishment of healthy food and drink guidelines for institutions including salt criteria is one such approach and several countries have developed standards for mass caterers defining the maximum levels of salt in foods allowed to be sold in schools and hospitals²⁷. In some countries these standards have been incorporated into the licensing process for food outlets as an incentive to reduce salt use.

Case study: Legislation and education through school canteens, England⁵⁹

School food has been provided to pupils in England for decades. From the mid-1970s the number and quality of the meals declined. Legislation and regulation of school canteens in England have proven successful in reducing salt content by setting out what caterers can provide for children in schools. At the same time, The Children's Food Trust worked with caterers, schools, pupils, parents, manufacturers, food distributors, institutions providing further education for catering staff, amongst others, in a coordinated programme of change. There is clear evidence of improvements



in provision, choice and consumption of food in schools that have followed the introduction of legislation and of a national programme of work to change catering practices and the attitudes of pupils, parents and others towards healthier food provision in schools. A primary school food survey showed a 30% reduction in the salt content of school lunches since food standards were set in 2006. Similar initiatives have also been implemented successfully in Canada⁶⁰, Australia⁶¹ and the US⁶².

As with children in schools, most adults now spend the vast majority of their time in the workplace and protecting and promoting health in this setting, including salt reduction, is critical⁶³. The public sector in the UK, which includes schools, hospitals, aged care facilities and prisons for example, serves upwards of one billion meals each year and modeling work by the Food Standards Agency has demonstrated how developing healthy menus for caterers of major institutions positively affected nutrient composition, ultimately impacting on the consumption of salt and other nutrients of public health concern.

In addition to setting standards for foods served in institutions, behavior change programmes can be implemented in community settings. It is often possible to implement behavioral change programmes in these settings more intensely than in the broader community. The Edu-Salt study in Changzhi City, China was a school-based education program that provided health lessons related to salt and over three and a half months reduced daily salt intake among children and adults by 1.9g and 2.9g respectively⁶⁴.

Case study: Workplace based salt reduction intervention, Japan⁶⁵

The effectiveness of workplace interventions to reduce dietary sodium were assessed in Japan through a programme which utilized self-monitoring of daily salt excretion and the delivery of personalized email messages via cellular phones 10 times over a 4 week period. Emails included information about the salt content of commonly consumed foods, methods for salt reduction and messages to encourage a low salt diet. At the time of the study daily average salt intake in Japan was over 11 grams, as assessed through the 2007 National Nutrition Survey. Hypertensive male workers were either assigned to intervention or control and receiving dietary counsel together. After follow-up a greater reduction in blood pressure was observed in the intervention group with significant reduction in daily salt excretion, highlighting the potential for workplace-based salt reduction interventions.

KEY ACTIONS



ELEMENTS OF A SUCCESSFUL SALT REDUCTION PROGRAMME

Whilst each of the individual elements of the **SHAKE** package is important, there are several core themes which bridge them and which will affect success.. These cross-cutting areas are political commitment, program leadership, partnerships, advocacy and integration with iodine reduction programmes.

Political Commitment

Political commitment is critical to initiate and sustain a population-wide salt reduction strategy over many years and is necessary to provide a clear mandate and ensure the availability of adequate resources. Professional groups, NGOs, academia and consumer groups can lobby government and policy leaders to increase awareness of the importance and feasibility of salt reduction in the public health agenda.

Program Leadership and Governance

One of the most important decisions to make when developing a salt reduction strategy is who is going to be responsible for making sure it is implemented effectively. Salt reduction programmes are most likely to be successful if led from within government at a senior level. Ideally the programme should be led by a Ministerial-level appointee with a specific interest in the issue and the necessary support staff and budget, sufficient to manage the day-to-day operations of the programme. This is especially important for the setting of targets of the salt content of foods in order to promote industry compliance. An effective government leadership team should also be able to garner the support of other stakeholder groups both within civil society and industry sectors. If government leadership is not possible then a non-governmental organization (NGO) or civil society group could lead the work with government support.

Partnerships

A multisectoral and multi-stakeholder approach as well as strong networking between policy leaders, other government departments, NGOs, consumer groups, academia and the food industry can provide a strong level of support for the salt reduction agenda. An advisory group can support the programme throughout its development, implementation and evaluation phases. The advisory group provides the opportunity to engage and use the expertise and interests of diverse stakeholders that are not directly involved in the programme leadership. It is important

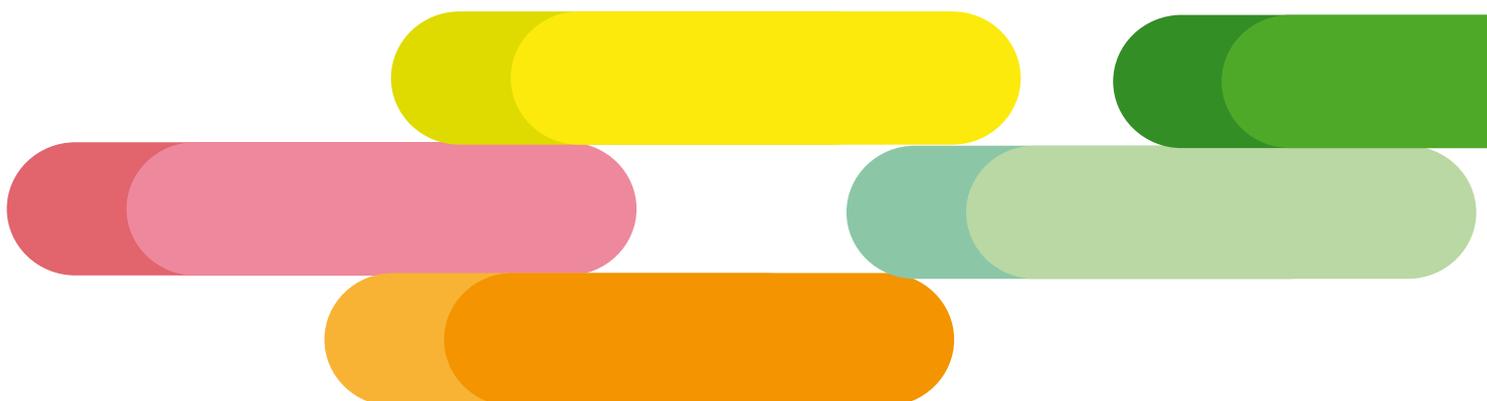
that the advisory group has good knowledge of the food industry and working relationships with a critical mass of key industry representatives and other stakeholders.

Integration with iodine reduction programmes

A co-ordinated approach with those responsible for policies to eliminate iodine deficiency is required to ensure policy coherence and maintain political support. A credible, broad-based advisory group can provide guidance and support for government leaders and bring together stakeholders from both salt reduction and iodine elimination to ensure that a reduction in population salt consumption levels does not adversely affect iodine deficiency elimination programs or the promotion of iodized salt does not derail salt reduction efforts. Key areas for integration of the two initiatives include policy development, communication and advocacy, monitoring and surveillance and research.

Advocacy

Advocacy denotes activities designed to place salt reduction high on the political and development agenda, foster political will and increase financial and other resources for programme development in order to implement sustainably. Advocacy groups can hold authorities and industry organizations accountable to ensure that pledges are fulfilled and results achieved. Anyone can advocate for salt reduction, however, collective action is more likely to be effective than isolated efforts. The engagement of a broad-based coalition of interrelated and complementary stakeholders will generate dialogue, negotiation and consensus to raise awareness and strengthen action for salt reduction. In this regard, the leadership team should seek to engage the support of stakeholders and the advisory group in whatever capacity possible.



KEY STEPS IN STRATEGY DEVELOPMENT:

**Advocate
for salt
reduction**

1

**Form a small
leadership
team**

2

**Identify,
survey and
consult with
stakeholders**

3

**Establish
a broader
advisory
group and
hold regular
meetings**

4

**Set national
target for
population
salt intake**

5

**Identify
and agree
on specific
programme
objectives**

6

**Develop the
strategies and
implementation
programme**

7

**Develop
monitoring and
evaluation plan**

8

**Review by
stakeholders
and advisory
group**

9

**Sign off
by senior
responsible
government
leader**

10

CONCLUSION

Individuals currently have difficulty limiting their intake of salt to the recommended amount as in many countries most of it is added to processed foods and meals before purchase. A meaningful strategy to reduce salt consumption across populations must contain all elements of the **SHAKE** salt reduction package. Regular surveillance will make sure that the strategy can be appropriately targeted and change overtime measured. The cooperation of food manufacturers, food processors, food importers and the restaurant sectors to lower the salt in the food supply will enable consumers to access a reduced salt diet. A successful salt reduction programme will require action at all levels – individuals, civil society, healthcare providers and their professional societies, academia, public health agencies and governments – to generate knowledge and change the food environment to shift social norms so that people demand and gain greater control over the amount of salt they consume.

By bringing all of these factors together, the **SHAKE** package provides a full set of policy tools based on existing practices from around the world. When used in conjunction with strong political commitment, good programme management, a network of partnerships and effective advocacy, it can help any country create a robust strategy to reduce salt consumption – helping the global population shake its salt habit.

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