The Centers for Disease Control and Prevention is pleased to present the Sodium Reduction Toolkit: A Global Opportunity to Reduce Population-Level Sodium Intake. The toolkit is designed to provide international and national government agencies, public health organizations, and relevant stakeholders with a brief overview, evidence-based tools, and information necessary for developing and implementing population-based sodium reduction programs, policies, and initiatives aimed at reducing population-level sodium intake.
Excess sodium intake is strongly associated with high blood pressure. High blood pressure is a major risk factor for cardiovascular disease, including heart disease and stroke. Studies show a direct and causal relationship between sodium intake and blood pressure. Cardiovascular disease, including high blood pressure, also known as hypertension, is the leading cause of preventable death and disability worldwide.

A reduction in population-level sodium intake worldwide can significantly improve public health. Obtaining baseline estimates of population-level sodium intake is important for monitoring and evaluating trends in cardiovascular disease, including hypertension. Combined with an understanding of sources of dietary sodium and ongoing systematic assessment of sodium in the food supply, this information can be used to plan, develop, and implement strategies, programs, and policies to reduce population-level sodium intake.
Collaborations among international organizations, government and public health agencies, and the food industry can be critical to effectively reducing sodium intake among populations. The World Health Organization, its regional offices, such as the Pan American Health Organization, and national governments can provide technical support, resources, and leadership to countries that need guidance on sodium reduction strategies. Public health agencies and academia can support sodium reduction efforts as well as inform and increase public awareness of the need to reformulate products with lower sodium. By making lower sodium products more widely available in low- and middle-income countries, the global food industry can assist these populations in consuming a more healthful diet.
The Sodium Reduction Toolkit covers the following topics: the global impact of sodium on health; methods to evaluate sodium intake through biomarkers, indirect estimation, and dietary assessments; analysis of sodium in the food supply, including how to create a database to assess sodium in the processed food supply; knowledge, attitudes, and behaviors related to sodium intake and health; strategies for using sodium-reduction policy interventions to reduce sodium intake; and the process of translating and sharing evidence-based research. Each module also includes examples and a list of top 10 resources.
Please note that throughout the modules, the term “salt,” also known as sodium chloride, is not synonymous with the term “sodium.” Modules in this series use the term “salt” when referring to sodium chloride and sodium when referring to sodium. A list of conversions for salt and sodium is available on the toolkit web page.
Cardiovascular disease, including hypertension, is the leading cause of preventable death worldwide. More people die annually from cardiovascular disease than from any other cause. In 2008, an estimated 17.3 million people died from cardiovascular disease, accounting for 30 percent of all deaths worldwide.

The objectives of the Global Impact of Sodium on Health module are to:
1. Provide an overview of the global burden of cardiovascular disease, including high blood pressure.
2. Discuss the association between sodium intake and high blood pressure.
3. Provide examples of sodium intake guidelines and recommendations in selected countries.
4. Discuss what governments, public health agencies, the food industry, and others may do to reduce sodium intake.
In the context of this toolkit, a biomarker is a biological molecule found in body fluid or tissues that is a sign of dietary intake. A biomarker can be used to assess normal or abnormal processes, conditions, or diseases.

The vast majority of sodium we consume is excreted, mainly through urine. Therefore, the intake of sodium can be estimated by measuring urinary sodium excretion.

The objectives of the Biomarkers module are to:
1. Define “biomarker” and “novel biomarker.”
2. Describe various biological methods used to determine sodium intake.
3. Discuss the limitations of assessing sodium intake through alternative and novel biomarkers.
Estimation and dietary assessment methods are indirect tools to estimate population-level sodium intake.

The objectives of the Indirect Estimation and Dietary Assessments module are to:
1. Describe various methods for estimating sodium intake.
2. Discuss the benefits and limitations of each method.
3. Provide examples of how these methods can be used to estimate sodium intake.
Sodium reduction can be challenging because a great deal of the sodium in our diet is not added at the table, but rather is present in ready-to-eat or processed foods. For example, in the United States, more than 75 percent of sodium consumed comes from processed and restaurant foods; only 12 percent occurs naturally in foods, and about 11 percent is added during cooking and at the table.

The objectives of the Food Supply module are to:
1. Discuss the use of a food composition database when monitoring sodium content of the food supply.
2. Describe methods of compiling food composition databases.
3. Provide examples of food composition databases.
Monitoring knowledge, attitudes, and behaviors toward sodium allows stakeholders to tailor sodium reduction programs and initiatives aimed at reducing sodium intake.

The objectives of the Knowledge, Attitudes, and Behaviors module are to:
1. Discuss opportunities for monitoring people’s knowledge, attitudes, and behaviors about sodium reduction.
2. Describe various data collection methods used to monitor knowledge, attitudes, and behaviors.
3. Provide select examples of how organizations and countries monitor knowledge, attitudes, and behaviors about sodium.
Policy interventions can create long-lasting system-wide changes related to sodium reduction. Unlike programs, policies are binding and set up a general approach that can be applied broadly and incorporated as part of an agency or government’s operations. Policies allow changes to be monitored for effectiveness and, ultimately, for positive changes to become the norm.

The objectives of the Policy Interventions module are to:
1. Discuss opportunities for policy interventions and strategies to improve the healthfulness of food environments, encourage sodium reduction in the food supply, and increase consumer awareness about the nutrient content of foods.
2. Discuss various policy interventions and strategies used to develop sodium intake recommendations, food labeling, healthful food procurement, and regulations.
3. Discuss the importance of evaluation and of measuring progress and success.
Knowledge translation ensures that current data, best practices, and evidence-based strategies are transformed into policies that can benefit the public and promote health. In sodium reduction efforts, it is important to prioritize collected data and completed research to guide the decision-making process.

The objectives of the Knowledge Translation module are to:
1. Provide an overview of sodium reduction evaluation.
2. Discuss key evaluation principles.
3. Discuss disseminating best practices in sodium reduction strategies.
4. Provide select examples of knowledge translation.
The resources included here provide additional background on sodium reduction.

This concludes the Introduction module. Please review the other modules to learn more about strategies for reducing sodium intake in your country.
Top 10 Resources


