



# FACTS

## Salt of the Earth

### Reducing Sodium in the U.S. Diet

#### OVERVIEW

Cardiovascular disease is the leading cause of death worldwide and high blood pressure is one of its major risk factors.<sup>1</sup> By 2030, an estimated 41% percent of American adults will have hypertension. For many people, blood pressure rises progressively as salt (sodium chloride) intake increases.<sup>2</sup> In addition to the effects on blood pressure, a high amount of sodium in the diet has been linked to other harmful effects on health including increased risk for stroke, heart failure, osteoporosis, stomach cancer, and kidney disease.<sup>3</sup> The American Heart Association advocates for a stepwise reduction in sodium consumption in the U.S. diet by 2020. The association further recommends a concurrent sustained commitment by the food and restaurant industries to reduce the amount of salt added to the food supply over the same time period. Several countries have already successfully reduced salt intake in their populations including Japan, Finland, and the United Kingdom.<sup>4</sup>

#### AMOUNT OF SODIUM IN THE U.S. DIET

The average American consumes nearly 3,400 mg of sodium per day.<sup>5</sup> Nearly 80% of sodium in the diet comes from salt added to processed and commercially prepared foods.<sup>6</sup> Breads and rolls, cold cuts/cured meats, and pizza are top contributors of sodium in the American diet.<sup>7</sup> The high amount of sodium in the U.S. food supply makes it difficult for Americans to not exceed the recommended level of sodium intake when consuming a nutritionally-adequate diet.<sup>8</sup>

Diets rich in fruits and vegetables provide potassium which can blunt the effects of high sodium intake and lower blood pressure.<sup>9</sup> However, less than 2% of US adults consume enough potassium and only 8.6% of children meet the guidelines for fruit intake and less than one percent of children consume sufficient vegetables.<sup>1,10</sup>

#### THE POPULATION AT RISK

The 2010 Dietary Guidelines for Americans recommend that adults in the U.S. consume no more than 2,300 mg of sodium daily, but specific populations such as persons who are 51 and older and those of any age who are African American or

have hypertension, diabetes, or chronic kidney disease

should aim for 1,500 mg or less per day.<sup>11</sup> These latter groups now comprise nearly half of the U.S. population, including children, and the majority of adults.<sup>10</sup> As rates of high blood pressure continue to climb in young people, physicians are writing more prescriptions to treat hypertension in children.<sup>12</sup> Approximately 41% of U.S. adults are projected to have hypertension by 2030.<sup>13</sup> The American Heart Association recommends that the maximum intake for the U.S. population should be 1,500 mg/day.

*Adapted from: Mattes & Donnelly, 1991*

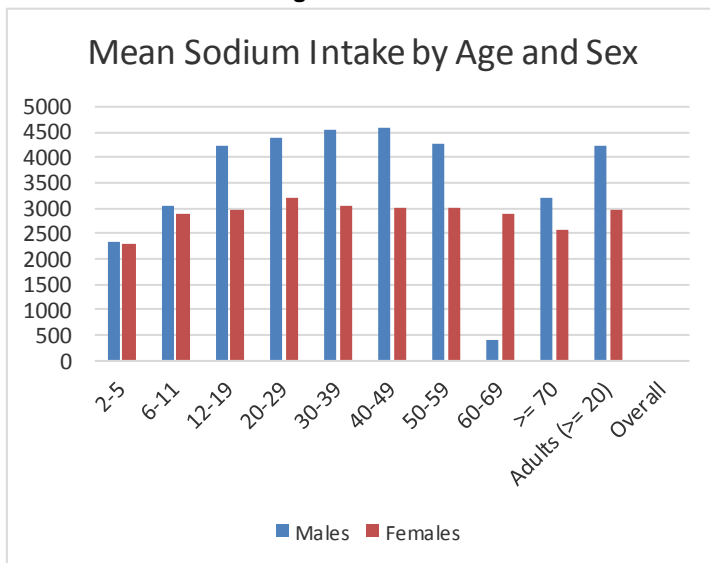
#### Primary Sources of Sodium in the Average U.S. Diet



- 5% added while cooking
- 6% added while eating
- 12% from natural sources
- 77% from processed and prepared foods

#### ECONOMIC AND HEALTH BENEFITS

The many benefits of lowering sodium intake underscore the need for a comprehensive, coordinated public health strategy in order to lower the amount of sodium in the average person's diet. It has been estimated that if the U.S. population moved to an average intake of 1,500 mg of sodium per day, there would be a 25.6% overall decrease in prevalence of high blood pressure and a \$26.2 billion savings in health care costs.<sup>1</sup> A national effort that reduces sodium intake by 1,200 mg/day could result in 60,000-120,000 fewer coronary heart disease events, 32,000-66,000 fewer strokes, 54,000-99,000 fewer heart attacks, and 44,000-92,000 fewer deaths annually.<sup>14</sup> The few individuals who need more sodium in their diet, such as those exercising or working in excessive heat over long periods of time, can easily compensate by adding salt to their food.



Adapted from: NHANES data, 2009-2010

■ Represents the Dietary Guideline's recommendation of no more than 2,300 mg of sodium per day  
 ■ Represents the association's recommendation of less than 1,500 mg of sodium per day and the current Dietary Guideline's recommendation of sodium intake for special populations

## THE AMERICAN HEART ASSOCIATION ADVOCATES

The majority of people in the U.S. would experience health benefits from an overall reduction in sodium.<sup>10</sup> Therefore, the association is committed to collaborating with its national and state partners to implement a successful sodium reduction strategy. The association will:

- Collaborate with the Food and Drug Administration, the U.S. Department of Agriculture, the Centers for Disease Control and Prevention, the National Forum for Heart Disease and Stroke Prevention, as well as other organizations, to achieve lower sodium levels in the food supply, address food labeling, develop consumer education campaigns and promote a progressive sodium reduction strategy to lower the daily consumption of sodium by 2020.
- Encourage the FDA to adjust the Daily Value for sodium on the Nutrition Facts Panel to align with the Dietary Guidelines for Americans.
- Work to assure that sodium and other nutrition information is available in all restaurants at point of purchase and educate consumers about the value of that information to their health.
- Advocate at the state and federal level for nutrition standards that reduce sodium in school foods as well as for foods and beverages marketed and advertised to children.
- Monitor industry's efforts to maximize technologies that remove sodium from the food supply and advocate for economic incentives for

manufacturers and retailers to develop sodium reduction plans.

- Continue to develop robust surveillance at the state and national level for sodium consumption in the U.S. population, including an updated and comprehensive food database to track sodium changes in the food supply over time.
- Promote robust standards for foods purchased and provided by local, state, and federal government agencies, schools, recipients of government funds (private contractors, grantees), employers, and food retailers.
- Advocate for incentives for health insurers and providers to offer sodium-related consultation/education to patients with high blood pressure or who are at risk for high blood pressure.
- Work with state departments of health through the to develop statewide stakeholder groups, identify state-based surveillance opportunities, include sodium objectives in state heart disease and stroke prevention plans, and develop a policy agenda for sodium initiatives.
- Promote participation by national, state and local partners in Million Hearts<sup>TM15</sup>, an initiative that brings together communities, health systems, nonprofit organizations, state and federal agencies, and private-sector partners from across the country to fight heart disease and stroke and includes a focus on reducing sodium in the food supply.

<sup>1</sup> Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, ... & Turner MB; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. (2014). Heart disease and stroke statistics—2015 update: A report from the American Heart Association. *Circulation* 2015, 131, e01–e294.

<sup>2</sup> Institute of Medicine. Dietary reference intakes for water, potassium, sodium chloride, and sulfate. Washington, DC: National Academies Press; 2004

<sup>3</sup> Whelton, PK, Appel, LJ, Sacco, RL, Anderson, CA, Antman, EM, Campbell, N, ... & Van Horn, LV. (2012). Sodium, blood pressure, and cardiovascular disease further evidence supporting The American Heart Association sodium reduction recommendations. *Circulation*, 126(24), 2880-2889.

<sup>4</sup> He, F.J, & MacGregor, GA. (2009). A comprehensive review on salt and health and current experience of worldwide salt reduction programmes. *Journal of Human Hypertension*, 23(6), 363-384.

<sup>5</sup> Cogswell, ME, Zhang, Z, Carriquiry, AL, Gunn, JP, Kuklina, EV, Saydah, SH, ... & Moshfegh, AJ. (2012). Sodium and potassium intakes among US adults: NHANES 2003–2008. *The American Journal of Clinical Nutrition*, 96(3), 647-657.

<sup>6</sup> Mattes, RD, & Donnelly, D. (1991). Relative contributions of dietary sodium sources. *Journal of the American College of Nutrition*, 10(4), 383-393.

<sup>7</sup> Centers for Disease Control and Prevention. (2012). Vital signs: Food categories contributing the most to sodium consumption—United States, 2007–2008. *Morbidity and Mortality Weekly Report*, 61(5), 92.

<sup>8</sup> Maillot, M, & Drewnowski, A. (2012). A conflict between nutritionally adequate diets and meeting the 2010 dietary guidelines for sodium. *American Journal of Preventive Medicine*, 42(2), 174-179.

<sup>9</sup> National Research Council. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. Washington, DC: The National Academies Press, 2005.

<sup>10</sup> Cogswell, ME, et al. (2012). Sodium and potassium intakes among US adults: NHANES 2003–2008. *The American journal of clinical nutrition* 96.3: 647-657.

<sup>11</sup> Dietary Guidelines for Americans. (2010). Retrieved from <http://www.health.gov/dietaryguidelines/dqa2010/DietaryGuidelines2010.pdf>. Accessed March 2015.

<sup>12</sup> Cox, ER, Halloran, DR, Homan, SM, Welliver, S, & Mager, DE. (2008). Trends in the prevalence of chronic medication use in children: 2002–2005. *Pediatrics*, 122(5), e1053-e1061.

<sup>13</sup> Mozaffarian, D., et al. Heart disease and stroke statistics-2015 update: a report from the American Heart Association. *Circulation*. 2015. 131(4): e29-e322.

<sup>14</sup> Bibbins-Domingo, K, Chertow, GM, Coxson, PG, Moran, A, Lightwood, JM, Pletcher, MJ, & Goldman, L. (2010). Projected effect of dietary salt reductions on future cardiovascular disease. *New England Journal of Medicine*, 362(7), 590-599.

<sup>15</sup> Million Hearts. Retrieved from <http://millionhearts.hhs.gov>. Accessed March 2015.