



## Salt

# Reducing Sodium in the Diets of American Children

### OVERVIEW

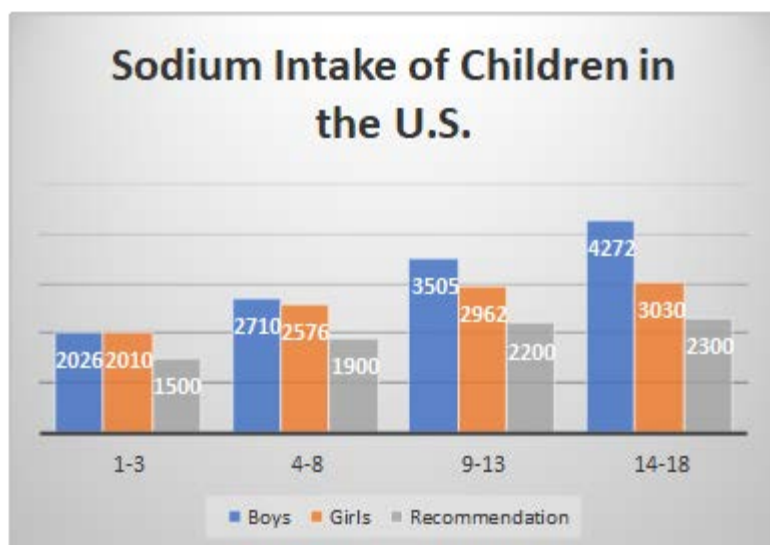
More than 90 percent of school-age children consume too much sodium, a risk factor for high blood pressure and many other health problems.<sup>1</sup> High blood pressure was once generally considered to be an illness that affected mainly middle-aged and older individuals, yet one in seven U.S. youth aged 12–19 years had high blood pressure or elevated blood pressure in 2013–2016.<sup>2</sup> High blood pressure increases the risk for heart disease and stroke, two leading causes of death in the U.S.<sup>3</sup>



Youth who have cardiovascular disease risk factors, such as high blood pressure, obesity, and diabetes, are more likely to have these risk factors as adults, putting them at greater risk for heart disease and stroke.<sup>2</sup> Higher blood pressure earlier in life can continue into adulthood, resulting in lifelong health problems.<sup>1</sup> Evidence shows that a lower sodium diet can reduce blood pressure in children.<sup>4</sup> Importantly,

studies suggest that infants' and children's preference for the taste of sodium is formed by dietary exposure, meaning the less sodium children consume, the less they want.<sup>5</sup>

The American Heart Association advocates for a multifaceted, stepwise reduction in sodium consumption in the U.S. diet for children and adults. This, combined with a nutritious diet that relies on fruits and vegetables, whole grains, low-fat and nonfat dairy products, beans, fish, and lean meats could help to improve the health of all generations of Americans.<sup>6</sup>



Adapted from: NHANES data, 2007-2010

### THE CURRENT STATE OF AFFAIRS

- Ten food categories contributed to almost half (48%) of U.S. school-aged children's sodium intake: pizza, Mexican-mixed dishes, sandwiches, breads, cold cuts, soups, savory snacks, cheese, milk, and poultry.<sup>7</sup>
- Children consume more sodium than is recommended for their age groups. Only 2–11 percent of children in different age and sex subgroups consume less than 2,300 mg of sodium per day.<sup>8</sup> Boys tend to consume more sodium than girls and children between the ages of 14 and 18 typically consume the most sodium per day.<sup>4</sup>
- The National Academy of Medicine has established a sodium intake chronic disease reduction level of 1,200 mg for children 1–3; 1,500 mg for children aged 4–8; 1,800 mg for children 9–13; and 2,300 mg for children 14–18.<sup>9</sup>
- The Healthy, Hunger-Free Kids Act of 2010 empowered the U.S. Department of Agriculture (USDA) to adopt a gradual, 10-year reduction to align sodium levels in school meals with the Dietary Guidelines for Americans, as recommended by the National Academy of Medicine. The first phase has already been implemented and schools were supposed to implement the final phase by the 2022–23 school year.<sup>10</sup> In December 2018, the United States Department of Agriculture issued a new final rule that delayed the second phase of sodium reduction to the 2024–25 school year and eliminated the third and final phase of sodium reduction.<sup>11</sup> Children who eat a school meal consume 26 percent of their sodium from cafeteria foods.<sup>12</sup> Eliminating the final phase of sodium reduction means the school foods will not be consistent with the Dietary Guidelines for Americans as required and threatens to reverse the progress made in improving nutrition and decreasing sodium consumption in children.

## **ECONOMIC AND HEALTH BENEFITS**

A government-supported national policy to reduce sodium by 10 percent over ten years would be cost effective in most countries across the world, including the U.S.<sup>13</sup> This cost effectiveness is seen even without accounting for healthcare savings that come from preventing heart attacks and stroke.<sup>13</sup> 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.

The U.S. Food and Drug Administration (FDA) has proposed draft voluntary sodium targets for processed and commercially prepared foods. If those targets were achieved, it could prevent approximately 450,000 cases of cardiovascular disease, gain approximately 2.1 million discounted quality-adjusted life years, and produce discounted cost savings (health savings minus policy costs) of approximately \$41 billion.<sup>14</sup> A reduction in high blood pressure in children today could result in longer, healthier lives, and may lower hospitalization costs in the future.

## **THE ASSOCIATION ADVOCATES**

The opportunity to address lower sodium levels for children can be found in a broad range of initiatives. The American Heart Association will:

- Continue to advocate for and work with schools to further the progress made to lower sodium in school meals and Smart Snacks to healthy, appropriate levels, by both encouraging schools to continue to lower sodium in their menus.
- Advocate to reverse USDA's sodium rollback decision.
- Advocate for increasing availability of fruits and vegetables in schools through commodities, food purchasing, school gardens, Farm to School, the Fresh Fruit and Vegetable Program (FFVP), and the fruit and vegetable standards in school meals.
- Advocate to establish nutrition standards for restaurant children's meals.
- Support improving access to and affordability of fruits and vegetables in the community by providing various incentives. Examples include: incentives for small and mid-size farms to produce specialty crops that can be distributed locally and regionally, which fosters community-led approaches to improve consumer access to healthy and fresh foods in low income neighborhoods; the Healthy Food Financing Initiative (HFFI), which helps bring grocery stores into food deserts and low-income communities; and incentives in the Supplemental Nutrition Assistance Program (SNAP), including the Food Insecurity Nutrition Incentive (FINI) program, which promote the purchase of healthy foods, especially fruits, vegetables, and high-fiber, whole grains, as well as fruit and vegetable prescription pilots.
- Support food service guideline standards for foods purchased by government agencies and employers that include criteria for strong sodium limits.
- Advocate for a strong sodium recommendation in the 2020-2025 Dietary Guidelines for Americans.
- Educate consumers about the revised Nutrition Facts label on food products and the lower Daily Value for sodium.
- Support efforts by food manufacturers, restaurants, and other food service companies to reduce sodium in their products and support the FDA's voluntary sodium targets and once released, encourage companies to adopt them.

<sup>1</sup> Appel et al. Reducing Sodium Intake in Children: A Public Health Investment. *Journal of Clinical Hypertension*. 2015; 17:9; 657-662. Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5034752/pdf/JCH-17-657.pdf>

<sup>2</sup> Jackson SL, Zhang Z, Wiltz JL, et al. Hypertension Among Youths — United States, 2001–2016. *MMWR Morb Mortal Wkly Rep* 2018;67:758–762. Retrieved from:

[https://www.cdc.gov/mmwr/volumes/67/wr/mm6727a2.htm?s\\_cid=mm6727a2\\_w](https://www.cdc.gov/mmwr/volumes/67/wr/mm6727a2.htm?s_cid=mm6727a2_w)

<sup>3</sup> Yoon SS, Fryar C, Carroll M. Hypertension prevalence and control among adults: United States, 2011–2014. National Center for Health Statistics data brief, November 2015;(220):1–8. Retrieved from:

<https://www.cdc.gov/nchs/data/databriefs/db220.pdf>

<sup>4</sup> U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015–2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Retrieved from:

<http://health.gov/dietaryguidelines/2015/guidelines/>

<sup>5</sup> Mennella, JA, Finkbeiner, S, Lipchok, SV, Hwang, LD, & Reed, DR. (2014). Preferences for salty and sweet tastes are elevated and related to each other during childhood. *Public Library of Science One*, 9(3), e92201. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3956914/pdf/pone.0092201.pdf>

<sup>6</sup> Gidding, SS, et al. (2005). Dietary recommendations for children and adolescents a guide for practitioners: Consensus statement from the American Heart Association. *Circulation*, 112(13), 2061-2075. Retrieved from: <https://www.ahajournals.org/doi/pdf/10.1161/CIRCULATIONAHA.105.169251>

<sup>7</sup> Quader ZS, Gillespie C, Sliwa SA, et al. Sodium intake among US school-aged children: national health and nutrition examination survey, 2011–2012. *J Acad Nutr Diet*. 2016;117(1):39–47.e5. Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5458522/pdf/nihms859686.pdf>

<sup>8</sup> Virani SS, et al. Heart disease and stroke statistics—2020 update: a report from the American Heart Association. *Circulation*. 2020;141:e139–e596. <https://doi.org/10.1161/CIR.0000000000000757>

<sup>9</sup> National Academies of Sciences, Engineering, and Medicine. 2019. Dietary Reference Intakes for Sodium and Potassium. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25353>

<sup>10</sup> Department of Agriculture. (2012). *Nutrition standards in the National School Lunch and School Breakfast Programs; Final Rule (7 CFR Parts 210 and 220)*. Washington, DC: US Government Printing Office. Retrieved from: <https://www.govinfo.gov/content/pkg/FR-2012-01-26/pdf/2012-1010.pdf>

<sup>11</sup> Department of Agriculture. (2018). *Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements; Final Rule (7 CFR Parts 210, 215, 220, and 226)*. Washington, DC: US Government Printing Office. Retrieved from: <https://www.govinfo.gov/content/pkg/FR-2018-12-12/pdf/2018-26762.pdf>

<sup>12</sup> Cogswell M, et al. (2014). Vital signs: sodium intake among U.S. school-aged children – 2009–2010. *Morbidity and Mortality Weekly Report*. 63(36):789–797. Retrieved from:

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6336a3.htm>

<sup>13</sup> Webb et al. Cost Effectiveness of a Government Supported Policy Strategy to Decrease Sodium Intake. *BMJ*. 2017;356:i6699 | doi: 10.1136/bmj.i6699. Retrieved from:

<https://www.bmj.com/content/356/bmj.i6699>

<sup>14</sup> Pearson-Stuttard J, Kypridemos C, Collins B, Mozaffarian D, Huang Y, Bandosz P, et al. (2018) Estimating the health and economic effects of the proposed US Food and Drug Administration voluntary sodium reformulation: Microsimulation cost-effectiveness analysis. *PLoS Med* 15(4): e1002551. Retrieved from: <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002551>