



## Stepping Up to the Plate: Nutrition Standards and School Meals

### OVERVIEW

Nutrition standards have been a part of school lunch since they were first implemented under the Truman administration out of national security concerns. The process for updating national nutrition standards began in 2004, when the U.S. Department of Agriculture (USDA)—based on requirements in the Child Nutrition and WIC Reauthorization Act of 2004—commissioned the National Academy of Medicine (NAM), formerly the Institute of Medicine, to provide recommendations on what constitutes a healthy school meal.<sup>1,2</sup> In December 2010, the bipartisan Healthy, Hunger-Free Kids Act (HHFKA) was signed into law, further empowering the USDA to update the national nutrition standards for school meals and establish nutrition standards for other foods sold in schools throughout the school day, based on the NAM report.<sup>3</sup> As of 2016, more than 99 percent of schools that participate in the National School Lunch Program (NSLP) were meeting these nutrition standards, up from 14 percent in 2009-2010.<sup>4,5</sup> This means that an overwhelming majority of children are now receiving healthier lunches at school.

### A PUBLIC HEALTH VICTORY FOR KIDS

School meal standards help schools promote a positive food environment and establish a foundation for a lifetime of healthy behaviors. Studies have suggested that a healthy diet is associated with academic achievement<sup>6</sup> and that certain nutrition programs increase attendance.<sup>7</sup> Additionally, the updated nutrition standards have had several beneficial effects on school nutrition and health.



- Kids are now choosing healthier foods and are eating 16 percent more vegetables and 23 percent more fruit.<sup>8,9</sup>
- School meals are now lower in sodium and sugar.<sup>10,11</sup>
- Children who participate in the NSLP eat greater amounts of healthy foods and have an overall better-quality diet.<sup>12</sup>
- The number of elementary schools offering fresh fruit and whole grains has increased by nearly 20 percent since 2006.<sup>13</sup>
- The nutrition standards have not had a negative effect on school meal participation over time;<sup>14</sup> participation has actually increased for children who receive free meals.<sup>15</sup>
- By 2025, it is estimated that healthy nutritional standards for all foods sold in schools will decrease the number of childhood obesity cases by more than two million.<sup>16</sup>
- In particular, applying standards to foods sold outside of meal programs (Smart Snacks) can lead to costs savings of nearly \$800 million.<sup>17</sup> In addition to positive health benefits, the public, children, and parents like them too.
- Polls show that the updated nutrition standards are supported by 89 percent of the public.<sup>17</sup>
- 70 percent of elementary school administrators and food service staff report positive feedback from their students on the new lunch standards.<sup>18</sup>



### A WAY TO A HEALTHIER GENERATION

The progress brought about by this program is much needed. Currently, one-third of children are not only overweight or obese but are also at increased risk of developing heart disease and diabetes.<sup>19</sup> An overwhelming majority of children aged 5-19 meet none or only one of the five components the American Heart Association uses to define a healthy diet.<sup>18</sup> 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>20</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>21</sup> High blood pressure increases the risk for heart disease and stroke, two leading causes of death in the U.S.<sup>22</sup> Additionally, research has found that 20 percent of children ages 8-17 had high cholesterol levels.<sup>23</sup>

### LESSONS LEARNED

Recent studies have concluded school meals are getting healthier and any challenges are expected to resolve over time with increased technical assistance to support school districts.<sup>24</sup> In fact, targeted support and technical assistance appear to have mitigated initial troubles.

- A report from Pew found that providing school food service team members with the training they need is a critical step in meeting the updated nutrition standards.<sup>25</sup>
- A 2014 USDA analysis found that \$200 million in revenue has been gained since the implementation of the new standards.<sup>26</sup>

- In a national survey of 489 school nutrition directors, 84 percent of program directors reported rising or stable combined revenue (meal reimbursements plus snack and beverage sales) after implementing the updated nutrition standards.<sup>27</sup>
- Examples from across the country show that students are selecting more fruits and vegetables and eating healthier meals over time as a result of the standards.<sup>28</sup>
- Preparing and presenting fruits and vegetables in certain ways, participating in farm-to-school programs, incorporating technical assistance, and using creative and fun games can all reduce plate waste if it is occurring.<sup>29,30,31,32</sup>
- Simple changes in how the lunch day is structured, such as time of day lunch is served, length of lunch, having lunch after recess, and an inviting atmosphere can also reduce plate waste.<sup>33</sup>
- Data suggests that flavored milk can be removed from schools and consumption of plain milk can increase over time.<sup>34</sup>

## ONGOING THREATS

As part of the 2012 nutrition standards update, USDA adopted a three-tiered ten-year reduction to align sodium levels in school meals with upper limits of the Dietary Guidelines for Americans, as recommended by the NAM. The first phase has already been implemented. Schools were supposed to implement the final phase of sodium reduction by the 2022-23 school year.<sup>35</sup> However, in December 2018, USDA announced that it was changing some of the requirements for schools, including delaying the second phase of sodium reduction to the 2024-25 school year and eliminating the third and final phase of sodium reduction.<sup>36</sup> This weakening of the sodium standards jeopardizes children's health. Children who eat school meals consume 26 percent of their sodium from cafeteria foods.<sup>37</sup> Eliminating the final phase means school foods will not be consistent with the Dietary Guidelines for Americans as required by law.

In addition to rolling back the sodium standards, USDA also weakened the whole grain and flavored milk standards. The whole grain standard moved from having all grains be whole grain-rich, to only having half of the grains be whole grain-rich. Diets high in whole grains and fiber have been associated with increased diet quality and decreased risk of cardiovascular disease.<sup>38</sup> There is also evidence that people who eat whole grain foods—particularly those that are high in fiber and lower in sugar—have a lower body weight than those who eat fewer whole grains.<sup>36</sup> Unfortunately, children ages 4 to 18 do not meet the recommended intake for whole grains and exceed the recommended limit for refined grains.<sup>39</sup>

USDA now allows flavored milk to be both fat-free and 1 percent. Previously, flavored milk could only be fat-free. While milk provides key shortfall nutrients, most notably potassium, calcium, and Vitamin D,<sup>36</sup> these changes to milk leave concerns about the added calories and saturated fat that will come with allowing 1 percent flavored milk, as well as the potential of additional added sugars currently found in some 1 percent flavored milk products.

These three changes to the school meals program threatens to reverse the progress made in improving nutrition in children.

## THE ASSOCIATION ADVOCATES

Despite some growing pains and challenges, schools have stepped up to the plate and are serving more healthy meals than ever. The association will continue to support keeping robust school nutrition standards in place to ensure the health and wellbeing for all children and the success of the programs. In addition, the association will advocate to reverse USDA's sodium, whole grain, and milk rollbacks, and encourage schools to stay the course to put healthier food on children's plates.

<sup>1</sup> Child Nutrition and WIC Reauthorization Act of 2004, Pub. L. No. 108-265, 118 Stat. §103

<sup>2</sup> Institute of Medicine. (2009). School Meals: Healthy Building Blocks for Healthy Children. Retrieved from: <http://www.nap.edu/read/12751/chapter/1>. Accessed on February 2019.

<sup>3</sup> Healthy Hunger-Free Kids Act of 2010, Pub. L. No. 111-296, 124 Stat. §183, §§ 101-105, 201-210.

<sup>4</sup> US Department of Agriculture. Parent of Child Food Authorities (SFAs) certified for the performance-based reimbursement as of June 2016, 2016. Retrieved from: [https://fns-prod.azureedge.net/sites/default/files/cn/SFAcert\\_FY16Q4.pdf](https://fns-prod.azureedge.net/sites/default/files/cn/SFAcert_FY16Q4.pdf). Accessed February 2019.

<sup>5</sup> US Department of Agriculture. School Nutrition Dietary Assessment Study IV, 2012. Available at: <http://www.fns.usda.gov/school-nutrition-dietary-assessment-study-iv>. Accessed on February 2019.

<sup>6</sup> Burros T, Goldman S, Lim R. (2016). Is there an association between dietary intake and academic achievement: a systematic review. *Journal of Human Nutrition and Dietetics*. 30(2): 117-140.

<sup>7</sup> Anzman-Frasco S, et al. (2015). Estimating Impacts of a Breakfast in the Classroom Program on School Outcomes. *JAMA Pediatrics*. 169: 1: 71-77. Retrieved from: <https://jamanetwork.com/journals/jamapediatrics/fullarticle/1939309>.

<sup>8</sup> Johnson, DB, et al. (2016). Effect of the Healthy Hunger-Free Kids Act on the Nutritional Quality of Meals Selected by Students and School Lunch Participation Rates. *JAMA Pediatrics* 170(1): e153918. Retrieved from: <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2478057>.

<sup>9</sup> Cohen, JF, et al. (2014). Impact of the new U.S. Department of Agriculture school meal standards on food selection, consumption, and waste. *Am J Prev Med* 46(4): 388-394. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3994463/>.

<sup>10</sup> Cummings, PL, et al. (2014). Nutrient content of school meals before and after implementation of nutrition recommendations in five school districts across two US counties. *Preventive medicine*. 67: S21-S27. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S0091743514000905?via=ih.org>.

<sup>11</sup> Cummings, P, L, et al. (2014). Evaluating changes to sodium content in school meals at a large, urban school district in Los Angeles County, California. *Journal of Public Health Management and Practice*. 20: S43-S49. Retrieved from: [https://journals.lww.com/phmp/fulltext/2014/01001/Evaluating\\_Changes\\_to\\_Sodium\\_Content\\_in\\_School\\_Meals.aspx](https://journals.lww.com/phmp/fulltext/2014/01001/Evaluating_Changes_to_Sodium_Content_in_School_Meals.aspx).

<sup>12</sup> Ferris, AR et al. (2014). Nutritional comparisons of Packed and School Lunches in Pre-Kindergarten and Kindergarten Children Following Implementation of 2012-2013 National School Lunch Program. *Journal of Nutrition Education and Behavior*. 46(6): 621-626.

<sup>13</sup> Turner L, et al. (2015). Improvements in School Lunches Result in Healthier Options for Millions of U.S. Children: Results from Public Elementary Schools between 2006-07 and 2013-14. A BTG Research Brief. Available at: [http://www.bridgingthegapresearch.org/assets/boxrx/Elementary-Lunches-brief\\_V2\\_MAY2015.pdf](http://www.bridgingthegapresearch.org/assets/boxrx/Elementary-Lunches-brief_V2_MAY2015.pdf). Accessed on February 2019.

<sup>14</sup> Vaudrin N, Lloyd K, Yedidia MJ, Todd M, Ohri-Vachaspati P. (2018). Impact of the 2010 US Healthy, Hunger-Free Kids Act on School Breakfast and Lunch Participation Rates Between 2008 and 2015. *Am J Public Health*. 108(1):84-86. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5719678/>.

<sup>15</sup> U.S. Department of Agriculture. (2019). National School Lunch Program: Participation and Lunches Served. Retrieved from: <https://fns-prod.azureedge.net/sites/default/files/pdf/slnmmp.pdf>. Accessed February 2019.

<sup>16</sup> Gortmaker, S, L, et al. (2015). Three Half-Centuries of Child and Adolescent Obesity: Are We Projected to Save More Than They Cost to Implement. *Health Aff (Millwood)* 34(11): 1932-1939. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510631/>.

<sup>17</sup> WK Kellogg Foundation. (2015). Food for Thought. Available at: <http://www.wkcf.org/2015/schoolfoodpoll/share/WKCF-Food-and-Community-Topicline.pdf>. Accessed on February 2019.

<sup>18</sup> Turner, L, et al. (2014). Perceived Reactions of Elementary School Students to Changes in School Lunches after Implementation of the United States Department of Agriculture's New Meals Standards: Minimal Backlash, but Rural and Socioeconomic Disparities Exist. *Childhood Obesity*. 10: 349-356. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4121045/>.

<sup>19</sup> Benjamin EJ, et al. Heart disease and stroke statistics-2019 update: a report from the American Heart Association. *Circulation*. 2019;139:e1-e473. doi: 10.1161/CIR.0000000000000659. Retrieved from: <https://www.ahajournals.org/doi/pdf/10.1161/CIR.0000000000000659>.

<sup>20</sup> Appel et al. (2015). Reducing Sodium Intake in Children: A Public Health Investment. *Journal of Clinical Hypertension*. 17(9): 657-662. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634752/pdf/jch-17-657.pdf>.

<sup>21</sup> Jackson SL, Zhang Z, Wilts JL, et al. (2018). Hypertension Among Youths — United States, 2001-2016. *MMWR Morb Mortal Wkly Rep*. 67:758-762. Retrieved from: [https://www.cdc.gov/mmwr/volumes/67/wr/mm6722a.htm?cid=mm6722a2\\_w](https://www.cdc.gov/mmwr/volumes/67/wr/mm6722a.htm?cid=mm6722a2_w).

<sup>22</sup> Yoon SS, Fryer C, Carroll M. (2015). Hypertension prevalence and control among adults: United States, 2011-2014. National Center for Health Statistics data brief. (22011)-8. Retrieved from: <https://www.cdc.gov/nchs/data/databriefs/db220.pdf>.

<sup>23</sup> Kirk, KB, et al. (2015). Prevalence of and Trends in Dyslipidemia and Blood Pressure Among US Children and Adolescents, 1999-2012. *JAMA pediatrics*. Retrieved from: <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2089642>.

<sup>24</sup> Government Accountability Office. (2015). "USDA Has Efforts Underway to Help Address Ongoing Challenges Implementing Changes in Nutrition Standards." Retrieved from: <http://www.gao.gov/assets/680/674777.pdf>. Accessed February 2019.

<sup>25</sup> Kids Safe and Healthful Foods Project. Pew Charitable Trusts and Robert Wood Johnson Foundation. (2015). Serving Healthy School Meals: Staff Development and Training Needs. Retrieved from: <http://www.pewtrusts.org/~media/assets/2015/08/serving-healthy-school-meals-report.pdf>. Accessed on February 2019.

<sup>26</sup> USDA. (2014). Fast Facts: Healthy, Hunger-Free Kids Act School Meals Implementation. Retrieved from: <http://www.fns.usda.gov/pressrelease/2014/009814>. Accessed February 2019.

<sup>27</sup> Kids Safe and Healthful Foods Project. Pew Charitable Trusts and Robert Wood Johnson Foundation. (2016). School Meal Programs Innovate to Improve Student Nutrition. Retrieved from: <https://www.pewtrusts.org/en/research-and-analysis/reports/2016/12/school-meal-programs-innovate-to-improve-student-nutrition>. Accessed February 2019.

<sup>28</sup> Kids Safe and Healthful Foods Project. Pew Charitable Trusts and Robert Wood Johnson Foundation. (2016). Healthy School Lunches Improve Kids' Habits. Retrieved from: <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/04/healthy-school-lunches-improve-kids-habits>. Accessed February 2019.

<sup>29</sup> U.S. Department of Agriculture. Farm to School Census, 2013-2014. Retrieved from: <https://www.fns.usda.gov/news/new-usda-data-show-growing-farm-school-efforts-help-reduce-plate-waste-increase-student>. Accessed February 2019.

<sup>30</sup> Bontogge Yoder, AB, et al. (2015). Factors affecting fruit and vegetable school lunch waste in Wisconsin elementary schools participating in Farm to School programmes. *Public Health Nutr* 18(15): 2855-2863. Retrieved from: <https://www.cambridge.org/core/journals/public-health-nutrition/article/factors-affecting-fruit-and-vegetable-school-lunch-waste-in-wisconsin-elementary-schools-participating-in-farm-to-school-programmes/D803F8DA270D53E11A34849463A859>.

<sup>31</sup> Jones, BA, et al. (2014). The FIT game: preliminary evaluation of a gamification approach to increasing fruit and vegetable consumption in school. *Preventive medicine*. 68: 76-79.

<sup>32</sup> Just, DR, et al. (2014). Chefs move to schools: A pilot examination of how chef-created dishes can increase school lunch participation and fruit and vegetable intake. *Appetite*. 83: 242-247.

<sup>33</sup> United States Department of Agriculture. Reducing Food Waste. What Schools Can Do Today. Retrieved from: <https://fns-prod.azureedge.net/sites/default/files/cnd/infographic-food-waste.pdf>. Accessed February 2019.

<sup>34</sup> Schwartz MB, Henderson KE, Read M, Cornelius T. (2018). Student acceptance of plain milk increases significantly 2 years after flavored milk is removed from school cafeterias: an observational study. *J Acad Nutr Diet*. 118(5):857-864. doi: 10.1016/j.jand.2017.05.021. <https://pubmed.ncbi.nlm.nih.gov/30212262/>.

<sup>35</sup> U.S. 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>36</sup> U.S. 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>37</sup> Cogswell ME, 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/mm336a3.htm>.

<sup>38</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>39</sup> U.S. Department of Agriculture and U.S. Department of Health and Human Services. *What We Eat in America, NHANES 2007-2010*. Beltsville, MD: USDA, 2010. Retrieved from: <https://www.cdc.gov/nchs/nhanes/wwia.htm>. Accessed February 2019.