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Re: Petition to Establish an Added Sugars Standard for School Meals and Competitive Foods

Executive Summary

The U.S. Department of Agriculture (USDA) is required by law to update nutrition standards for reimbursable school lunches and breakfasts, as well as all food sold in school (competitive foods), in accordance with the most recent *Dietary Guidelines for Americans* (DGA). The current school nutrition standards do not include a standard for added sugars, which the 2020-2025 DGA recommends limiting to less than 10 percent of total calories. On average, children in the United States consume added sugars in excess of this limit, which poses serious concerns for public health. In the absence of a requirement to limit added sugars, school meals also contain added sugars in excess of the limit recommended by the DGA. To align the school meal programs with the DGA and reduce added sugars consumption among children, the Center for Science in the Public Interest, the American Heart Association, and the American Public Health Association respectfully request that the USDA Food and Nutrition Service (FNS) establish an added sugars standard for school meals and competitive foods to align with the 2020-2025 DGA recommendation limiting added sugars consumption to less than 10 percent of total calories.

I. Introduction

The National School Lunch Program (NSLP) and School Breakfast Program (SBP) are two of the best tools we have to bolster food and nutrition security among children in the United States.

Under the Richard B. Russell National School Lunch Act (NSLA) and Child Nutrition Act (CNA) of 1966, the USDA is required to update nutrition standards for reimbursable school lunches and breakfasts, as well as all food sold in school (competitive foods), in accordance with the most recent DGA.[1] Thanks to the 2012 updated nutrition standards for school breakfast and lunch based on the 2010 DGA, schools are providing children with healthier school meals, snacks, and beverages. For students who reside in households experiencing food insecurity, school breakfast and lunch may be the only nutritious meals they will consume in a day.

[1] 42 U.S.C. §§ 1758(f)(1)(A), 1779 (b)(1)(C)(i), (b)(1)(D).

These improvements are an amazing success story. As we describe in greater detail below, the standards led to significant improvements in the nutritional quality of meals served[2] and consumed[3] and have been linked to reduced risk of obesity for children in poverty.[4]

However, science-based nutrition guidance and policy have evolved since the standards for school meals and competitive foods were issued in 2012[5] and 2013,[6] respectively. Those standards were based on the 2010 DGA, which did not include a quantitative limit on added sugars intake.[7] At the time those standards were issued, there was also no requirement for food and beverage manufacturers to disclose added sugars content on the Nutrition Facts label. But since then, the 2015-2020[8] and 2020-2025 DGA[9] recommended that individuals aged 2 years and older consume less than 10 percent of total calories from added sugars. This is now reflected in the requirement to disclose added sugars content on the Nutrition Facts label.[10] School nutrition standards have not been similarly updated.

Access to healthy school meals has never been more critical.

The importance of healthy school meals has taken on new urgency during the COVID-19 pandemic. Given the severe economic impacts of COVID-19, it is likely that children will continue to qualify for free or reduced-priced school meals in greater numbers than before the pandemic. Most children (74 percent in 2019) who participate in the program are from low-income households.[11]

Although overall food insecurity levels stayed roughly the same during the pandemic, food insecurity among children increased, and existing inequities—comparing Black and Hispanic households to white households—widened.[12] As such, school meals have the capacity to mitigate a critical inequity that disproportionately impacts certain student subpopulations.

Given that healthier school meals have been linked to healthier body weight outcomes for children, optimizing their nutritional quality is critical.[13] Currently, one out of three children and adolescents aged 2

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[2] Fox MK, Gearan E. *School Nutrition and Meal Cost Study Summary of Findings.* U.S. Department of Agriculture Food and Nutrition Service. April 2019. https://fns-prod.azureedge.net/sites/default/files/resource-files/SNMCS_Summary-Findings.pdf

[3] Kindernecht BS, Harris C, Jones-Smith J. Association of the Healthy, Hunger-Free Kids Act With Dietary Quality Among Children in the US National School Lunch Program. *JAMA*. 2020;324(4):359-368.

[4] Kenney EL, et al. Impact of the Healthy, Hunger-Free Kids Act on Obesity Trends. *Health Affairs*. 2020;39(7):1122-1129; Gortmaker SL, Wang YC, Long MW, et al. Three Interventions that Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement. *Health Aff.* 2015;34:1932-9.

[5] 77 Fed. Reg. 4088 (Jan. 26, 2012).

[6] 78 Fed. Reg. 39,068 (June 28, 2013).

[7] U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010.* 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.

[8] U.S. Department of Health and Human Services and U.S. Department of Agriculture. *2015–2020 Dietary Guidelines for Americans*. 8th Edition. December 2015. Available at http://health.gov/dietaryguidelines/2015/guidelines

[9] U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th Edition. December 2020. Available at **DietaryGuidelines.gov**.

[10] 83 Fed. Reg. 19,619, 19,620 (May 4, 2018).

[11] U.S. Department of Agriculture. *Child Nutrition Tables: National Level Annual Summary Tables: FY 1969-2020.* https://www.fns.usda.gov/pd/child-nutrition-tables.

[12] Coleman-Jensen A, et al. *Household Food Security in the United States in 2020*, ERR-298, U.S. Department of Agriculture, Economic Research Service. 2021. https://www.ers.usda.gov/webdocs/publications/102076/err-298.pdf?v=5485.5 See: Figure 5.

[13] Gortmaker SL, et al. Three Interventions that Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement. *Health Aff.* 2015;34:1932-9.

to 19 years has overweight or obesity, putting them at risk for long-term health problems.[14] According to the Centers for Disease Control and Prevention (CDC), the monthly rate of body mass index (BMI) increase among children and adolescents during the pandemic approximately doubled from a pre-pandemic period.[15] Children with pre-pandemic overweight or obesity and younger school-aged children experienced the largest increases.

Given the impact of COVID-19 and, as we will describe, the clear benefits of healthy school meals, it is imperative that all children are able to access school meals that meet evidence-based nutrition standards that support their health.

School nutrition standards must be aligned with the 2020-2025 DGA

The school nutrition standards are now outdated with respect to added sugars. In the absence of a requirement to limit added sugars, unsurprisingly, school meals contain added sugars in excess of the limit recommended by the DGA.[16] Nine out of ten schools exceed the 2020 DGA limit for added sugars for breakfast meals, and nearly seven out of ten schools exceed the limit for lunch.[17]

To align the school meal programs with the DGA as required by law, as described below, and reduce added sugars consumption among children, the petitioners request that FNS establish an added sugars standard for the NSLP, SBP, and competitive foods.

We propose that the standard for breakfast and lunch should limit added sugars to less than 10 percent of calories on average over the week, similar to the current saturated fat standard, which is also that less than 10 percent of total calories can come from saturated fat over the week. The current sodium standards are also stated as weekly averages.

As FNS assists schools in meeting the proposed added sugars standard, the agency should prioritize reducing the leading sources of added sugars in school meals, particularly for breakfast, which tends to be higher in added sugars than lunch: flavored skim milk; sweetened cereals; condiments and toppings; and muffins and sweet/quick breads.[18]

With respect to competitive foods, to be consistent with the DGA, the petitioners request that FNS replace the existing total sugars limit with an added sugars limit of less than 10 percent of total calories per item.

Finally, we are concerned that if FNS were to establish an added sugars standard, food manufacturers would substitute low-calorie sweeteners (LCS) for added sugars. There is limited evidence on the long-term effects of LCS in children and more research is needed. Based on the available evidence, we believe it is prudent for children to avoid prolonged consumption of foods and beverages sweetened with LCS.

We urge FNS to disallow LCS of concern—including aspartame, saccharin, acesulfame-K, and sucralose—as part of establishing an added sugars standard with a short compliance timeline (*e.g.*, School Year 2024-2025).

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[14] Fryar CD, et al. Prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2–19 years: United States, 1963–1965 through 2017–2018. *NCHS Health E-Stats*. 2020.
[15] Lange SJ, et al. Longitudinal Trends in Body Mass Index Before and During the COVID-19 Pandemic Among Persons Aged 2–19 Years — United States, 2018–2020. *MMWR Morb Mortal Wkly Rep* 2021;70:1278–1283.
[16] Fox MK, Gearan EC, Schwartz C. Added Sugars in School Meals and the Diets of School-Age Children. *Nutrients*. 2021;13:471.
[17] Fox, 2021.
[18] Fox, 2021.

II. Full Statement of Requested Actions

While the current nutrition standards for the NSLP, SBP, and competitive foods were appropriate at the time they were established, with respect to added sugars they are no longer consistent with the most recent DGA as required by law.[19] Furthermore, school meals contain more added sugars than is recommended by the DGA, with negative implications for children's health.[20] The Petitioners provide the following full statement of the actions requested to address this problem, as well as the factual and legal basis on which we rely for the action requested.

Pursuant to 42 U.S.C. §§ 1758(a)(1), (f)(1)(A), 42 U.S.C. § 1773(e)(1), and 42 U.S.C. § 1779(b), the Petitioners request that FNS take the following actions:

1) Promulgate a rule (*e.g.,* the forthcoming "Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans – Proposed Rule – October 2022"[21]) that includes the following provisions and establish a short timeline for compliance (*e.g.*, School Year 2024-2025), which could be phased in:
    a. Establishes an added sugars standard for school meals to align with the 2020-2025 DGA recommendation limiting added sugars consumption to less than 10 percent of total calories; and
    b. Eliminates LCS of concern from school meals, including aspartame, acesulfame-K, saccharin, and sucralose.
2) Prioritize reducing through technical assistance and guidance, particularly for breakfast, the leading sources of added sugars in school meals: flavored skim milk; sweetened cereals; condiments and toppings; and muffins and sweet/quick breads.
3) Promulgate a rule (*e.g.*, incorporate into the forthcoming "Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans – Proposed Rule – October 2022") including the following provisions with a compliance date of School Year 2024-2025:
    a. Aligns the current sugars standard for competitive foods (*i.e.,* total sugars ≤ 35 percent by weight) with the 2020-2025 DGA by replacing the total sugars limit with an added sugars limit (*i.e.,* < 10 percent of total calories from added sugars per item).
    b. Eliminates LCS of concern, including aspartame, acesulfame-K, saccharin, and sucralose, in competitive foods by School Year 2024-2025.

III. Legal Basis for Requested Actions

USDA is required to align school meal nutrition standards with the DGA.

Current law requires that nutrition standards for school meals be consistent with the most recent DGA.[22] In 1946, Congress enacted NSLA, which created the NSLP.[23] This was followed by the CNA in 1966,

[19] Richard B. Russell National School Lunch Act, P. L. No. 79-396, 60 Stat. 230, (codified as amended at 42 U.S.C. §§ 1751 *et seq.*)
[20] Fox, 2021.
[21] Office of Information and Regulatory Affairs. Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans. https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=0584-AE88
[22] 42 U.S.C. § 1758(f)(1)(A).
[23] Pub. L. No. 79-396, 60 Stat. 230 (1946) (codified at 42 U.S.C. §§ 1751 *et seq*.).

which first established the SBP.[24] The NSLA and CNA have since been amended repeatedly to expand the number of child nutrition programs and add nutritional requirements to improve children's diet quality and overall health. The result is a carefully constructed statutory scheme requiring that school meal standards promulgated by USDA be aligned with the evidence-based federal dietary advice contained in the DGA.

To this end, the NSLA and CNA require USDA to set "minimum nutritional requirements" for school meals based on "tested nutritional research" and establish "science-based nutrition standards" for foods sold outside of the meal programs, on the school campus, and at any time during the school day (also known as "competitive foods").[25] For school meals, such standards are required to be "consistent with the goals of the most recent Dietary Guidelines for Americans."[26] Similarly, for competitive foods, such standard must be "consistent with the most recent Dietary Guidelines for Americans" and updated "as soon as practicable" after the publication of a new edition of the DGA.[27]

Congress' intent to align school meals and competitive foods with the DGA is further supported by several amendments to the NSLA and CNA, each of which required USDA to issue regulations for school meals and/or competitive foods consistent with the then most recent DGA and set a specific statutory timetable for finalizing those regulations.

For instance, Congress amended the NSLA in 1994 to require that, within one year, USDA's school meal nutrition standards be brought, "into conformance with the guidelines contained in the most recent 'Dietary Guidelines for Americans.'"[28]

In 2004, Congress took additional steps to ensure that school meals aligned with the DGA by amending the NSLA to add a provision requiring the Secretary of Agriculture, within two years, to promulgate rules, "based on the most recent Dietary Guidelines for Americans, that reflect specific recommendations, expressed in serving recommendations, for increased consumption of foods and food ingredients offered in school nutrition programs."[29]

Finally, with the Healthy, Hunger-Free Kids Act (HHFKA) of 2010, in recognition of the increasing evidence connecting poor nutrition with various adverse health outcomes, Congress mandated additional improvements to the nutritional quality of school meals. Among other things, the HHFKA mandated that the Secretary of Agriculture, within three years, "update the meal patterns and nutrition standards for the school lunch program … and the school breakfast program … based on recommendations made by the [Institute of Medicine Report *School Meals: Building Blocks for Healthy Children*]."[30] USDA commissioned the Report, released in 2009, in response to the Congressional mandate to promulgate rules, "based on the most recent Dietary Guidelines."[31] The HHFKA further required the USDA to, within one year, propose standards for competitive foods "consistent with the most recent Dietary Guidelines for Americans."[32]

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[24] Pub. L. No. 89-642, 80 Stat. 885 (codified at 42 U.S.C. §§ 1771 *et seq*.).
[25] 42 U.S.C. §§ 1758(a)(1), 1773(e)(1), 1779(b)(1)(A)(i).
[26] 42 U.S.C. § 1758(f)(1)(A).
[27] 42 U.S.C. §§ 1779 (b)(1)(C)(i), (b)(1)(D).
[28] Pub. L. No. 103-448, sec. 112, § 1760(k)(1), (k)(3), 108 Stat. 4699 (1994).
[29] Pub. L. No. 108-265, sec. 103, § 1758(a)(4)(B), 118 Stat. 729 (2004).
[30] Pub. L. No. 111-296, sec. 201, § 1753(b)(3)(A)(i), 124 Stat. 3183 (2010).
[31] Inst. of Med. of the Nat'l Acads., *School Meals: Building Blocks for Healthy Children* 19 (Virginia A. Stallings et al. eds., 2010), https://www.nap.edu/read/12751/chapter/1 [hereinafter IOM Report] ("The committee's overall task was to review and assess the food and nutritional needs of schoolchildren in the United States on the basis of the 2005 *Dietary Guidelines for Americans* (HHS/USDA, 2005) and the Dietary Reference Intakes (DRIs).").
[32] Pub. L. No. 111-296, sec. 208, § 1779 (b)(1)(C)(i)-(ii), 124 Stat. 3183 (2010).

USDA has issued numerous nutrition standards in furtherance of requirements to align with the DGA.

In 2012, FNS issued a final rule, Nutrition Standards in the National School Lunch and School Breakfast Programs, to update the standards to align with the DGA.[33] Consistent with Congress's directive that school meal standards be based on the most recent DGA, the proposed rule, which was issued prior to the release of the 2010 DGA, included updates based on the 2005 DGA. The final rule modified the proposed rule to reflect changes in the 2010 DGA.[34]

In the case of nutrients for which the DGA makes quantitative recommendations, USDA has previously adopted those quantitative recommendations in the NSLP and SBP. For example, like the current advice on added sugars, the DGA recommends that a healthy diet contains less than 10 percent of calories from saturated fat. USDA translated this into a standard for school meals in a straightforward manner. In 1995, USDA introduced the requirement that school meals contain less than 10 percent of calories from saturated fat to be consistent with the DGA.[35] As this recommendation continued in subsequent editions of the DGA, the 2012 School Nutrition Rule reaffirmed the requirement to "offer lunches and breakfasts that supply, on average over the school week, less than 10 percent of total calories from saturated fat."[36] The disclosure of saturated fat content on the Nutrition Facts label made this feasible to implement. The 2012 rule also implemented two new requirements to encourage schools to reduce saturated fat in meals: allowing only fat-free and low-fat milk and establishing maximum calorie limits for meals.[37]

Unlike saturated fat, the DGA did not introduce a quantitative recommended limit for added sugars until 2015. Naturally, the 2012 rule updating nutrition standards for NSLP and SBP does not reflect changes to the DGA in 2015. That rule, still in effect, is now outdated by the latest science-based guidance on added sugars. In 2015, it would have been challenging to implement a quantitative limit on added sugars in school meals because it was not yet mandatory for food labels to disclose added sugars content.

Based on updates to the DGA and the Nutrition Facts label, an added sugars standard is now feasible and overdue.

In 2016, the FDA issued a final rule to update the Nutrition Facts label, requiring that labels for foods and beverages with added sugars list the number of grams and the percent Daily Value (%DV) for added sugars per serving of foods and beverages.[38] FDA determined that this mandatory declaration was necessary to "assist consumers to maintain healthy dietary practices" including reducing intake of added sugars to less than 10 percent of total calories as recommended in the DGA.[39]

Now that, as of January 1, 2021, the Nutrition Facts label must disclose added sugars in grams and %DV, it is possible for schools to measure added sugars in their menus and therefore feasible to reduce it. The new label provides sufficient information for school food service operations to limit added sugars to recommended amounts.[40,41]

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[33] 77 Fed. Reg. 4088 (Jan. 26, 2012).
[34] *Id.* at 4,089.
[35] 60 Fed. Reg. 31,118, 31,208 (June 13, 1995).
[36] 77 Fed. Reg. at 4,096.
[37] *Id.* at 4,097.
[38] 81 Fed. Reg. 33,742 (May 27, 2016).
[39] *Id.* at 33,764.
[40] U.S. Food & Drug Administration. Changes to the Nutrition Facts Label. February 20, 2021. https://www.fda.gov/food/food-labeling-nutrition/changes-nutrition-facts-label.
[41] 83 Fed. Reg. at 19,624.

In 2013, FNS issued a final rule to implement HHFKA's competitive foods provisions, National School Lunch Program, and School Breakfast Program: Nutrition Standards for All Foods Sold in School as required by the HHFKA.[42] The HHFKA directed the Secretary of Agriculture to establish nutrition standards for competitive foods in schools that were to be consistent with the DGA and updated "as soon as is practicable" following a new edition of the DGA.[43] The 2013 final rule implementing this directive established a total sugars limit for competitive foods of 35 percent by weight.[44] As noted in Table 1, the 2010 DGA advised limiting added sugars in the diet, though without a quantitative limit. In response to public comments on the proposed rule suggesting the competitive food standard should be based on added sugars, FNS agreed "that a sugar standard based on added sugars is preferable but that it would be very difficult…to implement…since the current Nutrition Facts label does not differentiate between naturally occurring and added sugars. If added sugars information is required on the Nutrition Facts label in the future, USDA would anticipate updating the standards for competitive food to incorporate that standard."[45]

Since FNS took this position, two editions of the DGA with a quantitative limit on added sugars have been published, and disclosure of added sugars is now required on the Nutrition Facts label. Establishing an added sugars limit of 10 percent of calories for competitive foods is now both practical and overdue. As with reimbursable school meals, an added sugars standard is both a statutory requirement and a regulatory gap with significant implications for students' health.

IV. Factual Basis for Requested Actions

In addition to the legal rationale, school nutrition standards being inconsistent with the DGA with respect to added sugars is a matter of immense practical importance. As we will describe further, evidence indicates that school meals and children's diets contain more added sugars than is recommended for a healthy dietary pattern. This section also reviews the public health benefits produced by previous efforts to align school nutrition standards with the DGA, precautions regarding LCS, and current food industry performance on limiting added sugars and LCS.

Current intakes of added sugars exceed DGA recommendations.

The 2020-2025 DGA contains four overarching Guidelines, with the fourth being to "[l]imit foods and beverages higher in added sugars, saturated fat, and sodium, and limit alcoholic beverages."[46] The recommended limit for added sugars is "[l]ess than 10 percent of calories per day starting at age 2"(Table 1).[47]

The average intake of added sugars for people aged 1 and older in the United States is 13 percent of total calories, exceeding the recommended limit.[48] School-age children also consume added sugars in amounts greater than recommended by the DGA. Based on data from NHANES 2013-2016, the majority of school-age children (72 to 80 percent, depending on gender and age group) consume more than the limit

[42] 78 Fed. Reg. at 39,068..
[43] 42 U.S.C. § 1779(b).
[44] 78 Fed. Reg. at 39,069.
[45] 78 Fed. Reg. at 39,077.
[46] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.
[47] Those younger than age 2 are advised to avoid foods and beverages with added sugars.
[48] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.

of 10 percent of total calories from added sugars.[49] Average intake of added sugars is 11 percent of total calories among young children and peaks at 15 percent during adolescence.[50]

Table 1. History of added sugars advice in the DGA

Edition(s) of the DGA	Recommendations on Sugars or Added Sugars
1980, 1985	"Avoid too much sugar"
1990, 1995, 2000	"Choose a diet moderate in sugars"
2005	"Choose and prepare foods and beverages with little added sugars or caloric sweeteners"
2010	"Reduce intake of added sugars"
2015	"Consume less than 10 percent of calories per day from added sugars"
2020	"Added sugars—Less than 10 percent of calories per day starting at age 2. Avoid foods and beverages with added sugars for those younger than age 2."

The DGA has recommended avoiding too much sugar since the first edition in 1980 (Table 1). The 2005 DGA was the first to emphasize the importance of limiting intake of foods and beverages with *added* sugars, distinguished from naturally occurring sugars.[51] The 2015-2020 DGA introduced the quantitative limit of less than 10 percent of calories per day. The limit is based on the ability to "fit" non-essential calories into a healthy dietary pattern. The 2020-2025 DGA explains:[52]

> Most of the calories a person needs to eat each day—around 85 percent—are needed to meet food group recommendations healthfully, in nutrient-dense forms. The remaining calories—around 15 percent—are calories available for other uses, including for added sugars or saturated fat beyond the small amounts found in nutrient-dense forms of foods and beverages within the pattern, to consume more than the recommended amount of a food group, or for alcoholic beverages.

Therefore, "[f]oods and beverages high in calories from added sugars should be limited to help achieve healthy dietary patterns within calories limits. When added sugars in foods and beverages exceed 10 percent of calories, a healthy dietary pattern within calories limits is very difficult to achieve."[53]

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[49] Percentages of children exceeding 10 percent of total calories from added sugars: 80 percent of males and 77 percent of females aged 5 to 8 (page 79); 79 percent of males and 78 percent of females aged 9 to 13 (page 82); 72 percent of males and 76 percent of females aged 14 to 18 (page 85). U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.

[50] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.

[51] Added sugars include sugars that are added during the processing of foods (such as sucrose or dextrose), foods packaged as sweeteners (such as table sugar), sugars from syrups and honey, and sugars from concentrated fruit or vegetable juices. They do not include naturally occurring sugars that are found in milk, fruits, and vegetables. U.S. Food and Drug Administration. Added Sugars on the New Nutrition Facts Label. March 11, 2020. https://www.fda.gov/food/new-nutrition-facts-label/added-sugars-new-nutrition-facts-label.

[52] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.

[53] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025.* 9th edition. December 2020.

While the 2020-2025 DGA Executive Summary indicates that "less than 10 percent of calories" from added sugars is broadly applicable advice, subsequent portions of the report indicate that the amount of added sugars that can be accommodated in a healthy dietary pattern depends on an individual's total calorie needs. Accordingly, most Americans actually "have less than 8 percent of calories available for added sugars, including the added sugars inherent to a healthy dietary pattern [1.5 to 2 percent]."[54] Furthermore, "an individual who needs 2,000 calories per day (based on age, sex, and physical activity level) has less than 7 percent of calories available for added sugars." Only those who need "more than 3,000 calories per day may have a total of 9 to 10 percent of calories available for added sugars."[55] In other words, while reducing the average intake of added sugars from the current 13 percent of calories to 10 percent of calories would be highly beneficial, the vast majority of people would achieve the greatest health benefit by consuming even less. This underscores the urgency to make progress on reducing added sugars consumption in the United States.

Excessive consumption of added sugars poses health risks.

The limit on added sugars recommended by the 2020-2025 DGA is based on enabling people to consume a healthy dietary pattern. That dietary pattern does not only provide recommended levels of foods and nutrients. In adults, that dietary pattern is linked to beneficial outcomes for all-cause mortality, cardiovascular disease, overweight and obesity, type 2 diabetes, bone health, and breast and colorectal cancer, according to the DGA.[56]

Health authorities such as the CDC, American Heart Association, and World Health Organization have advised the public to limit added sugars to reduce the risk of weight gain, type 2 diabetes, cardiovascular disease, or dental decay (Table 2). The 2020 Dietary Guidelines for Americans Committee (DGAC) did not examine the evidence on added sugars and health outcomes. However, the DGAC did conclude that that "moderate evidence suggests that higher sugar-sweetened beverage intake is associated with greater adiposity in children."[57]

In the most recent data from the National Center for Health Statistics, 35.4 percent of U.S. children now have overweight or obesity.[58] This is a serious public health concern because excess weight contributes to the risk of type 2 diabetes, cardiovascular disease, many types of cancer, and other harmful health outcomes.[59]

Children with excess weight are more likely to have excess weight in adulthood, increasing their risk of cardiovascular disease (CVD), type 2 diabetes, and other chronic diseases.[60] Excess weight is a strong,

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[54] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9th edition. December 2020.
[55] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9th edition. December 2020.
[56] U.S. Department of Agriculture, U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9th edition. December 2020.
[57] 2020 Dietary Guidelines Advisory Committee. Part D. Chapter 10: Beverages. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee*. July 2020. https://www.dietaryguidelines.gov/sites/default/files/2020-07/PartD_Ch10_Beverages_first-print.pdf
[58] Fryar CD, Carroll MD, Afful J. Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2-19 Years: United States, 1963-1965 Through 2017-2018. *Health E-Stats*. National Center for Health Statistics. December 2020. https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm
[59] Centers for Disease Control and Prevention. The Health Effects of Overweight and Obesity. 2020. https://www.cdc.gov/healthyweight/effects/index.html
[60] Kelsey MM et al. Age-Related Consequences of Childhood Obesity. *Gerontology*. 2014;60(3):222-228.

indisputable risk factor for type 2 diabetes. Compared to adults in the lower half of the "healthy weight" range (BMI 18.5 to 21.9), even those in the upper half of the healthy weight range have roughly twice the risk of diabetes, and adults with obesity have roughly 18 times the risk of diabetes.[61] Furthermore, it is well-established that excess weight increases the risk of hypertension and other conditions that raise the risk of CVD.[62] The National Heart, Lung, and Blood Institute issued its first guidelines on overweight and obesity in 1998.[63] According to NHBLI's website, "eating foods high in added sugars" is among the "unhealthy eating behaviors [that] can increase your risk for overweight and obesity."[64]

Table 2. Select authoritative statements on the health effects of added sugars

Organization	**Year**	**Statement Excerpt**
American Academy of Pediatric Dentistry	2017[65]	"The AAPD supports: The recommendation of national and international organizations to reduce the consumption of sugar to less than 10 percent of total energy intake and, to reduce children's risk of weight gain and dental caries, sugar intake should be less than five percent of total energy intake (less than 16 grams of sugar for children aged 4–8)."
American Heart Association	2017[66]	"On the basis of the studies showing an association between decreased CVD risk factors and a low consumption of added sugars and the high potential benefit-to-risk ratio, it is reasonable to recommend that children and adolescents consume ≤25 g (100 cal or ≈6 teaspoons) of added sugars per day."
Centers for Disease Control and Prevention	2021[67]	"Americans are eating and drinking too many added sugars, which can contribute to health problems such as weight gain and obesity, type 2 diabetes, and heart disease. To live healthier, longer lives, most Americans need to move more and eat better, including consuming fewer added sugars."
Dietary Guidelines Advisory Committee	2020[68]	"The addition of sugars to foods and beverages provides energy, generally without contributing additional nutrient content. Taking into account both the 2015 and 2020

[61] Field AE, et al. Impact of Overweight on the Risk of Developing Common Chronic Diseases During a 10-Year Period**.** *Arch Intern Med*. 2001;161(13):1581-1586.
[62]National Heart, Lung, and Blood Institute. *Managing Overweight and Obesity in Adults. Systematic Evidence Review From the Obesity Expert Panel, 2013.* https://www.nhlbi.nih.gov/health-topics/managing-overweight-obesity-in-adults
[63] NHLBI Obesity Education Initiative Expert Panel on the Identification, Evaluation and Treatment of Obesity in Adults (US). *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report.* National Heart, Lung, and Blood Institute. September 1998. https://www.ncbi.nlm.nih.gov/books/NBK1988/.
[64] National Heart, Lung, and Blood Institute. Overweight and Obesity. https://www.nhlbi.nih.gov/health-topics/overweight-and-obesity.
[65] American Academy of Pediatric Dentistry. Policy on Dietary Recommendations for Infants, Children, and Adolescents. *The Reference Manual of Pediatric Dentistry.* 2017;40(6):65-67. https://www.aapd.org/globalassets/media/policies_guidelines/p_recdietary.pdf.
[66] Vos MB, et al. Added Sugars and Cardiovascular Disease Risk in Children. *Circulation.* 2017;135:e1017-e1034.
[67] Centers for Disease Control and Prevention. Get the Facts: Added Sugars. April 6, 2021. https://www.cdc.gov/nutrition/data-statistics/added-sugars.html
[68] 2020 Dietary Guidelines Advisory Committee. Part D. Chapter 12: Added Sugars. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee.* 2020.

		Committee evidence reviews, relative to the goal of improving the health of a population in which the prevalence of overweight and obesity is high, the addition of sugar to the diet raises concerns about the potential risk of increasing unhealthy weight gain and, in turn, increasing risk of obesity-related health outcomes." "….the Committee suggests that for adults and children age 2 years and older, a recommendation of less than 6 percent of energy from added sugars is more consistent with a dietary pattern that is nutritionally adequate while avoiding excess energy intake than is a pattern with less than 10 percent of energy from added sugars."
World Health Organization	2015[69]	"WHO recommends a reduced intake of free sugars throughout the lifecourse (strong recommendation)." "In both adults and children, WHO recommends reducing the intake of free sugars to less than 10% of total energy intake (strong recommendation)." "WHO suggests a further reduction of the intake of free sugars to below 5% of total energy intake (conditional recommendation)." These recommendations were based on the totality of evidence reviewed regarding the relationship between free sugars intake and body weight (low and moderate quality evidence) and dental caries (very low and moderate quality evidence).

School meals contain more added sugars than the DGA recommends.

Since there is no national requirement to limit added sugars in the NSLP and SBP, it is unsurprising that the average amounts of added sugars in school meals served exceed 10 percent of total calories.

In a secondary analysis of School Nutrition and Meal Cost Study (SNMCS) data, Fox, Gearan, and Schwartz found that the average reimbursable school breakfast served contained 17 percent of calories from added sugars.[70] The average reimbursable school lunch served contained 11 percent of calories from added sugars. The proportion of schools in the study's nationally representative sample exceeding 10 percent of calories from added sugars was 92 percent for breakfast and 69 percent for lunch. Top sources of added sugars included flavored milks, sweetened cold cereals, condiments and toppings, and particularly for breakfast, sweet bakery products (Table 3).

[69] World Health Organization. *Guideline: Sugars Intake for Adults and Children*. 2015. https://apps.who.int/iris/bitstream/handle/10665/149782/9789241549028_eng.pdf;jsessionid=2DA9619EF9296B461E0852979ADF6C14?sequence=1.

[70] Fox MK, Gearan EC, Schwartz C. Added Sugars in School Meals and the Diets of School-Age Children. *Nutrients.* 2021;13:471.

Table 3. Sources of added sugars in school breakfasts and lunches[71]

School Breakfasts (n=1,111)	% of Added Sugars	School Lunches (n=1,207)	% of Added Sugars
Flavored skim milk	29.0	Flavored skim milk	46.9
Sweetened cold cereal	13.0	Condiments and toppings	9.0
Condiments and toppings	11.8	Flavored 1% milk	3.2
Muffins and sweet/quick breads	7.3	Breads, rolls, bagels, and other plain breads	2.7
Toaster pastries	4.3	Cookies, cakes, brownies	2.3
Pancakes, waffles, and French toast	3.8	Sandwich with breaded meat, poultry, or fish	2.1
Crackers, croutons, and pretzels	3.6	Juice	1.8
Cinnamon buns	2.8	Black, baked, and other beans	1.8
Yogurt, low-fat/fat-free	2.8	Hamburgers and similar beef/pork sandwiches	1.8
Other	21.6	Other	28.4
Total	**100**	**Total**	**100**

The study's authors discussed potential strategies to address these concerning levels of added sugars, including USDA establishing a quantitative standard for added sugars in schools meals; USDA establishing limits on sugar content of ready-to-eat cereals, bakery products, and foods offered with sweetened toppings or limiting the frequency of offering these foods in planned menus; USDA limiting how often flavored milk is offered; promoting water consumption as a substitute for sweetened beverages; and encouraging food manufacturers to decrease added sugars in prepared foods and flavored milks developed for school meals.[72] USDA could also set a limit on how much sugar can be added to flavored milks.

The authors of an accompanying editorial took a stronger stance:[73]

> Evidence on added sugars and flavored milk expose a significant gap in the current nutrition standards and given the high added sugar consumption documented by school-age children, demonstrate the urgency for establishing an added sugar maximum limit for school meals. Further, given the large contribution of flavored milk to added sugar intakes in school meals, USDA should restrict or limit flavored milk at school.

Previous efforts to align school nutrition standards with the DGA have been successful and beneficial.

Thanks to the 2012 updated school nutrition standards under the HHFKA, schools are now providing children with healthier school meals, snacks, and beverages. As Congress was preparing to reauthorize child nutrition programs in 2015 and as claims that schools were unable to meet the updated nutrition standards abounded in public discourse, USDA (then, as now, led by Agriculture Secretary Tom Vilsack)

[71] Adapted from Fox MK, Gearan EC, Schwartz C. Added Sugars in School Meals and the Diets of School-Age Children. *Nutrients.* 2021;13:471.
[72] Fox, 2021.
[73] Story M, Miller L, Lott M. The School Nutrition and Meal Cost Study-I: Overview of Findings Related to Improving Diet Quality, Weight, and Disparities in US Children and Policy Implications. *Nutrients.* 2021;13:1357.

issued a press release emphasizing the benefits of the HHFKA.[74] The release stated that the 2010 law made the "first meaningful improvements to the nutrition of foods and beverages served in cafeterias and sold in vending machines in 30 years" and urged Congress not to "backpedal on a healthier future for our kids." According to the release, 95 percent of schools reported they were successfully meeting the nutrition standards.

Since then, the benefits of updating nutrition standards through the HHFKA have been thoroughly documented. FNS's School Nutrition and Meal Cost Study (SNMCS), the only nationally representative study that assessed the nutritional quality and costs of producing school meals before and after implementation of the HHFKA, found significant improvements.[75] The SNMCS demonstrated that nutritional quality of reimbursable school breakfasts and lunches had improved between school year (SY) 2009-2010 and SY 2014-2015 based on mean total scores on the Healthy Eating Index (HEI)-2010.[76] The HEI-2010 total and component scores for food groups measure how well dietary patterns conform to the recommendations made in the 2010 DGA overall and for each individual food group, where higher scores indicate greater compliance.[77] The mean total HEI-2010 score for lunches increased 41 percent—from 57.9 to 81.5 out of a possible 100.[78] The mean total HEI-2010 score for breakfasts increased 44 percent—from 49.6 to 71.3.[79] According to the authors, these findings suggest that "updated nutrition standards for school meals have had a positive and significant influence on nutritional quality."[80] The SNMCS also found that schools made significant progress increasing whole grains[81] and reducing sodium,[82] and a majority of schools met daily meal components, especially for fruits and vegetables.[83]

The SNMCS findings serve to counter some common misconceptions about evidence-based nutrition standards for school meals, one being that healthier meals are less palatable to students, leading to decreased participation or increased food waste. In fact, the higher the nutritional quality of the school lunch, the higher the rate of participation in the NSLP. Specifically, the average NSLP participation rate was 61 percent for schools in the highest quartile of the HEI-2010 distribution, compared to 50 percent

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[74] U.S. Department of Agriculture. Fact Sheet: Schools Serving, Kids Eating, Healthier Schools Meals Thanks to Healthy, Hunger-Free Kids Act. September 1, 2015. Release No. 0242.15. https://www.usda.gov/media/press-releases/2015/09/01/fact-sheet-schools-serving-kids-eating-healthier-school-meals#

[75] Fox MK, Gearan E. *School Nutrition and Meal Cost Study Summary of Findings*. U.S. Department of Agriculture Food and Nutrition Service. April 2019. https://fns-prod.azureedge.net/sites/default/files/resource-files/SNMCS_Summary-Findings.pdf

[76] The HEI-2010 is a measure of nutritional quality based on the 2010 Dietary Guidelines for Americans.

[77] Guenther PM, et al. The Healthy Eating Index-2010 Is a Valid and Reliable Measure of Diet Quality According to the 2010 Dietary Guidelines for Americans. *J Nutr*. 2014;144(3): 399–407. https://doi.org/10.3945/jn.113.183079

[78] Fox, 2019.

[79] Fox, 2019.

[80] Fox, 2019.

[81]The HEI-2010 score for refined grains more than doubled from 46 to 96 percent of the maximum score, indicating a dramatic decrease in the concentration of refined grains in lunches over time. The score for refined grains for breakfasts also more than doubled from 45 to 95 percent of the maximum score. The HEI-2010 score for whole grains in school lunches increased from 25 to 95 percent of the maximum score, indicating an increase in the whole grains served in lunch meals. The HEI-2010 score for whole grains in school breakfasts increased from 38 to 96 percent of the maximum score.

[82] The vast majority of schools (85 percent) met or were close to meeting the first sodium-reduction target (Target 1) in the first year that the target was required (SY2014-2015).

[83] At least 79 percent of daily breakfast and lunch menus met the meal pattern quantity requirements.

for schools in the lowest quartile.[84] Furthermore, the study found that the amount of plate waste after the updated nutrition standards was comparable to that found in studies prior to the HHFKA.

Another common assumption is that serving healthier food costs more. On the contrary, lunch and breakfasts costs were not related to nutritional quality. The mean reported costs per meal were not significantly higher in schools that had higher scores on the HEI-2010 than in schools that scored lowest on the HEI-2010.[85]

Prior to HHFKA, students in large schools and predominantly white schools were more likely to have access to healthier foods.[86] The SNMCS data indicate reduced disparities in the nutritional quality of school meals under HHFKA across socioeconomic status and race and ethnicity.[87]

Clearly, aligning nutrition standards with the DGA had a positive impact on the nutritional quality of meals *served*. There is also evidence that participation in the school meals programs since HHFKA is positively related to the healthfulness of meals *consumed*. The SNMCS found that lunches consumed by NSLP participants achieved a higher mean HEI-2010 score than those of matched non-participants (80.1 versus 65.1). The significant difference persisted over 24-hours (i.e., including program and non-program meals), though the magnitude of the difference was smaller (65.2 versus 60.6).[88] In a serial cross-sectional analysis of pre-policy (2007-2010) and post-policy (2013-2016) data from the National Health and Nutrition Examination Survey (NHANES), Kindernecht and colleagues found that diet quality during lunch (measured by HEI-2010 score) improved more for NSLP participants than nonparticipants from pre-policy to post-policy, a finding that held true across income levels.[89] Additional studies have documented the efficacy of the updated nutrition standards with respect to meals served[90] and consumed.[91] Notably, a 2021 study found that the foods children consumed from school meals provided the highest mean diet quality of all major US food sources—better than grocery stores, restaurants, worksites, and others.[92]

The impact of school nutrition on children's weight status is also of interest. A nationally representative study found that for children in poverty, the risk of obesity declined substantially each year after the implementation of the HHFKA such that obesity prevalence would have been 47 percent higher in 2018 without the updated nutrition standards.[93] Although the study reported no significant association between the legislation and childhood obesity trends overall (including children in and not in poverty), children in poverty participate at higher levels in school meals and would be expected to benefit most from stronger

[84] Fox, 2019.
[85] Fox, 2019.
[86] Terry-McElrath YM, O'Malley PM, Johnston LD. Foods and beverages offered in US public secondary schools through the National School Lunch Program from 2011-2013: Early evidence of improved nutrition and reduced disparities. *Prev Med.* 2015;78:52-8. doi: 10.1016/j.ypmed.2015.07.010.
[87] Bardin S, Washburn L, Gearan E. Disparities in the Healthfulness of School Food Environments and the Nutritional Quality of School Lunches. *Nutrients*. 2020;12:2375.
[88] Fox, 2019.
[89] Kindernecht BS, Harris C, Jones-Smith J. Association of the Healthy, Hunger-Free Kids Act With Dietary Quality Among Children in the US National School Lunch Program. *JAMA*. 2020;324(4):359-368.
[90] Johnson DB, Podrabsky M, Rocha A, et al. Effect of the Healthy Hunger-Free Kids Act on the Nutritional Quality of Meals Selected by Students and School Lunch Participation Rates. *JAMA Pediatr*. 2016;170:e153918.
[91] Schwartz MB, Henderson KE, Read M, et al. New School Meal Regulations Increase Fruit Consumption and Do Not Increase Total Plate Waste. *Child Obes.* 2015;11:242-7.
[92] Liu J et al. Trends in Food Sources and Diet Quality Among US Children and Adults, 2003-2018. *JAMA Netw Open*. Apr 1 2021;4(4):e215262.
[93] Kenney, 2020.

nutrition standards. Following a cost-effectiveness analysis of several policies that could reduce childhood obesity, the investigators concluded that the HHFKA, including the updated standards for meals and competitive foods, is "one of the most important national obesity prevention policy achievements in recent decades."[94] The researchers estimated that these improvements could prevent more than two million cases of childhood obesity over ten years.

FNS should take a precautionary approach regarding LCS.

FNS must ensure that adopting an added sugars standard for the NSLP and SBP reimbursable meals and competitive foods does not have unintended public health consequences, particularly with regards to the use of other sweeteners whose safety as a tool to help maintain energy balance, control cardiometabolic risk factors, and reduce risk of cardiovascular events for children is not well established. LCS of concern that should be eliminated from NSLP, SBP, and competitive foods include aspartame, acesulfame-K, saccharin, and sucralose.

The safety of LCS—sometimes called non-nutritive sweeteners (NNS) or high-intensity sweeteners—has been the subject of significant debate. The American Academy of Pediatrics (AAP) concludes that, "the long-term safety of NNS in childhood has not been assessed in humans."[95] In 2018, the American Heart Association (AHA) Scientific Advisory concluded, "it is prudent to advise against prolonged consumption of LCS beverages by children."[96] Based on the available evidence, which is relatively limited, CSPI advises that children avoid no/low calorie sweeteners. CSPI is especially concerned about Aspartame (NutraSweet® and Equal®), Acesulfame-K (Sweet One®), Saccharin (Sweet'N Low®), and Sucralose (Splenda®). CSPI's website Chemical Cuisine, which ranks the safety of food additives as "safe," "caution," "cut back," "certain people should avoid," or "avoid," rates these four as, "avoid, primarily due to cancer concerns."[97] In particular, there is compelling evidence that aspartame is a carcinogen.[98]

Food industry compliance with a limit on added sugars is feasible in the short term.

CSPI recently published its first ever School Meals Corporate Report Card, which is included as an Appendix to this petition.[99] The report provides a detailed picture of (among other things) the extent to which the products sold by major school food service companies for the K-12 age group would (1) meet an added sugars standard consistent with the 2020-2025 DGA (that less than 10 percent of calories come from added sugars) and (2) use no LCS of concern. Products were classified into major and minor food groups based on USDA's Food Grouping System for school meals. CSPI found that compliance ranges for added sugars were high (all companies were ≥ 75 percent) for more than three-fourths (14 of the 18) of applicable minor food groups for grades K-5 through 9-12 breakfast. This is particularly important given that the top sources of added sugars are from foods served at breakfast. For lunch, CSPI found that compliance ranges were high (all companies were ≥ 75 percent) for virtually all (18 of the 20) applicable

[94] Gortmaker, 2015.
[95] Baker-Smith, et al. The Use of Nonnutritive Sweeteners in Children. *Pediatrics*, 2019; 144(5), e20192765.
[96] Johnson R. K., et al. Low-Calorie Sweetened Beverages and Cardiometabolic Health: A Science Advisory From the American Heart Association. *Circulation*, 2018; 138(9), e126–e140.
[97] Center for Science in the Public Interest. *Chemical Cuisine*. https://www.cspinet.org/eating-healthy/chemical-cuisine. Accessed October 4, 2021.
[98] Center for Science in the Public Interest. Aspartame and Cancer: What is the Evidence? August 2021. https://cspinet.org/resource/aspartame-and-cancer.
[99] Schwartz C, Maroney M. *2021 School Meals Corporate Report Card.* Center for Science in the Public Interest. November 2021. https://cspinet.org/school-meals-corporate-report-card-2021.

minor food groups. Compliance ranges indicate for each company the percentage of products in a given minor food group that meet the proposed standard.

Although there is no required standard for LCS in the DGA, most products do not contain LCS of concern. Only 5 of 36 applicable minor food groups included any products with LCS (*e.g.,* yogurt or condiments and toppings products) and within each of these minor food groups there was at least one company with no products containing LCS of concern to CSPI.

The report indicates that there is no shortage of products from major suppliers that could comply with the added sugars and LCS standards sought here.

Schools need dedicated assistance to reduce the leading sources of added sugars in school meals.

Flavored skim milk is the top source of added sugars in breakfast and lunch (see Table 3), and currently schools are able to serve low-fat flavored milk through the meal pattern waivers authorized under the Families First Coronavirus Response Act.[100] In 2010, the Institute of Medicine (IOM, now the National Academy of Medicine) advised USDA to allow only plain and flavored fat-free and plain low-fat milk—but not flavored low-fat milk—to help ensure that school meals fall within age-appropriate calorie ranges and that those ranges would help limit added sugars.[101] It is clear that the age-appropriate calorie ranges for meals do not sufficiently limit added sugars in school foods for flavored skim milk—let alone low-fat flavored milk—consistent with the 2015 and 2020 DGA.

To ensure schools have the support they need to comply with science-based standards for added sugars and other food components, the petitioners request that FNS:

- Provide more robust technical assistance trainings and peer-to-peer convenings such as *Team Up for School Nutrition Success* (currently inactive) on added sugars;
- Establish initiatives focused on certain standards such as *What's Shaking in School Meals?* (currently inactive) for sodium and create a similar initiative for whole grains and added sugars;
- Reinstitute recognition programs such as the *HealthierUS School Challenge* to share best practices and uplift school success stories on added sugars;
- Include in these efforts the elimination of LCS of concern;
- Make transparent overall technical assistance efforts on sodium, whole grain-rich, and added sugars, which includes progress by schools to meet the standards and efforts by USDA to work with industry to provide products that meet the standards through annual reporting; and
- Annually post the increased performance-based reimbursement under the HHFKA that schools receive for meeting the updated standards (also known as the seven-cent certification data) for schools, which USDA last publicly posted in 2016, after years of updating these figures quarterly.

V. Conclusion

For the foregoing reasons, the petitioners urge FNS to incorporate the requested actions into its planned rulemaking to align child nutrition programs with the 2020-2025 DGA in October 2022 or sooner.

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[100] U.S. Department of Agriculture, Food and Nutrition Service. Nationwide Waiver to Allow Specific School Meal Pattern Flexibility for School Year 2021-2022. COVID-19: Child Nutrition Response #90 (Corrected). August 27, 2021. https://www.fns.usda.gov/cn/covid-19-child-nutrition-response-90.

[101] Institute of Medicine. 2010. *School Meals: Building Blocks for Healthy Children*. The National Academies Press, Washington, DC. https://doi.org/10.17226/12751.

We look forward to your timely response. Questions related to this petition may be directed to Colin Schwartz, cschwartz@cspinet.org, Susan Bishop, susan.k.bishop@heart.org, and Jordan Wolfe, Jordan.wolfe@apha.org.

CENTER FOR Science IN THE Public Interest
America's Food and Health Watchdog

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2021 School Meals Corporate Report Card

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Center for Science in the Public Interest

The Center for Science in the Public Interest (CSPI) is America's food and health watchdog. We are a rigorous driver of food system change to support healthy eating, safe food, and the public's health. We transform the built food environment through leading-edge policy innovations grounded in meticulous research and powerful advocacy at the national, state, and local level. We galvanize allies to drive system-wide changes and healthier norms, leveraging the greatest benefits for people facing the greatest risk. CSPI is fiercely independent; we accept no government or corporate grants. Our work is supported by the hundreds of thousands of subscribers to our award-winning Nutrition Action and from foundations and individual donors.

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Executive Summary

CSPI is pleased to release our 2021 School Meals Corporate Report Card. With nearly 30 million students receiving school meals and the impact of the COVID-19 pandemic on the economy and food and nutrition insecurity, healthy school meals are more important than ever.

The Healthy, Hunger-Free Kids Act (HHFKA) of 2010 strengthened nutrition standards for school meals, snacks, and beverages. As a result of the HHFKA, school meals contain more whole grains, fewer calories, less salt, and more fruits and vegetables.[1] Despite the success of the updated nutrition standards, they have been the subject of fierce political attacks. Several attempts to weaken the standards have impacted students' ability to receive meals containing safer sodium levels and enough whole grains at school. For instance, the U.S. Department of Agriculture (USDA) implemented a rule in 2018 that weakened sodium reduction, whole grains, and milk standards.[2] A federal court struck down that rule in a lawsuit brought forth by CSPI against the USDA, effectively reinstating the updated standards based on the 2010 Dietary Guidelines for Americans (DGA).[3]

Photo: ShunTerra/stock.adobe.com.

Now the USDA needs to update compliance deadlines for the sodium reduction standards and align the overall nutrition standards with the most recent 2020-2025 DGA. To align with the revised recommendations in the 2020 DGA, the USDA must maintain the 100-percent whole-grain-rich standard, strengthen the sodium reduction standards for younger children, and establish a new added sugars standard for meals, snacks, and beverages. Furthermore, there are public health concerns about certain artificial sweeteners and synthetic dyes in school foods. In particular, we are concerned that if the USDA were to establish an added sugars standard, food manufacturers would substitute harmful artificial sweeteners for added sugars.

This report provides a detailed picture of the extent to which the major school foodservice companies:

1) currently meet the existing whole-grain-rich and sodium reduction standards (Target 2 and Target 3),
2) would meet an added sugars standard consistent with the 2020 DGA (that no more than 10 percent of calories come from added sugars), and
3) would use no harmful artificial sweeteners and synthetic dyes.

We used major foodservice company K-12 product guides and websites to analyze K-12 product nutrition and ingredient information for School Year 2020-2021, the first school year impacted by the COVID-19 pandemic. Products were classified into eight major and 36 minor food groups (see Table 3 for classification scheme) based on the USDA's School Nutrition and Meal Cost Study (SNMCS) Food Grouping System.[4]

Table 1 shows the compliance ranges for companies by minor food groups across whole grains, sodium, added sugars, and artificial sweeteners and synthetic dyes of concern. For this analysis, we included only those companies with at least five products in the respective minor food group. Compliance ranges indicate the extent to which products in the minor food groups meet the standard and list the companies by level of compliance for a given standard. For example, the products offered in the minor

food group "Pancakes, waffles, French toast, and pastries" have a compliance range by company of 50 percent (Rich Products); 82 percent (General Mills Convenience & Foodservice); and 100 percent (Kellogg) in meeting the standard for whole-grain-rich (≥ 51 percent whole grain per product). This analysis defined high compliance as products meeting ≥ 75 percent of the standard and low compliance meeting ≤ 50 percent.

Further, the standards for whole grains, artificial sweeteners, and synthetic dyes are defined for *individual* products. Whereas the standards for sodium and added sugars are based on the *meal*, not the *individual* product, and averaged over the course of the week. Thus, a product violated the sodium or added sugars standard only if on its own it exceeded the allowance for the full meal of which it was part.

	CURRENT USDA STANDARDS[5]	CSPI POSITION
Whole grains	Grain products must contain ≥ 51 percent whole grain per individual product	Maintain current standard
Sodium	Meals must meet phased-in sodium reduction targets, averaged over the course of the week	Strengthen standards to align with 2020 DGA recommendations for younger school-aged children
Added Sugars	*None*	Introduce standard to align with 2020 DGA: ≤ 10 percent of calories from added sugars, averaged over the course of the week
Artificial sweeteners	*None*	Introduce standard: must contain no harmful artificial sweeteners
Synthetic dyes	*None*	Introduce standard: must contain no harmful synthetic dyes

TABLE 1: COMPLIANCE RANGES FOR COMPANIES BY MINOR FOOD GROUP

FOOD GROUPING	Meets **whole grain-rich** products requirement (≥ 51% whole grain per product)	Meets **sodium** requirement (≤ mg per meal averaged over the week)[a]												Meets **added sugars** requirement (≤ 10% of calories come from added sugars per meal averaged over the week)[b]						Contains no **artificial sweeteners of concern**	Contains no **synthetic dyes**
		Target 2						Target 3													
		Breakfast			Lunch			Breakfast			Lunch			Breakfast			Lunch				
		Grades K-5 (≤ 485 mg)	Grades 6-8 (≤ 535 mg)	Grades 9-12 (≤ 570 mg)	Grades K-5 (≤ 935 mg)	Grades 6-8 (≤ 1,035 mg)	Grades 9-12 (≤ 1,080 mg)	Grades K-5 (≤ 430 mg)	Grades 6-8 (≤ 470 mg)	Grades 9-12 (≤ 500 mg)	Grades K-5 (≤ 640 mg)	Grades 6-8 (≤ 710 mg)	Grades 9-12 (≤ 740 mg)	Grades K-5 (≤ 12.5 g)	Grades 6-8 (≤ 13.75 g)	Grades 9-12 (≤ 15 g)	Grades K-5 (≤ 16.25 g)	Grades 6-8 (≤ 17.5 g)	Grades 9-12 (≤ 21 g)		
MILK																					
Low-fat, flavored and unflavored		❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖	❖
VEGETABLES																					
Dark green, other, beans and peas, mixtures, cooked and raw					77% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)				62% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)	62% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)	62% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)				100% (Campbell's Foodservice, J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)	67% McCain Foods USA - 100% (J.R. Simplot Co., Campbell's Foodservice)
Red and orange, cooked and raw					91% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.)				73% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)	91% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)	91% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)				100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.*)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.*)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.*)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.)
Cooked, starchy					100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)				100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)				100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)
FRUITS																					
Canned, sweetened		100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	❖	❖	❖	❖	❖	❖	❖	❖
Dried		100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	0% (Ocean Spray*)	0% (Ocean Spray*)	0% (Ocean Spray*)	0% (Ocean Spray*)	0% (Ocean Spray*)	100% (Ocean Spray*)	100% (Ocean Spray)	100% (Ocean Spray)
Fresh and frozen fruit		100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)
Juice		100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)

FOOD GROUPING	Meets **whole grain-rich** products requirement (≥ 51% whole grain per product)	Meets **sodium** requirement (≤ mg per meal averaged over the week)[a]												Meets **added sugars** requirement (≤ 10% of calories come from added sugars per meal averaged over the week)[b]						Contains no **artificial sweeteners of concern**	Contains no **synthetic dyes**
		Target 2						Target 3						Breakfast			Lunch				
		Breakfast			Lunch			Breakfast			Lunch										
		Grades K-5 (≤ 485 mg)	Grades 6-8 (≤ 535 mg)	Grades 9-12 (≤ 570 mg)	Grades K-5 (≤ 935 mg)	Grades 6-8 (≤ 1,035 mg)	Grades 9-12 (≤ 1,080 mg)	Grades K-5 (≤ 430 mg)	Grades 6-8 (≤ 470 mg)	Grades 9-12 (≤ 500 mg)	Grades K-5 (≤ 640 mg)	Grades 6-8 (≤ 710 mg)	Grades 9-12 (≤ 740 mg)	Grades K-5 (≤ 12.5 g)	Grades 6-8 (≤ 13.75 g)	Grades 9-12 (≤ 15 g)	Grades K-5 (≤ 16.25 g)	Grades 6-8 (≤ 17.5 g)	Grades 9-12 (≤ 21 g)		
COMBINATION ENTRÉES																					
Breakfast burritos and sandwiches	83% (Foster Farms) - 100% (Schwan Food Company, Tyson*)	67% (Tyson) - 100% (Foster Farms, Schwan Food Company)	89% (Tyson) - 100% (Foster Farms, Schwan Food Company)	100% (Foster Farms, Schwan Food Company, Tyson)				67% (Tyson) - 83% (Foster Farms) - 100% (Schwan Food Company)	67% (Tyson) - 100% (Foster Farms, Schwan Food Company)	78% (Tyson) - 100% (Foster Farms, Schwan Food Company)				100% (Foster Farms, Schwan Food Company)	100% (Foster Farms, Schwan Food Company)	100% (Foster Farms, Schwan Food Company)				100% (Foster Farms, Schwan Food Company, Tyson)	100% (Foster Farms, Schwan Food Company, Tyson)
Cheeseburgers and similar beef/pork sandwiches	100% (Tyson*)				100% (Tyson)	100% (Tyson)	100% (Tyson)				83% (Tyson)	100% (Tyson)	100% (Tyson)				❖	❖	❖	100% (Tyson*)	100% (Tyson*)
Hamburgers and similar beef/pork sandwiches	❖				❖	❖	❖				❖	❖	❖				❖	❖	❖	❖	❖
Hot dogs, corn dogs, and similar sausage sandwiches	91% (Tyson*) - 100% (Foster Farms)	60% (Tyson) - 100% (Foster Farms)	67% (Tyson) - 100% (Foster Farms)	73% (Tyson) - 100% (Foster Farms)	100% (Foster Farms, Tyson)	100% (Foster Farms, Tyson)	100% (Foster Farms, Tyson)	56% (Foster Farms) - 60% (Tyson)	60% (Tyson) - 100% (Foster Farms)	67% (Tyson) - 100% (Foster Farms)	73% (Tyson) - 100% (Foster Farms)	80% (Tyson) - 100% (Foster Farms)	80% (Tyson) - 100% (Foster Farms)	100% (Tyson*)	100% (Tyson*)	100% (Tyson*)	100% (Tyson*)	100% (Tyson*)	100% (Tyson*)	89% (Foster Farms) - 100% (Tyson*)	100% (Foster Farms, Tyson*)
Mexican-style entrées	94% (Foster Farms) - 100% (ConAgra Foodservice*)				100% (ConAgra Foodservice, Foster Farms)	100% (ConAgra Foodservice, Foster Farms)	100% (ConAgra Foodservice, Foster Farms)				67% (ConAgra Foodservice) - 88% (Foster Farms)	94% (ConAgra Foodservice) - 100% (Foster Farms)	94% (ConAgra Foodservice) - 100% (Foster Farms)				100% (Foster Farms)	100% (Foster Farms)	100% (Foster Farms)	100% (Foster Farms)	100% (Foster Farms)
Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables	0% (Campbell's Foodservice*)				94% (Campbell's Foodservice)	97% (Campbell's Foodservice)	97% (Campbell's Foodservice)				32% (Campbell's Foodservice)	45% (Campbell's Foodservice)	52% (Campbell's Foodservice)				100% (Campbell's Foodservice)	100% (Campbell's Foodservice)	100% (Campbell's Foodservice)	100% (Campbell's Foodservice)	100% (Campbell's Foodservice)
Peanut butter sandwich	❖				❖	❖	❖				❖	❖	❖				❖	❖	❖	❖	❖
Pizza	95% (Schwan Food Company) - 100% (ConAgra Foodservice*)	22% (ConAgra Foodservice) - 41% (Schwan Food Company)	24% (ConAgra Foodservice) - 59% (Schwan Food Company)	32% (ConAgra Foodservice) - 72% (Schwan Food Company)	98% (Schwan Food Company) - 100% (ConAgra Foodservice)	98% (Schwan Food Company) - 100% (ConAgra Foodservice)	100% (ConAgra Foodservice, Schwan Food Company)	16% (ConAgra Foodservice) - 17% (Schwan Food Company)	19% (ConAgra Foodservice) - 36% (Schwan Food Company)	24% (ConAgra Foodservice) - 52% (Schwan Food Company)	51% (ConAgra Foodservice) - 90% (Schwan Food Company)	78% (ConAgra Foodservice) - 95% (Schwan Food Company)	86% (ConAgra Foodservice) - 97% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)	100% (Schwan Food Company)
Pizza pockets, pizza sticks, and calzones	90% (Tyson) - 100% (ConAgra Foodservice*, Schwan Food Company)				100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)				71% (Schwan Food Company) - 100% (ConAgra Foodservice, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)				100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (Schwan Food Company, Tyson)	100% (Schwan Food Company, Tyson)
Sandwich with plain meat or poultry	100% (Tyson)				100% (Tyson)	100% (Tyson)	100% (Tyson)				43% (Tyson)	71% (Tyson)	71% (Tyson)				❖	❖	❖	100% (Tyson*)	100% (Tyson*)

FOOD GROUPING	Meets whole grain-rich products requirement (≥ 51% whole grain per product)	Meets sodium requirement (≤ mg per meal averaged over the week)[a]												Meets added sugars requirement (≤ 10% of calories come from added sugars per meal averaged over the week)[b]						Contains no artificial sweeteners of concern	Contains no synthetic dyes
		Target 2						Target 3													
		Breakfast			Lunch			Breakfast			Lunch			Breakfast			Lunch				
		Grades K-5 (≤ 485 mg)	Grades 6-8 (≤ 535 mg)	Grades 9-12 (≤ 570 mg)	Grades K-5 (≤ 935 mg)	Grades 6-8 (≤ 1,035 mg)	Grades 9-12 (≤ 1,080 mg)	Grades K-5 (≤ 430 mg)	Grades 6-8 (≤ 470 mg)	Grades 9-12 (≤ 500 mg)	Grades K-5 (≤ 640 mg)	Grades 6-8 (≤ 710 mg)	Grades 9-12 (≤ 740 mg)	Grades K-5 (≤ 12.5 g)	Grades 6-8 (≤ 13.75 g)	Grades 9-12 (≤ 15 g)	Grades K-5 (≤ 16.25 g)	Grades 6-8 (≤ 17.5 g)	Grades 9-12 (≤ 21 g)		
GRAINS/BREADS																					
Biscuits, cornbread, muffins, and sweet/ quick breads	27% (General Mills Convenience & Foodservice) - 60% (Rich Products)	60% (Rich Products) - 86% (General Mills Convenience & Foodservice)	70% (Rich Products) - 91% (General Mills Convenience & Foodservice)	70% (Rich Products) - 91% (General Mills Convenience & Foodservice)				50% (Rich Products) - 86% (General Mills Convenience & Foodservice)	60% (Rich Products) - 86% (General Mills Convenience & Foodservice)	60% (Rich Products) - 91% (General Mills Convenience & Foodservice)				88% (General Mills Convenience & Foodservice*) - 100% (Rich Products)	88% (General Mills Convenience & Foodservice*) - 100% (Rich Products)	94% (General Mills Convenience & Foodservice*) - 100% (Rich Products)				100% (General Mills Convenience & Foodservice, Rich Products)	100% (General Mills Convenience & Foodservice, Rich Products)
Bread or bread alternate with added fat	❖	❖	❖	❖				❖	❖	❖				❖	❖	❖				❖	❖
Breads, rolls, bagels, and other plain breads	53% (Rich Products*) - 73% (Tyson*) - 86% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	88% (Tyson) - 96% (Rich Products) - 97% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	88% (Tyson) - 96% (Rich Products) - 97% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	94% (Tyson) - 98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.)	100% (Flowers Food, J&J Snack Foods Corp., Rich Products, Tyson)	100% (Flowers Food, J&J Snack Foods Corp., Rich Products, Tyson)	100% (Flowers Food, J&J Snack Foods Corp., Rich Products, Tyson)	71% (Tyson) - 96% (Rich Products) - 97% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	88% (Tyson) - 96% (Rich Products) - 97% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	88% (Tyson) - 96% (Rich Products) - 97% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])	94% (Tyson) - 98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.)	98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp., Tyson)	98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp., Tyson)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	73% (Tyson*) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.*, Rich Products)	93% (Tyson*) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.*, Rich Products)
Cold cereal	97% (Post Holdings Inc.) - 100% (General Mills Convenience & Foodservice, Kellogg)	97% (Post Holdings Inc.) - 100% (General Mills Convenience & Foodservice, Kellogg*)	100% (General Mills Convenience & Foodservice, Kellogg*,Post Holdings Inc.)	100% (General Mills Convenience & Foodservice, Kellogg*,Post Holdings Inc.)				97% (Post Holdings Inc.) - 98% (General Mills Convenience & Foodservice) - 100% (Kellogg*)	97% (Post Holdings Inc.) - 100% (General Mills Convenience & Foodservice, Kellogg*)	100% (General Mills Convenience & Foodservice, Kellogg*,Post Holdings Inc.)				76% (Post Holdings Inc.) - 92% (General Mills Convenience & Foodservice*, Kellogg*)	79% (Post Holdings Inc.) - 92% (General Mills Convenience & Foodservice*, Kellogg*)	85% (Post Holdings Inc.) - 97% (General Mills Convenience & Foodservice*) - 100% (Kellogg*)				100% (General Mills Convenience & Foodservice*, Kellogg*, Post Holdings Inc.)	58% (Kellogg*) - 84% (Post Holdings Inc.) - 91% (General Mills Convenience & Foodservice*)
Corn/tortilla chips	100% (PepsiCo Foodservice)				100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)				100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)				100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)
Crackers, croutons, pretzels	64% (J&J Snack Foods Corp.) - 92% (Campbell's Foodservice) - 100% (Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Food-service, Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	77% (Kellogg) - 100% (Campbell's Foodservice, J&J Snack Foods Corp., Mondelez International)

FOOD GROUPING	Meets **whole grain-rich** products requirement (≥ 51% whole grain per product)	Meets **sodium** requirement (≤ mg per meal averaged over the week)[a]												Meets **added sugars** requirement (≤ 10% of calories come from added sugars per meal averaged over the week)[b]						Contains no **artificial sweeteners of concern**	Contains no **synthetic dyes**
		Target 2						Target 3						Breakfast			Lunch				
		Breakfast			Lunch			Breakfast			Lunch										
		Grades K-5 (≤ 485 mg)	Grades 6-8 (≤ 535 mg)	Grades 9-12 (≤ 570 mg)	Grades K-5 (≤ 935 mg)	Grades 6-8 (≤ 1,035 mg)	Grades 9-12 (≤ 1,080 mg)	Grades K-5 (≤ 430 mg)	Grades 6-8 (≤ 470 mg)	Grades 9-12 (≤ 500 mg)	Grades K-5 (≤ 640 mg)	Grades 6-8 (≤ 710 mg)	Grades 9-12 (≤ 740 mg)	Grades K-5 (≤ 12.5 g)	Grades 6-8 (≤ 13.75 g)	Grades 9-12 (≤ 15 g)	Grades K-5 (≤ 16.25 g)	Grades 6-8 (≤ 17.5 g)	Grades 9-12 (≤ 21 g)		
Granola and breakfast bars	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)				100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)				88% (General Mills Convenience & Foodservice*) - 100% (Kellogg*, Mondelez International, PepsiCo Foodservice*)	100% (General Mills Convenience & Foodservice*, Kellogg*, Mondelez International, PepsiCo Foodservice*)	100% (General Mills Convenience & Foodservice*, Kellogg*, Mondelez International, PepsiCo Foodservice*)				100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp.*, Kellogg, Mondelez International, PepsiCo Foodservice)	82% (Kellogg) - 93% (PepsiCo Foodservice) - 100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp.*, Mondelez International)
Hot cereal	75% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)				100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)				94% (PepsiCo Foodservice)	94% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)				100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)
Pancakes, waffles, French toast, and pastries	50% (Rich Products) - 82% (General Mills Convenience & Foodservice) - 100% (Kellogg)	94% (General Mills Convenience & Foodservice) - 100% (Cargill, Kellogg*, Rich Products)	94% (General Mills Convenience & Foodservice) - 100% (Cargill, Kellogg*, Rich Products)	100% (Cargill, General Mills Convenience & Foodservice, Kellogg*, Rich Products)				94% (General Mills Convenience & Foodservice) - 100% (Cargill, Kellogg*, Rich Products)	94% (General Mills Convenience & Foodservice) - 100% (Cargill, Kellogg*, Rich Products)	94% (General Mills Convenience & Foodservice) - 100% (Cargill, Kellogg*, Rich Products)				40% (Kellogg*) - 81% (General Mills Convenience & Foodservice*) - 100% (Cargill, Rich Products)	47% (Kellogg*) - 94% (General Mills Convenience & Foodservice*) - 100% (Cargill, Rich Products)	73% (Kellogg*) - 100% (Cargill, General Mills Convenience & Foodservice*, Rich Products)				100% (Cargill, General Mills Convenience & Foodservice, Kellogg*, Rich Products)	73% (Kellogg*) - 100% (Cargill, General Mills Convenience & Foodservice, Rich Products)
Rice	❖				❖	❖	❖				❖	❖	❖				❖	❖	❖	❖	❖
MEATS/MEAT ALTERNATES																					
Chicken, turkey, and meat, breaded or fried	98% (Tyson*) - 100% (Perdue Foods*, Pilgrim's Pride*)				100% (Perdue Foods, Pilgrim's Pride, Tyson)	100% (Perdue Foods, Pilgrim's Pride, Tyson)	100% (Perdue Foods, Pilgrim's Pride, Tyson)				84% (Perdue Foods) - 95% (Tyson) - 100% (Pilgrim's Pride)	95% (Perdue Foods) - 96% (Tyson) - 100% (Pilgrim's Pride)	95% (Perdue Foods) - 99% (Tyson) - 100% (Pilgrim's Pride)				100% (Perdue Foods*, Pilgrim's Pride*, Tyson*)	100% (Perdue Foods*, Pilgrim's Pride*, Tyson*)	100% (Perdue Foods*, Pilgrim's Pride*, Tyson*)	99% (Tyson*) - 100% (Pilgrim's Pride*, Perdue Foods)	95% (Perdue Foods) -100% (Pilgrim's Pride*, Tyson*)
Chicken, turkey, and meat, plain					100% (American Foods Group LLC, Cargill, Foster Farms, Pilgrim's Pride, Tyson, Rich Products)	100% (American Foods Group LLC, Cargill, Foster Farms, Pilgrim's Pride, Tyson, Rich Products)	100% (American Foods Group LLC, Cargill, Foster Farms, Pilgrim's Pride, Tyson, Rich Products)				67% (Pilgrim's Pride) - 93% (Cargill) - 100% (American Foods Group LLC, Foster Farms, Rich Products, Tyson)	100% (American Foods Group LLC, Cargill, Foster Farms, Rich Products, Tyson)	100% (American Foods Group LLC, Cargill, Foster Farms, Rich Products, Tyson)				100% (Cargill, Foster Farms, Pilgrim's Pride, Tyson*, American Foods Group LLC*, Rich Products)	100% (Cargill, Foster Farms, Pilgrim's Pride, Tyson*, American Foods Group LLC*, Rich Products)	100% (Cargill, Foster Farms, Pilgrim's Pride, Tyson*, American Foods Group LLC*, Rich Products)	100% (American Foods Group LLC*, Cargill, Foster Farms, Pilgrim's Pride, Tyson*, Rich Products)	100% (American Foods Group LLC*, Cargill, Foster Farms, Pilgrim's Pride, Tyson*, Rich Products)
Other protein, cheese		40% (Rich Products) - 86% (Land O' Lakes)	60% (Rich Products) - 86% (Land O' Lakes)	60% (Rich Products) - 97% (Land O' Lakes)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	20% (Rich Products) - 76% (Land O' Lakes)	40% (Rich Products) - 86% (Land O' Lakes)	40% (Rich Products) - 86% (Land O' Lakes)	60% (Rich Products) - 97% (Land O' Lakes)	80% (Rich Products) - 97% (Land O' Lakes)	80% (Rich Products) - 97% (Land O' Lakes)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)

FOOD GROUPING	Meets **whole grain-rich** products requirement (≥ 51% whole grain per product)	Meets **sodium** requirement (≤ mg per meal averaged over the week)[a]												Meets **added sugars** requirement (≤ 10% of calories come from added sugars per meal averaged over the week)[b]						Contains no **artificial sweeteners of concern**	Contains no **synthetic dyes**
		Target 2						Target 3						Breakfast			Lunch				
		Breakfast			Lunch			Breakfast			Lunch										
		Grades K-5 (≤ 485 mg)	Grades 6-8 (≤ 535 mg)	Grades 9-12 (≤ 570 mg)	Grades K-5 (≤ 935 mg)	Grades 6-8 (≤ 1,035 mg)	Grades 9-12 (≤ 1,080 mg)	Grades K-5 (≤ 430 mg)	Grades 6-8 (≤ 470 mg)	Grades 9-12 (≤ 500 mg)	Grades K-5 (≤ 640 mg)	Grades 6-8 (≤ 710 mg)	Grades 9-12 (≤ 740 mg)	Grades K-5 (≤ 12.5 g)	Grades 6-8 (≤ 13.75 g)	Grades 9-12 (≤ 15 g)	Grades K-5 (≤ 16.25 g)	Grades 6-8 (≤ 17.5 g)	Grades 9-12 (≤ 21 g)		
Other protein, eggs		100% (Cargill)	100% (Cargill)	100% (Cargill)				100% (Cargill)	100% (Cargill)	100% (Cargill)				100% (Cargill)	100% (Cargill)	100% (Cargill)				100% (Cargill)	100% (Cargill)
Sausage, frankfurters, cold cuts		20% (Smithfield Foods Inc.) - 87% (Tyson) - 100% (Perdue Foods)	20% (Smithfield Foods Inc.) - 91% (Tyson) - 100% (Perdue Foods)	20% (Smithfield Foods Inc.) - 96% (Tyson) - 100% (Perdue Foods)				20% (Smithfield Foods Inc.) - 78% (Tyson) - 100% (Perdue Foods Foods)	20% (Smithfield Foods Inc.) - 83% (Tyson) - 100% (Perdue Foods Foods)	20% (Smithfield Foods Inc.) - 87% (Tyson) - 100% (Perdue Foods Foods)				100% (Perdue Foods, Tyson*)	100% (Perdue Foods, Tyson*)	100% (Perdue Foods, Tyson*)				100% (Perdue Foods, Tyson)	100% (Perdue Foods, Tyson)
Yogurt		100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	36% (General Mills Convenience & Foodservice*) - 84% (Danone North America)	60% (General Mills Convenience & Foodservice*) - 89% (Danone North America)	80% (General Mills Convenience & Foodservice*) - 100% (Danone North America)	80% (General Mills Convenience & Foodservice*) - 100% (Danone North America)	100% (Danone North America, General Mills Convenience & Foodservice*)	100% (Danone North America, General Mills Convenience & Foodservice*)	79% (Danone North America) - 100% (General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)
DESSERTS AND OTHER MENU ITEMS																					
Cakes, cookies and brownies	38% (Rich Products*) - 90% (J&J Snack Foods Corp.)				100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)				100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)				78% (Rich Products)	78% (Rich Products)	78% (Rich Products)	100% (J&J Snack Foods Corp., Rich Products)	68% (J&J Snack Food) - 100% (Rich Products)
ACCOMPANIMENTS																					
Condiments and toppings		93% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Food Service, J.M. Smucker Co., Schwan Food Company)	93% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Food Service, J.M. Smucker Co., Schwan Food Company)	93% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Food Service, J.M. Smucker Co., Schwan Food Company)	100% (Campbell's Foodservice, J.M. Smucker Co., Kraft Heinz Co., Rich Products, Schwan Food Company)	100% (Campbell's Foodservice, J.M. Smucker Co., Kraft Heinz Co., Rich Products, Schwan Food Company)	100% (Campbell's Foodservice, J.M. Smucker Co., Kraft Heinz Co., Rich Products, Schwan Food Company)	93% (Rich Products) - 95% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, J.M. Smucker Co, Schwan Food Company)	93% (Rich Products) - 98% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, J.M. Smucker Co, Schwan Food Company)	93% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, J.M. Smucker Co, Schwan Food Company)	93% (Rich Products) - 100% (Campbell's Foodservice, J.M. Smucker Co, Kraft Heinz Co., Schwan Food Company)	93% (Rich Products) - 100% (Campbell's Foodservice, J.M. Smucker Co, Kraft Heinz Co., Schwan Food Company)	93% (Rich Products) - 100% (Campbell's Foodservice, J.M. Smucker Co, Kraft Heinz Co., Schwan Food Company)	33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	33% (Rich Products) - 77% (J.M. Smucker Co.) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	47% (Rich Products) - 85% (J.M. Smucker) - 98% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)	92% (J.M. Smucker Co.) - 98% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, Rich Products, Schwan Food Company)	87% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, J.M. Smucker Co., Schwan Food Company)

[a] School meal standards for sodium are based on per meal allowances averaged over the week. Thus, a product was considered to violate a sodium standard only if on its own it exceeded the allowance for the full meal of which it was part.
[b] While not currently required, we estimated school meal standards for added sugars as based on per meal allowances averaged over the week. Thus, a product was considered to violate an added sugars standard only if on its own it exceeded the allowance for the full meal of which it was part. The standard is listed by the amount of added sugars in grams that would exceed 10 percent of the total calories for the meal.
❖No companies offered at least 5 products with sufficient nutrition information.
*We only assessed a subset of the total products found due to missing information required for analysis.
Grey cells are products that are not creditable grains or do not meet USDA's threshold for foods offered in at least 5 percent of daily lunch and/or breakfast menus.

First, the analysis focused on assessing companies' compliance in each minor food group across nutrition standards for whole grains, sodium, added sugars, artificial sweeteners, and synthetic dyes. For whole grains, companies had high compliance (all companies were ≥ 75 percent) for 13 of the 18 minor food groups with creditable grains[i,6] and at least five products from a single company. According to the USDA, the top sources of sodium are from foods served at lunch.[7] Focusing on lunch, most companies were close to or met 100 percent compliance for Target 2 for grades 9-12 lunch (the most lenient standard given the calorie range is largest). However, compliance ranges for Target 3 for the same minor food groups were more variable. For instance, companies had higher compliance ranges for condiments and toppings and breads, rolls, bagels, and other plain breads; but lower ranges for sandwiches with plain meat or poultry; Mexican-style entrées; and pizza. The top sources of added sugars are from foods served at breakfast.[8] Focusing on breakfast, the analysis of the proposed standard for added sugars found compliance ranges were high (all companies were ≥ 75 percent) for more than three-fourths (14 of the 18) of minor food groups for grades K-5 and 9-12 breakfast.

Although there is no required standard for artificial sweeteners, all companies with products in minor food groups containing artificial sweeteners had high compliance rates in meeting the proposed standard. Additionally, every minor food group had at least one company with 100 percent compliance for artificial sweeteners. Meaning, there was at least one company in every minor food group with products containing no harmful artificial sweeteners whatsoever. Similarly, in the analysis of the proposed standard for synthetic dyes, all but one minor food group had at least one 100 percent compliant company. Still, we found that four minor food groups had companies below 75 percent compliance for synthetic dyes.

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[i]The following types of ingredients are considered creditable grains:

- whole grains (i.e. whole wheat, whole-wheat meal/flour, brown rice, rolled oats, whole corn)
- enriched grains (i.e. enriched wheat meal/flour, enriched rice)
- bran or germ can be used to meet the enriched grain requirements in Child Nutrition Programs
- Note: nixtamalized corn, (i.e., corn treated with lime), such as hominy, corn masa, and masa harina are considered whole grain when evaluating products for meal requirements. These ingredients are processed in a way that increases the bioavailability of certain nutrients so they have a nutritional profile similar to whole corn.

Second, the analysis identified which minor food groups had the highest and lowest amounts of sodium and added sugars. The minor food groups with the highest median amounts of sodium were: sandwich with plain meat or poultry (690 mg); mixtures and other mixtures with grain, meat/meat alternate, and vegetables (670 mg); pizza (550 mg); and Mexican-style entrées (500 mg). For reference, the weekly per meal average sodium Target 2 for grades 9-12 lunch is ≤ 1,080 mg, and Target 3 is ≤ 740 mg.[9] Conversely, fresh or frozen fruit, dried fruit, and hot cereal had the lowest median sodium and were the only minor food groups contributing 0 mg of sodium. In terms of added sugars, the minor food groups with the highest median amount of added sugars were: canned, sweetened fruits (26 g); dried fruits (21 g); and peanut butter sandwich (18.5 g). For reference, the proposed standard for added sugars stipulates that the weekly average per breakfast meal for grades 9-12 must be ≤ 15 g. Notably, nearly half of all minor food groups contributed 0 g of added sugars.

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This report highlights the progress made by the largest foodservice companies to meet the whole grain and sodium standards (particularly Target 2). Moreover, it indicates these companies are well-positioned to meet additional standards that reduce added sugars and eliminate artificial sweeteners and synthetic dyes. These findings should encourage foodservice companies to

support strong, science-based nutrition standards and prioritize reformulation of their remaining products that do not comply with these standards.

In light of these findings, we urge the USDA to:

1. Maintain the 100 percent whole-grain-rich standard and begin enforcing this standard in School Year 2022-2023. Given the very high degree of compliance in many minor food groups, it is evident that the 100 percent whole-grain-rich standard in schools is achievable. Companies should reformulate the minority of products that are not whole-grain-rich to bring their entire portfolio into compliance and support schools in meeting this standard.
2. Extend the compliance dates for sodium Targets 2 and 3 with a short but realistic timeframe and provide robust technical assistance. We recommend that the USDA extend the compliance dates given that our analysis shows that Target 2 is imminently achievable and companies are progressing toward Target 3. In addition, the foodservice industry should prioritize reformulating the remaining products that do not meet Targets 2 and 3.
3. Establish a sodium Target 4 with a more extended timeframe for compliance to align school meals with the 2020 DGA recommendations for safe sodium consumption for younger children. While the 2020 DGA maintains that no more than 2,300 mg sodium is safe for ages 14 y and up, the new recommendations reduce sodium limits to ≤ 1,500 mg/day for children ages 4-8 y and to ≤ 1,800 mg/day for children ages 9-13 y.[10] Thus, Target 4 should be the final target level for sodium reduction in grades K-8.
4. Establish a new added sugars standard consistent with the 2020 DGA recommendation limiting added sugars consumption to 10 percent of meal calories from added sugars.[11] We urge the USDA to establish a short timeline for compliance. Our analysis shows that many existing products would meet the standard. For example, nearly all companies had ≥ 75 percent compliance for foods that are top sources of added sugars in breakfast (excluding flavored milk). We

propose the standard limit the average added sugars over the week, similar to the current sodium standard which is averaged and the current saturated fat standard which is no more than 10 percent of total calories come from saturated fat over the week.[12] Foodservice industry product reformulation should prioritize the leading sources of added sugars in schools meals, particularly for breakfast: flavored skim milk; sweetened cereals; condiments and toppings; and muffins and sweet/quick breads.

5. Phase out harmful artificial sweeteners and synthetic dyes quickly, given that our analysis shows many company products are free of harmful sweeteners and dyes already.

Summary of Tables

Table 1: Compliance Ranges for Companies by Minor Food Group Page 7

This table shows the compliance ranges for companies by minor food group across whole grains, sodium, added sugars, and artificial sweeteners and synthetic dyes of concern. Companies listed offered at least five products for which we had product information in the given minor food group.

Table 2: List of Companies Page 23

This table shows the full list of the Food Processing's 45th Annual Top 100 list for 2020 (the most recent year available) and the companies that were included and excluded in our report.

Table 3: USDA Major and Minor Food Groups for School Meals Page 28

This table shows the USDA's food grouping for school meals.[13] For determining how often and for which meal foods from the group are served, we adopted the USDA's threshold for foods offered in at least 5 percent of daily lunch and/or breakfast menus.

Table 4: Company Offerings by Food Group Page 31

This table shows the minor food groups and number of products analyzed by company.

Table 5: Sodium Reduction Target Schedule Page 34

This table shows the sodium reduction target schedule established in 2012 by the USDA for school meals to align meals with the 2010 DGA recommendations.

Table 6: Added Sugars Standard by Grade Group, Consistent with DGA Recommendations Page 35

This table shows a proposed added sugars standard for school meals (not currently in effect), based on the DGA recommendation of no more than 10 percent of calories from added sugars daily. We calculated this standard by dividing the total calories allowed by age group by four (four calories per one gram of sugar).

Table 7: Ranges of Company Compliance with 100 percent Whole-Grain-Rich Standard for Minor Food Groups that Contained Creditable Grains Page 38

This table, derived from Table 1: Compliance Ranges for Companies by Minor Food Group, shows company compliance ranges with a standard of 100 percent whole-grain-rich by minor food group. Companies listed offered at least five products for which we had product information in the given minor food group. Minor food groups listed are only those that are applicable (containing creditable grains).

Table 8: Median Sodium (mg) by Minor Food Group Page 39

This table shows the median sodium content in each minor food group.

Table 9: Ranges of Company Compliance with Lunch Sodium Targets 2 and 3, Grades K-5 and 9-12 Page 41

This table, derived from Table 1: Compliance Ranges for Companies by Minor Food Group, contains company compliance ranges with select sodium targets by minor food group. Companies listed offered at least five products for which we had product information in the given minor food group.

Table 10: Median Added Sugars (g) by Minor Food Group Page 46

This table shows the median added sugars content in each minor food group.

Table 11: Ranges of Company Compliance with an Added Sugars Standard in School Breakfast, Grades K-5 and 9-12 Page 48

This table, derived from Table 1: Compliance Ranges for Companies by Minor Food Group, shows company compliance ranges with an added sugars standard consistent with the DGA by minor food group. Companies listed offered at least five products for which we had product information in the given minor food group.

Table 12: Ranges of Company Compliance with a Standard Eliminating Artificial Sweeteners of Concern (only minor food groups with < 100 percent compliance shown) Page 54

This table, derived from Table 1: Compliance Ranges for Companies by Minor Food Group, shows company compliance ranges with a standard of no artificial sweeteners of concern by minor food group. Companies listed offered at least five products for which we had product information in the given minor food group. Minor food groups listed are only those that had at least one company with less than 100 percent compliance.

Table 13: Ranges of Company Compliance with a Standard Eliminating Synthetic Dyes (only minor food groups with < 100 percent compliance shown) Page 56

This table, derived from Table 1: Compliance Ranges for Companies by Minor Food Group, shows company compliance ranges with a standard of no synthetic dyes by minor food group. Companies listed offered at least five products for which we had product information in the given minor food group. Minor food groups listed are only those that had at least one company with less than 100 percent compliance.

Introduction

The National School Lunch Program (NSLP) and School Breakfast Program (SBP) are federally funded programs that provide subsidized school meals to nearly 30 million children annually.[14] The importance of healthy school meals has taken on new urgency during the COVID-19 pandemic. Given the severe economic impacts of the pandemic, more children will likely continue to qualify for free or reduced-priced school meals than before the pandemic. The majority of children (approximately 80 percent) who participate in the program are from low-income households.[15]

Although overall food insecurity levels stayed roughly the same during the pandemic, food insecurity among children increased and existing inequities widened between Black and Hispanic households when compared to white households.[16] As such, school meals have the capacity to mitigate a critical inequity that disproportionately impacts certain student subpopulations. For students who reside in households experiencing food insecurity, school breakfast and lunch may be the only nutritious meals they will consume in a day.

Given that the nutritional quality of school meals has been shown to help children stay at a healthy weight,[17] ensuring meals remain nutritious is critical. Recent research has found that the COVID-19 pandemic may have impacted weight gain among children and adolescents, leading to increased rates of overweight and obesity. According to the Centers for Disease Control and Prevention (CDC), the monthly rate of body mass index (BMI) increase approximately doubled from a pre-pandemic period during the pandemic among children and adolescents.[18] Children with prepandemic overweight or obesity and younger school-aged children experienced the largest increases. Currently, one out of three children and adolescents aged 2 to 19 years is overweight or obese.[19] By law,[20] school meals must meet nutrition standards based on the Dietary Guidelines for Americans (DGA). Given the impact of COVID-19 and the overwhelming benefits of healthy school meals, it is imperative that all children are able to access school meals and that meals meet evidence-based nutrition standards that support children's health.

On December 13th, 2010, President Barack Obama signed the Healthy, Hunger-Free Kids Act (HHFKA) into law, a landmark bill that strengthened nutrition standards for meals, snacks, and beverages offered at school. The updated standards, finalized in 2012, aligned school meals with the latest nutrition science established by the DGA and the National Academy of Sciences. The updated standards include sodium reduction targets, whole-grain-rich requirements, age-appropriate calorie ranges, unhealthy fat limits, and updated serving requirements for fruits, vegetables, and milk.[21]

These standards have been a resounding success story. In 2019, the U.S. Department of Agriculture (USDA) published the first nationally representative study to assess school meals after enactment of the HHFKA. This study remains the most comprehensive assessment of school meals to date. The 2019 School Nutrition and Meal Cost Study (SNMCS) found that between school years 2009-10 and 2014-15, the Healthy Eating Index (HEI) scores for school breakfast and lunch increased by 41 and 44 percent, respectively.[22] Additionally, the study demonstrated increased program participation for schools with the healthiest offerings and no change in plate waste.[23] Meaning, children did not throw away their food any more than they used to before the updated nutrition standards were in place. There are also no disparities in the overall nutritional quality of lunches across school poverty levels or race/ethnicity of students.[24] Following a cost-effectiveness analysis of several policies that could reduce childhood obesity, the Harvard University T.H. Chan School of Public Health concluded that the HHFKA, including the updated meal standards, is "one of the most important national obesity prevention policy achievements in recent decades."[25] The researchers estimated that these improvements could prevent more than two million cases of childhood obesity and save up to $792 million in health-care related costs over ten years. Another study found that for children in poverty, the risk of obesity declined substantially each year after implementation of HHFKA such that the risk of obesity would have been 47 percent higher in 2018 if the nutrition standards had not been updated.[26] Finally, a 2021 study found that school meals are the single most healthy source of nutrition for children—more nutritious than grocery stores, restaurants, worksites, and others.[27]

Despite the overwhelming success of the standards, they have been subject to political attacks that have caused delays and confusion for schools and the food industry. In particular, both the sodium reduction targets and whole-grain-rich requirements were subject to riders inserted in congressional spending bills beginning in 2015. These riders delayed compliance for sodium Target 2. They also established a process for schools to waive individual grain products from the whole-grain-rich standard (although 80 percent of schools did not request waivers).[28]

In 2018, under the leadership of then-Secretary Sonny Perdue, the USDA implemented a rule that would have weakened the standards for sodium reduction, whole-grain-rich, and low-fat (1 percent) milk.[29] Ninety-nine percent of comments submitted during the public comment period for this rule opposed these rollbacks.[30] CSPI and Healthy School Food Maryland filed suit over these rollbacks. A consortium of states—New York, California, Illinois, Minnesota, New Mexico, New York, Vermont, and Washington, DC—also filed a lawsuit separately.[31] In 2020, the rule was struck down by a federal court over procedural errors.[32]

The result of that court victory is that the 2012 school nutrition standards are again in effect. For instance, schools must meet the Target 2 sodium reduction targets initially slated to go into effect SY 2017-2018 but delayed by the rollback rule. Schools must also provide 100 percent of grains that meet the criteria for whole-grain-rich. The 100-percent whole-grain-rich requirement originally went into effect in SY 2014-2015 but was reduced to 50-percent of grains by the rollback rule. As authorized under the Families First Coronavirus Response Act,[33] the USDA has not been enforcing any nutrition standards. Through June 2022, schools can take meal pattern waivers if they are experiencing hardships due to the pandemic. The USDA will need to provide certainty to schools and the food industry before then by updating the compliance dates for sodium Target 2 and Target 3 and clarify when the 100-percent whole-grain-rich requirement will apply.

Our report focuses on whole grains, sodium, added sugars, artificial sweeteners, and synthetic dyes—the key areas for schools and the food industry to maintain or advance progress. While there are many potential areas of focus, we describe below why each is important.

Whole grains

Eating more whole grains provides critical nutrients, is a healthful source of fiber, and is associated with a lower risk of cardiovascular disease[34] and type 2 diabetes.[35] Unfortunately, whole grains are infrequently consumed by children across age groups, and refined grains are overconsumed.[36] Current school nutrition standards address whole grains.

Sodium

A 2016 report found that nine out of ten children consume more sodium than recommended by the DGA,[37] increasing their subsequent risk of elevated blood pressure, heart disease, and stroke.[38] Children ages 4-18 y's typical daily intakes range from approximately 2,400 mg to 3,700 mg,[39] while the 2020-2025 DGA recommendations limit sodium to ≤ 2,300 mg/day for children older than 14 y, ≤ 1,800 mg/day for children ages 9-13 y, and ≤ 1,500 mg/day for children ages 4-8 y.[40] Current school nutrition standards address sodium but are only in the first phase of sodium reduction (Target 1), and the final targets for younger children are not aligned with the 2020 DGA recommendations.

Added sugars

Among children, intake of added sugars has been associated with weight gain, dental decay, and an increase in risk factors for cardiovascular disease.[41,42] Nine out of ten schools exceed the 2020 DGA limit for added sugars for breakfast meals, and nearly seven out of ten schools exceed the limit for lunch.[43] Current school nutrition standards do not address added sugars and are not aligned with the 2020 DGA recommendations.

Artificial sweeteners

The safety of artificial sweeteners (sometimes called non-nutritive sweeteners (NNS), low-calorie sweeteners (LCS) or high-intensity sweeteners) has been the subject of significant debate. The American Academy of Pediatrics (AAP) concludes that, "the long-term safety of NNS in childhood has not been assessed in humans."[44] In 2018, the American Heart Association (AHA) Scientific Advisory concluded, "it is prudent to advise against prolonged consumption of LCS beverages by children."[45] Based on the available evidence, which is relatively limited, CSPI advises that children avoid no/low calorie sweeteners. CSPI is

especially concerned about Aspartame (NutraSweet® and Equal®), Acesulfame-K (Sweet One®), Saccharin (Sweet'N Low®), and Sucralose (Splenda®), and rates these four as, "avoid, primarily due to cancer concerns."[46] In particular, there is compelling evidence that aspartame is a carcinogen.[47] Current school nutrition standards do not address artificial sweeteners.

Synthetic dyes

In April 2021, California's Office of Environmental Health Hazards Assessment (OEHHA) released a ground-breaking, peer-reviewed report concluding that, "synthetic food dyes can impact neurobehavior in some children. Data from multiple evidence streams, including epidemiology, animal neurotoxicology, and mechanistic studies, support this finding."[48] OEHHA's findings are fully in line with those of other recent independent reviews of the evidence, including three meta-analyses,[49,50,51] a review on behalf of the European ADHD Guidelines Group,[52] a review using the Oxford Center for Evidence-Based Medicine guidelines,[53] and several others.[54,55,56,57] Current school nutrition standards do not address synthetic dyes, and the OEHHA report concluded that FDA's Acceptable Daily Intakes, or ADIs, "may not provide adequate protection from neurobehavioral impacts in children."[58] OEHHA explains that, "[t]he animal studies that form the basis of the FDA ADIs are many decades old and were not capable of detecting the types of neurobehavioral outcomes in later studies, or for which there is concern in children consuming synthetic dyes."[59]

Methods

Company selection

Information on which companies have the largest shares of the K-12 foodservice market is proprietary. As a proxy, CSPI consulted Food Processing's 45th Annual Top 100 list for 2020 (the most recent year available),[60] which, "ranks food and beverage processors based on their sales of value-added, consumer-ready goods that were processed in U.S. and Canadian facilities." Companies that do not sell foods and beverages marketed for K-12 (*e.g.*, Anheuser-Busch InBev), only sell snacks and beverages but not meals for K-12 (*e.g.*,

Coca-Cola), or did not have a K-12 portfolio on their websites were removed from the analysis. Of the 100 companies, we identified 28 that met these criteria (see Table 2: List of Companies).

TABLE 2: LIST OF COMPANIES

FOOD PROCESSING'S 45TH ANNUAL TOP 100 LIST FOR 2020 RANK	COMPANY NAME	OFFER K-12 PRODUCTS FOR MEALS?	K-12 PRODUCT INFORMATION PUBLICLY AVAILABLE?
1	PepsiCo Foodservice	Y	Y
2	Tyson	Y	Y
3	Nestle	N	N/A
4	JBS USA	N	N/A
5	Kraft Heinz Co.	Y	Y
6	Smithfield Foods Inc	Y	Y
7	Anheuser-Busch InBev	N	N/A
8	General Mills Convenience & Foodservice	Y	Y
9	Coca-Cola	N (competitive foods)	N/A
10	Mars	Y	Y
11	ConAgra Foodservice	Y	Y
12	Hormel Foods Corp.	N	N/A
13	Cargill	Y	Y
14	Saputo Inc	N	N/A
15	Molson Coors Co.	N	N/A
16	Kellogg's	Y	Y
17	J.M. Smucker Co.	Y	Y
18	Pilgrim's Pride	Y	Y
19	Mondelez International	Y	Y
20	Hershey Co.	N	N/A
21	Campbell's Foodservice	Y	Y
22	Keurig Dr Pepper	N (competitive foods)	N/A
23	National Beef Packing Co.	N	N/A
24	Bimbo Bakeries USA	N	N/A
25	Danone North America	Y	Y

FOOD PROCESSING'S 45TH ANNUAL TOP 100 LIST FOR 2020 RANK	COMPANY NAME	OFFER K-12 PRODUCTS FOR MEALS?	K-12 PRODUCT INFORMATION PUBLICLY AVAILABLE?
26	Agropur Cooperative	N	N/A
27	Post Holdings Inc.	Y	Y
28	Perdue Foods	Y	Y
29	Golden State Foods	N	N/A
30	Dairy Farmers of America	N	N/A
31	Lactails American Group	N	N/A
32	TreeHouse Foods (Bay Valley)	N	N/A
33	Flowers Foods Inc (Flowers Foodservice)	Y	Y
34	Constellation Brands	N	N/A
35	E&J Gallo Winery	N	N/A
36	Land O' Lakes	Y	Y
37	Great Lakes Cheese Co.	N	N/A
38	Sanderson Farms	N	N/A
39	Grupo Lala	N	N/A
40	Koch Foods Inc	N	N/A
41	California Dairies Inc.	N	N/A
42	Prairie Farms Dairy Inc	N	N/A
43	Hearthside Food Solutions LLC	N	N/A
44	McCain Foods USA	Y	Y
45	Unilever	N	N/A
46	Maple Leaf Foods	N	N/A
47	Beam Suntory Inc. (U.S.)	N	N/A
48	Premium Brands Holdings Corp	N (owns multiple foodservice brands)	N/A
49	Rich Products	Y	Y
50	Trident Seafoods	Y	Y
51	Colgate-Palmolive Co.	N	N/A
52	Wonderful Co.	N	N/A
53	American Foods Group LLC	Y	Y
54	Ferrara Candy Co.	N	N/A
55	Foster Farms	Y	Y

FOOD PROCESSING'S 45TH ANNUAL TOP 100 LIST FOR 2020 RANK	COMPANY NAME	OFFER K-12 PRODUCTS FOR MEALS?	K-12 PRODUCT INFORMATION PUBLICLY AVAILABLE?
56	Mountaire Farms	N	N/A
57	McCormick & Co. Inc.	N	N/A
58	Schreiber Foods Inc.	N	N/A
59	Brown-Forman Corp.	N	N/A
60	H.P. Hood Inc.	N	N/A
61	OSI Group	N	N/A
62	Wayne Farms LLC	N	N/A
63	Hilmar Cheese Co.	N (products served in foodservice, unable to confirm for K-12)	N/A
64	Schwan Food Company	Y	Y
65	Seaboard Corp.	N	N/A
66	Lindt & Sprungli	N	N/A
67	J. R. Simplot Co.	Y	Y
68	Leprino Foods Co.	N	N/A
69	Associated Milk Producers	N	N/A
70	Grassland Dairy	N	N/A
71	B&G Foods	Y (multiple brands)	N
72	Triumph Foods	N	N/A
73	Weston Foods	N	N/A
74	Del Monte Pacific Ltd Foods	Y	Y
75	Bonduelle N.A.	N	N/A
76	Chobani Inc.	Y	N
77	McKee Foods Corp	N (some brands may be competitive foods)	N/A
78	Cal-Maine Foods	N	N/A
79	Seneca Foods Inc.	N	N/A
80	Lancaster Colony Corp.	N	N/A
81	Reser's Fine Foods	N	N/A
82	Boston Beer Co.	N	N/A
83	J&J Snack Foods Corp.	Y	Y
84	Borden Dairy Co.	N	N/A
85	CROPP Cooperative/ Organic Valley	Y (some brands served in schools)	N
86	Sargento Foods Inc.	N	N/A

FOOD PROCESSING'S 45TH ANNUAL TOP 100 LIST FOR 2020 RANK	COMPANY NAME	OFFER K-12 PRODUCTS FOR MEALS?	K-12 PRODUCT INFORMATION PUBLICLY AVAILABLE?
87	Darigold	Y	N
88	Hain Celestial Group	N (some brands served as competitive foods)	N/A
89	American Crystal Sugar Co.	N	N/A
90	National Beverage Corp.	N (some brands served as competitive foods)	N/A
91	Ocean Spray	Y	Y
92	Wells Enterprises Inc.	N (products are in minor food groups that do not meet 5% threshold for served in daily breakfast or lunch menus)	N/A
93	Agri-Mark	N	N/A
94	Foremost Farms USA	N	N/A
95	Hostess Brands Inc	N	N/A
96	Johnsonville	N	N/A
97	Glanbia USA	N	N/A
98	SugarCreek	N	N/A
99	John B Sanfilippo & Son	N	N/A
100	Glister-Mary Lee Corp	N	N/A

Grey rows are companies not included in the analysis.

Collection of nutrition information

Data was extracted from the products' ingredients lists, Nutrition Facts labels, Child Nutrition labels, nutrition information disclosed in the companies' K-12 product guides for the most recent school year (SY 2020-2021), or websites. Data collection occurred from December 2020 to July 2021. Data entry was fact-checked by a second reviewer. We prioritized K-12 product guides, but in the absence of standalone guides (9 of the 28 companies did not have a standalone guide for SY 2020-2021), we searched for products denoted as K-12 (*e.g.*, products linked on a company's "K-12 channel" page). We archived all standalone guides and PDFs of the products on company websites. If nutrition or ingredient

information on the product guide differed from the nutrition information available on the company's website for the same product (usually due to variations in serving size), we deferred to the nutrition information on the product guide. This helped ensure that the serving size recorded was intended for a school meal. Every company was contacted to verify that the products analyzed were available to schools during the SY 2020-2021, and we contacted companies to obtain any missing or incomplete nutrition or ingredient data.

Product classification

Products were classified into one of the SNMCS's eight major food groups (*e.g.*, combination entrées, grains and breads, etc.) and, within those, into one of 89 minor food groups (*e.g.*, breakfast sandwiches, pastries, etc.).[61] We analyzed only minor food groups that, according to SNMCS, were offered in at least five percent of daily breakfast or lunch menus.[62] To streamline analysis and improve readability, we combined similar minor food groups (*e.g.*, combined "Mixtures with grain, meat/meat alternate, and/or vegetables" with "Other mixtures with meat/meat alternate and/or vegetables") (see Table 3: USDA Major and Minor Food Groups for School Meals and Table 4: Company Offerings by Food Group). In sum, we analyzed 36 minor food groups (the bolded minor food groups in the table).

Photo: Monkey Business/stock.adobe.com.

TABLE 3: USDA MAJOR AND MINOR FOOD GROUPS FOR SCHOOL MEALS

MILK
Whole, unflavored
2%, unflavored
2%, flavored
Low-fat, flavored and unflavored [a,b,i]
Fat-free, flavored and unflavored [a,b,d,i]
Other milk beverages
VEGETABLES
Dark green, other, beans and peas, mixtures, cooked and raw [a,i]
Red and orange, cooked and raw [a,i]
Cooked, starchy [a]
Raw, starchy
FRUITS
Canned, sweetened [a,b]
Canned, unsweetened [a,b,d]
Dried [a,b]
Fresh [a,b] **and frozen fruit** [f,i]
Juice [a,b]
COMBINATION ENTRÉES
Breakfast burritos and sandwiches [b,i]
Cheeseburgers and similar beef/pork sandwiches [a]
Entrée food bars [a,d]
Entrée salads [a,d]
Hot dogs, corn dogs, and similar sausage sandwiches [a,b]
Hamburgers and similar beef/pork sandwiches [a]
Mexican-style entrées [a]
Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables [a,i]
Parfaits
Peanut butter sandwich [a]
Pizza [a,b,i]
Pizza pockets, pizza sticks, and calzones [a]
Prepackaged meals [a,d]
Sandwich or deli bar [a]
Sandwich with meat substitute
Sandwich with breaded/fried meat, poultry, or fish [a,d]
Sandwich with mayonnaise-based poultry, tuna, or egg salad [a,d]
Sandwich with cheese only [a,d]
Sandwich with plain meat or poultry [a]

GRAINS/BREADS
Biscuits, cornbread, muffins, and sweet/quick breads [b,i]
Bread or bread alternate with added fat [b]
Breads, rolls, bagels, and other plain breads [a,b]
Cold cereal [b,h,i]
Corn/tortilla chips [a]
Crackers, croutons, pretzels [a,b]
Granola and breakfast bars [b]
Hot cereal [b]
Other grains/breads
Pancakes, waffles, French toast, and pastries [b,i]
Pasta
Rice [a]
MEATS/MEAT ALTERNATES
Chicken, turkey, and meat, breaded or fried [a,i]
Chicken, turkey, and meat, plain [g,i]
Chicken and turkey, with sauce, gravy or mayonnaise
Fish and shellfish, breaded or fried
Fish and shellfish, plain
Fish and shellfish, with sauce, gravy or mayonnaise
Meat with sauce, gravy or mayonnaise
Other protein, cheese [a,b]
Other protein, eggs [b]
Other protein, meat substitutes, hummus, legumes
Other protein, nuts, nut butters and seeds
Sausage, frankfurters, cold cuts [b]
Yogurt [a,b]
DESSERTS AND OTHER MENU ITEMS
Dairy-based desserts
Desserts containing fruit or fruit juice
Grain-based desserts, cookies and brownies [a]
Grain-based desserts, fruit cobblers and crisps
Bacon
Other items and desserts [e]
Sports and energy drinks
Juice drinks (not 100% juice)
Candy
Snack chips and popcorn
ACCOMPANIMENTS
Condiments and toppings [c]
Condiment bars
Salad dressing

BEVERAGES OTHER THAN MILK AND 100% FRUIT JUICE
Bottled water
Energy drinks
Juice drinks/cocktails, sparkling juice
Sports drinks
Diet soda and other diet drinks

The bolded minor food groups were used in our analysis

[a] Items offered in at least 5 percent of daily lunch menus (all schools)

[b] Items offered in at least 5 percent of daily breakfast menus (all schools)

[c] While less than 5 percent of daily menus, condiments and toppings are a top source of added sugars in breakfast (12 percent) and lunch (9 percent) and thus are included in the analysis

[d] Despite being offered in at least 5 percent of daily lunch and/or breakfast menus, no products were present in the sample

[e] This subcategory is a combination of "Other items" subcategory from SNMCS Volume 2 Table B.1. Food Grouping System

[f] While less than 5 percent of daily menus, frozen fruit may be thawed and offered as fresh, thus we grouped frozen fruit with fresh fruit for analysis

[g] Offered in 4.9 percent of daily lunch menus (all schools); included in analysis

[h] SNMCS defines sweetened cereal as containing 21.3 grams of sugar or more per 100 gram serving. We did not analyze products per 100 gram serving; we defined sweetened cereal as any cereal containing added sugars.

[i] Combined similar minor food groups

TABLE 4: COMPANY OFFERINGS BY FOOD GROUP

	American Foods Group LLC	Campbell's Foodservice	Cargill	ConAgra Foodservice	Danone North America	Del Monte Pacific Ltd Foods	Flowers Foods Inc	Foster Farms	General Mills Convenience & Foodservice	J&J Snack Foods Corp.	J. R. Simplot Co.	J.M. Smucker Co.	Kellogg	Kraft Heinz Co.	Land O' Lakes	Mars	McCain Foods USA	Mondelez International	Ocean Spray	PepsiCo Foodservice	Perdue Foods	Pilgrim's Pride	Post Holdings Inc.	Rich Products	Schwan Food Company	Smithfield Foods Inc	Trident Seafoods	Tyson
Milk																												
Low-fat, flavored and unflavored					4																							
Vegetables																												
Dark green, other, beans and peas, mixtures, cooked and raw		13									94						3											
Red and orange, cooked and raw		11									13			12														
Starchy, cooked											136			1			42											
Fruits																												
Canned, sweetened						19					1																	
Dried																			12									
Fresh and frozen fruit											16																	
Juice		11												4					3	24								
Combination Entrées																												
Breakfast burritos and sandwiches			3					6																	5			9
Cheeseburgers and similar beef/pork sandwiches																												6
Hamburgers and similar beef/pork sandwiches																								2				3
Hot dogs, corn dogs, and similar sausage sandwiches								9																				15
Mexican-style entrées				6				16																	2			2

	American Foods Group LLC	Campbell's Foodservice	Cargill	ConAgra Foodservice	Danone North America	Del Monte Pacific Ltd Foods	Flowers Foods Inc	Foster Farms	General Mills Convenience & Foodservice	J&J Snack Foods Corp.	J. R. Simplot Co.	J.M. Smucker Co.	Kellogg	Kraft Heinz Co.	Land O' Lakes	Mars	McCain Foods USA	Mondelez International	Ocean Spray	PepsiCo Foodservice	Perdue Foods	Pilgrim's Pride	Post Holdings Inc.	Rich Products	Schwan Food Company	Smithfield Foods Inc	Trident Seafoods	Tyson
Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables		31		1							3				4										4		2	
Peanut butter sandwich												7																
Pizza				37																					58			1
Pizza pockets, pizza sticks, and calzones				6																				1	7			10
Sandwiches																												7
Grains/Breads																												
Biscuits, cornbread, muffins, and sweet/quick breads									22	1														10				2
Bread or bread alternate with added fat							2		2															2				
Breads, rolls, bagels, and other plain breads							13		3	36														46				15
Cold cereal									47				14										34					
Corn/tortilla chips									1											9								4
Crackers, croutons, pretzels		13							4	14			14					8		1								
Granola and breakfast bars									18	15			11					8		14				4				
Hot cereal									2											16			4					
Pancakes, waffles, French toast, and pastries			5	2					17				16				1							18				2
Rice																3									1			

	American Foods Group LLC	Campbell's Foodservice	Cargill	ConAgra Foodservice	Danone North America	Del Monte Pacific Ltd Foods	Flowers Foods Inc	Foster Farms	General Mills Convenience & Foodservice	J&J Snack Foods Corp.	J. R. Simplot Co.	J.M. Smucker Co.	Kellogg	Kraft Heinz Co.	Land O' Lakes	Mars	McCain Foods USA	Mondelez International	Ocean Spray	PepsiCo Foodservice	Perdue Foods	Pilgrim's Pride	Post Holdings Inc.	Rich Products	Schwan Food Company	Smithfield Foods Inc	Trident Seafoods	Tyson
Meats/Meat Alternates																												
Chicken, turkey, and meat, breaded or fried	2		1					3													19	17						79
Chicken, turkey, and meat, plain	13	2	15					25													4	6		5				103
Other protein, cheese															28									5				
Other protein, eggs			15																					1				
Sausage, frankfurters, cold cuts			1											1							5	1				13		23
Yogurt					38				26																			
Desserts and Other Menu Items																												
Cakes, cookies and brownies										31										2				9				
Accompaniments																												
Condiments and toppings		9									13			80	4									15	6			
Totals by company	15	90	40	52	42	19	15	59	142	97	276	7	55	98	36	3	46	16	15	66	28	24	38	118	83	13	2	281

Analysis

Whole grains

To be part of the SBP or NSLP, a whole-grain-rich food must contain at least 51 percent whole grains, and the remaining grain content of the product must be enriched (vitamins added to the grain), beginning in SY 2014-2015.[64] This standard is consistent with the 2020 DGA, which recommends that half of all grains be whole.[65] All whole-grain-rich products in each applicable minor food group were coded as "yes", irrespective of age group or meal, if they met the following criteria: designated as "whole-grain-rich" either on the product guide, company website, or a company representative verified that the product met whole-grain-rich criteria.

Sodium

The 2012 school nutrition standards established sodium reduction targets for school meals to align meals with the 2010 DGA recommendations. The rule established the following schedule:

TABLE 5: SODIUM REDUCTION TARGET SCHEDULE

GRADE GROUP	TARGET 1 (MG) DEADLINE: SY 2014-2015	TARGET 2 (MG) DEADLINE: SY 2017-2018*	TARGET 3 (MG) DEADLINE: SY 2022-2023
Breakfast			
K-5	≤ 540	≤ 485	≤ 430
6-8	≤ 600	≤ 535	≤ 470
9-12	≤ 640	≤ 570	≤ 500
Lunch			
K-5	≤ 1,230	≤ 935	≤ 640
6-8	≤ 1,360	≤ 1,035	≤ 710
9-12	≤ 1,420	≤ 1,080	≤ 740

*USDA is not enforcing this deadline under the COVID-19 meal pattern waivers authorized by the Families First Coronavirus Response Act.[66] These waivers expire June 30, 2022.

It is important to note that the school meal standards for sodium are based on per meal allowances. Thus, a product was considered to violate a sodium standard only if on its own it exceeded the allowance for the full meal of which it was part.

Products in the minor food groups were analyzed against the sodium standard for breakfast and lunch if they were offered in at least five percent of breakfast menus, lunch menus, or both

according to the USDA. Of note, both the SBP and NSLP meal patterns require that one cup of fluid milk be offered to students in grades K-12 daily.[67,68] We did not adjust the sodium targets to account for the sodium in milk. If products were at or below the sodium target for that age and meal, products were coded "yes."

Added sugars

The current school nutrition standards do not address added sugars as the 2010 DGA, upon which they are based, did not include an added sugars recommendation.[69] Since then, both the 2015 and 2020 DGA have recommended that no more than 10 percent of daily calories come from added sugars, and we used that as the basis for our scoring scheme.[70,71] We coded products if they met an added sugars standard, consistent with the DGA recommendations, for breakfast, lunch, or both if minor food groups were offered in at least five percent of menus according to the USDA, respectively. Our standard was based on the following table:

TABLE 6: ADDED SUGARS STANDARD BY GRADE GROUP, CONSISTENT WITH DGA RECOMMENDATIONS

GRADE GROUP (CALORIE RANGE ALLOWED PER MEAL)	ADDED SUGARS STANDARD BASED ON 10 PERCENT OF THE MAXIMUM CALORIES ALLOWED PER MEAL AND GRADE GROUP FROM ADDED SUGARS*
Breakfast	
K-5 (350-500 calories)	≤ 12.5 g
6-8 (400-550 calories)	≤ 13.75 g
9-12 (450-600 calories)	≤ 15 g
Lunch	
K-5 (550-650 calories)	≤ 16.25 g
6-8 (600-700 calories)	≤ 17.5 g
9-12 (750-850 calories)	≤ 21 g

*Calculated by dividing the total calories by four (four calories per one gram of sugar).

For certain products missing the added sugars information on the Nutrition Facts label,[ii,72] we estimated the amount using the methodology described in Appendix A, which we note in the tables as estimates. Products with 0 g total sugars per serving were assumed to contain 0 g added sugars per serving. Products with <1 g added sugar were changed to 0.5 g for calculation purposes. If products were at or below the applicable threshold for the amount of added sugars for that age and meal, products were coded "yes."

As is the case for sodium, the school meal standards we developed for added sugars are based on per meal allowances. Thus, a product was considered to violate the added sugars standard only if on its own it exceeded the allowance for the full meal of which it was part.

Artificial sweeteners

Our analysis assessed all products with ingredients available on product guides or company websites for the presence of the four artificial sweeteners that CSPI rates as "avoid."[73] The food product guides and websites do not provide food composition data for the amount of artificial sweeteners in a food, and this is not a requirement for Nutrition Facts panels. Thus, the information on the presence of artificial sweeteners in food products is derived from food ingredient lists, and our analyses focus only on the presence or absence of sweeteners. We coded each product as to whether it included any of the following artificial sweeteners rated "avoid" by CSPI: Aspartame (NutraSweet® and Equal®), Acesulfame-K (Sweet One®), Saccharin (Sweet'N Low®) or Sucralose (Splenda®). If none of these sweeteners were present, products were coded "yes."

Synthetic dyes

Our analysis assessed all products with ingredients available on product guides or company websites for the presence of synthetic dyes. The food product guides and websites do not provide food composition data for synthetic dyes, and this is not a requirement for Nutrition Facts labels. Thus, the information on the presence

[ii] While the final deadline for all companies to comply with the updated Nutrition Facts label (which includes the amount of added sugars and percent daily value) was January 1, 2021, the U.S. Food and Drug Administration (FDA) is not focusing on enforcement actions during the COVID public health emergency.

of synthetic dyes in food products is derived from food ingredient lists, and our analyses focus only on the presence or absence of dyes. We coded each product as to whether it included any of the following synthetic dyes: Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, and Yellow 6, and other variants of these dyes (*e.g.*, Red 40 Lake). If none of these dyes were present, products were coded "yes."

Statistical analysis

We calculated the median sodium and added sugars content of all minor food groups.

Results

We identified 28 of the Top 100 companies that provided K-12 products and had publicly available nutrition information for products (see Table 2). Together they offered 372 breakfast products, 794 lunch products, and 605 products for both breakfast and lunch. The median number of items offered by the companies was 35 for breakfast, 31 for lunch, and 38 for products served for both breakfast and lunch.

Summary tables for each minor food group can be found in Appendix B. Summary tables for each minor food group by company can be found in Appendix C. The Appendix D contains a record of all products listed by each company. We considered high compliance ranges to be ≥ 75 percent and low compliance ranges to be ≤ 50 percent.

Whole grains

Table 7 shows the percentage of a company's products meeting the whole-grain-rich standard for all companies offering at least five products in 18 of the 36 minor food groups with creditable grains. Table 1, Compliance Ranges for Companies by Minor Food Group, contains the full list of minor food groups.

TABLE 7: RANGES OF COMPANY COMPLIANCE WITH 100 PERCENT WHOLE-GRAIN-RICH STANDARD FOR MINOR FOOD GROUPS THAT CONTAINED CREDITABLE GRAINS†

SNMCS MAJOR AND MINOR FOOD GROUP	MEETS WHOLE GRAIN-RICH REQUIREMENT
Combination Entrées	
Breakfast burritos and sandwiches	83% (Foster Farms) - 100% (Schwan Food Company, Tyson*)
Cheeseburgers and similar beef/ pork sandwiches	100% (Tyson*)
Hot dogs, corn dogs, and similar sausage sandwiches	91% (Tyson*) - 100% (Foster Farms)
Mexican-style entrées	94% (Foster Farms) - 100% (ConAgra Foodservice*)
Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables	0% (Campbell's Foodservice*)
Pizza	95% (Schwan Food Company) - 100% (ConAgra Foodservice*)
Pizza pockets, pizza sticks, and calzones	90% (Tyson) - 100% (ConAgra Foodservice*, Schwan Food Company)
Sandwich with plain meat or poultry	100% (Tyson)
Grains/Breads	
Biscuits, cornbread, muffins, and sweet/quick breads	27% (General Mills Convenience & Foodservice) - 60% (Rich Products)
Breads, rolls, bagels, and other plain breads	53% (Rich Products*) - 73% (Ty-son*) - 86% (J&J Snack Foods Corp.) - 100% (Flowers Foods Inc. [Flowers Foodservice])
Cold cereal	97% (Post Holdings Inc.) - 100% (General Mills Convenience & Foodservice, Kellogg)
Corn/tortilla chips	100% (PepsiCo Foodservice)
Crackers, croutons, pretzels	64% (J&J Snack Foods Corp.) - 92% (Campbell's Foodservice) - 100% (Kellogg, Mondelez International)
Granola and breakfast bars	100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International, PepsiCo Foodservice)
Hot cereal	75% (PepsiCo Foodservice)
Pancakes, waffles, French toast, and pastries	50% (Rich Products) - 82% (General Mills Convenience & Foodservice) - 100% (Kellogg)
Chicken, turkey, and meat, breaded or fried	98% (Tyson*) - 100% (Perdue Foods*, Pilgrim's Pride*)
Desserts and Other Menu Items	
Cakes, cookies and brownies	38% (Rich Products*) - 90% (J&J Snack Foods Corp.)

*We were only able to assess a subset of the total products found due to missing information required for analysis.
† Only included companies offering at least five products in the minor food group.

There were relatively high compliance ranges (all companies were ≥ 75 percent) for 13 of the 18 minor food groups with grains.

In 15 of the 18 minor food groups with grains, there was at least one company that achieved 100 percent compliance. Minor food groups that did not have at least one company at 100 percent compliance are: mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables; biscuits, cornbread, muffins, and sweet/quick breads; hot cereal; and cakes, cookies, and brownies.

Sodium

Median sodium for all products contained in each minor food group are presented in Table 8. The following minor food groups had the highest mean sodium content: sandwich with plain meat or poultry (690 mg); mixtures and other mixtures with grain, meat/meat alternate, or vegetables (670 mg); pizza (550 mg); and Mexican-style entrées (500 mg). Of these, sandwich with plain meat or poultry, pizza, and Mexican-style entrées overlap with the USDA's top 10 sources of sodium in school lunches.[74] The minor food groups with the lowest median sodium content (0 mg) were fresh or frozen fruit, dried fruit, and hot cereal.

TABLE 8: MEDIAN SODIUM (MG) BY MINOR FOOD GROUP

MAJOR FOOD GROUP	MINOR FOOD GROUP	MEDIAN
Combination Entrées	**Sandwich with plain meat or poultry***	**690**
Combination Entrées	Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables	670
Combination Entrées	**Pizza***	**550**
Combination Entrées	**Mexican-style entrées***	**500**
Combination Entrées	Cheeseburgers and similar beef/pork sandwiches	495
Combination Entrées	Hamburgers and similar beef/pork sandwiches	480
Grains/Breads	Rice	440
Meats/Meat Alternates	Chicken, turkey, and meat, breaded or fried	440
Combination Entrées	Peanut butter sandwich	410
Combination Entrées	Hot dogs, corn dogs, and similar sausage sandwiches	386
Grains/Breads	Biscuits, cornbread, muffins, and sweet/quick breads	380

MAJOR FOOD GROUP	MINOR FOOD GROUP	MEDIAN
Combination Entrées	Breakfast burritos and sandwiches	340
Meats/Meat Alternates	Sausage, frankfurters, cold cuts	330
Combination Entrées	Pizza pockets, pizza sticks, and calzones	310
Meats/Meat Alternates	Chicken, turkey, and meat, plain	270
Grains/Breads	Pancakes, waffles, French toast, and pastries	270
Meats/Meat Alternates	Other protein, cheese	260
Grains/Breads	Bread or bread alternate with added fat	190
Vegetables	Cooked, starchy	180
Grains/Breads	**Breads, rolls, bagels, and other plain breads***	**170**
Grains/Breads	Cold cereal	160
Milk	Low-fat, flavored and unflavored	145
Desserts and Other Menu Items	Grain-based desserts, cookies and brownies	143.24
Grains/Breads	Crackers, croutons, pretzels	130
Meats/Meat Alternates	Other protein, eggs	127.5
Grains/Breads	Granola and breakfast bars	125
Grains/Breads	Corn/tortilla chips	112.5
Accompaniments	**Condiments and toppings***	**100**
Meats/Meat Alternates	Yogurt	70
Vegetables	Red and orange, cooked and raw	40
Vegetables	Dark green, other, beans and peas, mixtures, cooked and raw	25
Fruits	Juice	15
Fruits	Canned, sweetened	4
Fruits	Fresh or frozen	0
Fruits	Dried	0
Grains/Breads	Hot cereal	0

*The minor food groups that are bolded are the top sources of sodium in lunch, according to the USDA.[75]

Table 9 shows the percentage of a company's products meeting the sodium standards for all companies offering at least five products in the 23 minor food groups for lunch (of the 36 minor food groups, only 23 apply to lunch and contain at least 5 products from at least one company). The full list of minor food groups can be found in Table 1: Compliance Ranges for Companies by Minor Food Group. The minor food groups that are bolded are the top sources of sodium in lunch, according to the USDA.[76]

Among the array of age, meal, and Target configurations, we focused on sodium Targets 2 and 3 for grades K-5 and 9-12 lunch. We chose lunch because the top sources of sodium are from foods served at lunch. We used grades K-5 and 9-12 as the grade groups for comparing from most strict to most lenient, respectively.

TABLE 9: RANGES OF COMPANY COMPLIANCE WITH LUNCH SODIUM TARGETS 2 AND 3, GRADES K-5 AND 9-12[1,2]

SNMCS MAJOR AND MINOR FOOD GROUP	MEETS SODIUM TARGET 2 K-5 LUNCH 935 MG	MEETS SODIUM TARGET 2 9-12 LUNCH 1,080 MG	MEETS SODIUM TARGET 3 K-5 LUNCH 640 MG	MEETS SODIUM TARGET 3 9-12 LUNCH 740 MG
Vegetables				
Dark green, other, beans and peas, mixtures, cooked and raw	77% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)	100% (Campbell's Foodservice, J.R. Simplot Co.)	62% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)	62% (Campbell's Foodservice) - 100% (J.R. Simplot Co.)
Red and orange, cooked and raw	91% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)	100% (Campbell's Foodservice, J.R. Simplot Co., Kraft Heinz Co.)	73% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)	91% (Campbell's Foodservice) - 100% (J.R. Simplot Co., Kraft Heinz Co.)
Cooked, starchy	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)	100% (J.R. Simplot Co., McCain Foods USA)
Fruits				
Canned, sweetened	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)	100% (Del Monte)
Dried	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)	100% (Ocean Spray)
Fresh and frozen fruit	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)	100% (J.R. Simplot Co.)
Juice	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)

SNMCS MAJOR AND MINOR FOOD GROUP	MEETS SODIUM TARGET 2 K-5 LUNCH 935 MG	MEETS SODIUM TARGET 2 9-12 LUNCH 1,080 MG	MEETS SODIUM TARGET 3 K-5 LUNCH 640 MG	MEETS SODIUM TARGET 3 9-12 LUNCH 740 MG
Combination Entrées				
Cheeseburgers and similar beef/pork sandwiches	100% (Tyson)	100% (Tyson)	83% (Tyson)	100% (Tyson)
Hot dogs, corn dogs, and similar sausage sandwiches	100% (Foster Farms, Tyson)	100% (Foster Farms, Tyson)	73% (Tyson) - 100% (Foster Farms)	80% (Tyson) - 100% (Foster Farms)
Mexican-style entrées[3]	**100% (ConAgra Foodservice, Foster Farms)**	**100% (ConAgra Foodservice, Foster Farms)**	**67% (ConAgra Foodservice) - 88% (Foster Farms)**	**94% (ConAgra Foodservice) - 100% (Foster Farms)**
Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables	94% (Campbell's Foodservice)	97% (Campbell's Foodservice)	32% (Campbell's Foodservice)	52% (Campbell's Foodservice)
Pizza[3]	**98% (Schwan Food Company) - 100% (ConAgra Foodservice)**	**100% (ConAgra Foodservice, Schwan Food Company)**	**51% (ConAgra Foodservice) - 90% (Schwan Food Company)**	**86% (ConAgra Foodservice) - 97% (Schwan Food Company)**
Pizza pockets, pizza sticks, and calzones	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)	71% (Schwan Food Company) - 100% (ConAgra Foodservice, Tyson)	100% (ConAgra Foodservice, Schwan Food Company, Tyson)
Sandwich with plain meat or poultry[3]	**100% (Tyson)**	**100% (Tyson)**	**43% (Tyson)**	**71% (Tyson)**
Grains/Breads				
Breads, rolls, bagels, and other plain breads[3]	**100% (Flowers Food, J&J Snack Foods Corp., Rich Products, Tyson)**	**100% (Flowers Food, J&J Snack Foods Corp., Rich Products, Tyson)**	**94% (Tyson) - 98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.)**	**98% (Rich Products) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp., Tyson)**

SNMCS MAJOR AND MINOR FOOD GROUP	MEETS SODIUM TARGET 2 K-5 LUNCH 935 MG	MEETS SODIUM TARGET 2 9-12 LUNCH 1,080 MG	MEETS SODIUM TARGET 3 K-5 LUNCH 640 MG	MEETS SODIUM TARGET 3 9-12 LUNCH 740 MG
Corn/tortilla chips	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)
Crackers, croutons, pretzels	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)	100% (Campbell's Foodservice, J&J Snack Foods Corp., Kellogg, Mondelez International)
Meats/Meat Alternates				
Chicken, turkey, and meat, breaded or fried	100% (Perdue Foods, Pilgrim's Pride, Tyson)	100% (Perdue Foods, Pilgrim's Pride, Tyson)	84% (Perdue Foods) - 95% (Tyson) - 100% (Pilgrim's Pride)	95% (Perdue Foods) - 99% (Tyson) - 100% (Pilgrim's Pride)
Chicken, turkey, and meat, plain	100% (American Foods Group LLC, Cargill, Foster Farms, Pilgrim's Pride, Tyson, Rich Products)	100% (American Foods Group LLC, Cargill, Foster Farms, Pilgrim's Pride, Tyson, Rich Products)	67% (Pilgrim's Pride) - 93% (Cargill) - 100% (American Foods Group LLC, Foster Farms, Rich Products, Tyson)	100% (American Foods Group LLC, Cargill, Foster Farms, Rich Products, Tyson)
Other protein, cheese	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)	60% (Rich Products) - 97% (Land O' Lakes)	80% (Rich Products) - 97% (Land O' Lakes)
Yogurt	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)	100% (Danone North America, General Mills Convenience & Foodservice)
Desserts and Other Menu Items				
Cakes, cookies and brownies	100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)	100% (Rich Products, J&J Snack Foods Corp.)

SNMCS MAJOR AND MINOR FOOD GROUP	MEETS SODIUM TARGET 2 K-5 LUNCH 935 MG	MEETS SODIUM TARGET 2 9-12 LUNCH 1,080 MG	MEETS SODIUM TARGET 3 K-5 LUNCH 640 MG	MEETS SODIUM TARGET 3 9-12 LUNCH 740 MG
Accompaniments				
Condiments and toppings[3]	**100% (Campbell's Foodservice, J.M. Smucker Co., Kraft Heinz Co., Rich Products, Schwan Food Company)**	**100% (Campbell's Foodservice, J.M. Smucker Co., Kraft Heinz Co., Rich Products, Schwan Food Company)**	**93% (Rich Products) - 100% (Campbell's Foodservice, J.M. Smucker Co, Kraft Heinz Co., Schwan Food Company)**	**93% (Rich Products) - 100% (Campbell's Foodservice, J.M. Smucker Co, Kraft Heinz Co., Schwan Food Company)**

[1]Only included companies offering at least five products in the minor food group. Minor food groups in which no companies offered at least five products were excluded.
[2]Compliance with targets does not take into account that milk must be offered with each meal. Thus, products close to the target may not fit into the meal pattern with milk.
[3]The minor food groups that are bolded are the top sources of sodium in lunch, according to the USDA.[77]

All companies meet or are very close to meeting Target 2 sodium (lunch) with compliance > 94 percent for K-5 and 9-12 in all applicable minor food groups, except for dark green, other, beans and peas, mixtures, cooked and raw (Campbell's Foodservice had 77 percent compliance).

Compliance ranges for Target 3 lunch differed by food group. Compliance ranges were relatively high (> 90 percent) in both age groups for condiments and toppings and breads, rolls, bagels, and other plain breads. Compliance rates for the three other top sources of sodium (bolded) were more variable. Compliance rates for the remaining minor food groups were generally considerably lower with compliance rates for K-5 as low as 43 percent for Tyson sandwiches with plain meat or poultry, 67 percent for ConAgra Foodservice Mexican-style entrées, and 51 percent for ConAgra Foodservice pizza.

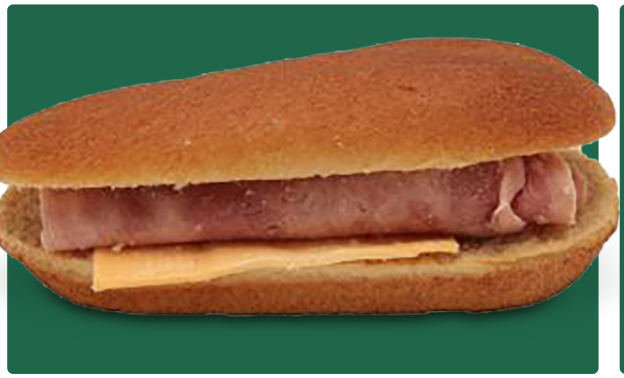
PRODUCT EXAMPLES

Worst Pizza

Schwan Red Baron® 5" Deep Dish Pizza Pork Pepperoni has **1,050 mg sodium** per 1 individually-wrapped pizza. It is also **not** whole-grain-rich.

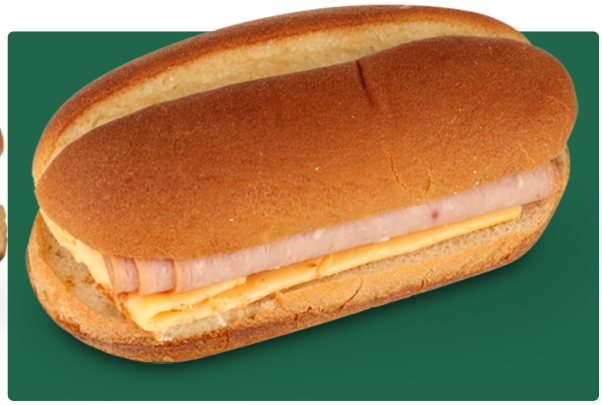
Better Pizza

Schwan Big Daddy's™ Primo 16" 51% WG Scratch Ready Cheese has **300 mg per slice and is whole-grain-rich.**



Worst Sandwich

Tyson AdvancePierre™ Fully Cooked Turkey Ham & Cheese on a Whole Grain Hoagie Bun, 4.39 oz. has **800 mg sodium.**



Better Sandwich

Tyson® Fully Cooked Chicken Ham & Cheese on a Whole Grain Hoagie Bun, 5.22 oz. has **570 mg sodium.**

Worst Mexican-Style Entrée

Foster Farms WG Cheese, Beef, Bean & Red Chili Burritos, PF, 4.75 oz., Bulk, CN has **850 mg sodium.**

Better Mexican-Style Entrée

Foster Farms WG Cheese & Bean Burrito, 4.50 oz., Bulk, CN has **400 mg sodium.**

Added sugars

Median added sugars for all products in each minor food group are presented in Table 10: Median Added Sugars (g) by Minor Food Group. The minor food groups with the highest median added sugars were canned, sweetened fruits (26 g); dried fruits (21 g); and peanut butter sandwich (18.5 g). None of these overlap with the top 10 sources of added sugars in school breakfast according to Fox et al. Nearly half of all minor food groups contributed 0 g of added sugars.

TABLE 10: MEDIAN ADDED SUGARS (G) BY MINOR FOOD GROUP

MAJOR FOOD GROUP	MINOR FOOD GROUP	MEDIAN
Fruits	Canned, sweetened	26
Fruits	Dried	21
Combination Entrées	Peanut butter sandwich	18.5
Desserts and Other Menu Items	Grain-based desserts, cookies and brownies	14
Combination Entrées	Hamburgers and similar beef/pork sandwiches	12
Meats/Meat Alternates	**Yogurt***	**10**
Milk	**Low-fat, flavored and unflavored***	**9.5**
Grains/Breads	**Granola and breakfast bars***	**9**

MAJOR FOOD GROUP	MINOR FOOD GROUP	MEDIAN
Grains/Breads	**Pancakes, waffles, French toast, and pastries***	**9**
Grains/Breads	**Cold cereal***	**9**
Combination Entrées	Hot dogs, corn dogs, and similar sausage sandwiches	6
Combination Entrées	Sandwich with plain meat or poultry	6
Combination Entrées	Cheeseburgers and similar beef/pork sandwiches	4.5
Grains/Breads	**Crackers, croutons, pretzels***	**3**
Grains/Breads	Breads, rolls, bagels, and other plain breads	2
Combination Entrées	Pizza	2
Combination Entrées	Pizza pockets, pizza sticks, and calzones	1
Grains/Breads	Bread or bread alternate with added fat	1
Accompaniments	**Condiments and toppings***	**1**
Grains/Breads	**Biscuits, cornbread, muffins, and sweet/quick breads***	**1**
Combination Entrées	Breakfast burritos and sandwiches	0.75
Meats/Meat Alternates	Other protein, eggs	0
Meats/Meat Alternates	Other protein, cheese	0
Meats/Meat Alternates	Chicken, turkey, and meat, plain	0
Combination Entrées	Mixtures and other mixtures with grain, meat/meat alternate, and/or vegetables	0
Fruits	Fresh or frozen	0
Meats/Meat Alternates	Sausage, frankfurters, cold cuts	0
Meats/Meat Alternates	Chicken, turkey, and meat, breaded or fried	0
Grains/Breads	Rice	0
Combination Entrées	Mexican-style entrées	0
Grains/Breads	Hot cereal	0
Grains/Breads	Corn/tortilla chips	0
Vegetables	Red and orange, cooked and raw	0
Vegetables	Dark green, other, beans and peas, mixtures, cooked and raw	0
Vegetables	Cooked, starchy	0
Fruits	Juice	0

*The minor food categories that are bolded are among the top sources of added sugars in breakfast. We referred to Fox et al. for the top sources of added sugars in school meals because SNMCS did not report on this metric, although Fox et al. conducted their analysis with SNMCS data.

Table 11 shows the percentage of company products meeting an added sugars standard for all companies offering at least five products in the 18 minor food groups for breakfast. Of the 36 minor

food groups, only 18 apply to breakfast and contain at least five products from at least one company. The full list of minor food groups can be found in Table 1: Compliance Ranges for Companies by Minor Food Group.

Among the array of age, meal, and Target configurations, we focused on an added sugars standard for grades K-5 and 9-12 breakfast, because the top sources of added sugars are from foods served at breakfast. As we did with our sodium analysis, we used grades K-5 and 9-12 as the grade groups for comparing from most strict to most lenient, respectively.

TABLE 11. RANGES OF COMPANY COMPLIANCE WITH AN ADDED SUGARS STANDARD IN SCHOOL BREAKFAST, GRADES K-5 AND 9-12†

SNMCS MAJOR AND MINOR FOOD GROUP	10 PERCENT TOTAL MEAL CALORIES FROM ADDED SUGARS K-5 BREAKFAST < 500 CALORIES	10 PERCENT TOTAL MEAL CALORIES FROM ADDED SUGARS 9-12 BREAKFAST < 600 CALORIES
Fruits		
Dried	0% (Ocean Spray*)	0% (Ocean Spray*)
Fresh and frozen fruit	88% (J.R. Simplot Co.)	88% (J.R. Simplot Co.)
Juice	100% (Campbell's Foodservice, PepsiCo Foodservice)	100% (Campbell's Foodservice, PepsiCo Foodservice)
Combination Entrées		
Breakfast burritos and sandwiches	100% (Foster Farms, Schwan Food Company)	100% (Foster Farms, Schwan Food Company)
Hot dogs, corn dogs, and similar sausage sandwiches	100% (Tyson*)	100% (Tyson*)
Pizza	100% (Schwan Food Company)	100% (Schwan Food Company)
Grains/Breads		
Biscuits, cornbread, muffins, and sweet/quick breads[1]	**88% (General Mills Convenience & Foodservice*) - 100% (Rich Products)**	**94% (General Mills Convenience & Foodservice*) - 100% (Rich Products)**
Breads, rolls, bagels, and other plain breads	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)	100% (Flowers Foods Inc. [Flowers Foodservice], Rich Products, Tyson*)
Cold cereal[1]	**76% (Post Holdings Inc.) - 92% (General Mills Convenience & Foodservice*, Kellogg*)**	**85% (Post Holdings Inc.) - 97% (General Mills Convenience & Foodservice*) - 100% (Kellogg*)**

SNMCS MAJOR AND MINOR FOOD GROUP	10 PERCENT TOTAL MEAL CALORIES FROM ADDED SUGARS K-5 BREAKFAST < 500 CALORIES	10 PERCENT TOTAL MEAL CALORIES FROM ADDED SUGARS 9-12 BREAKFAST < 600 CALORIES
Crackers, croutons, pretzels[1]	**100% (Campbell's Foodservice, Kellogg, Mondelez International)**	**100% (Campbell's Foodservice, Kellogg, Mondelez International)**
Granola and breakfast bars[1]	**88% (General Mills Convenience & Foodservice*) - 100% (Kellogg*, Mondelez International, PepsiCo Foodservice*)**	**100% (General Mills Convenience & Foodservice*, Kellogg*, Mondelez International, PepsiCo Foodservice*)**
Hot cereal	94% (PepsiCo Foodservice)	100% (PepsiCo Foodservice)
Pancakes, waffles, French toast, and pastries[1]	**40% (Kellogg*) - 81% (General Mills Convenience & Foodservice*) - 100% (Cargill, Rich Products)**	**73% (Kellogg*) - 100% (Cargill, General Mills Convenience & Foodservice*, Rich Products)**
Meats/Meat Alternates		
Other protein, cheese	100% (Land O' Lakes, Rich Products)	100% (Land O' Lakes, Rich Products)
Other protein, eggs	100% (Cargill)	100% (Cargill)
Sausage, frankfurters, cold cuts	100% (Perdue Foods, Tyson*)	100% (Perdue Foods, Tyson*)
Yogurt[1]	**36% (General Mills Convenience & Foodservice*) - 84% (Danone North America)**	**80% (General Mills Convenience & Foodservice*) - 100% (Danone North America)**
Accompaniments		
Condiments and toppings[1]	**33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)**	**33% (Rich Products) - 77% (J.M. Smucker) - 97% (Kraft Heinz Co.*) - 100% (Campbell's Foodservice, Schwan Food Company)**

* We were only able to assess a subset of the total products found due to missing information required for analysis.
† Only included companies offering at least five products in the minor food group.
[1] The minor food groups that are bolded are among the top sources of added sugars in breakfast. We referred to Fox et al. for the top sources of added sugars in school meals because SNMCS did not report on this metric, although Fox et al. conducted their analysis with SNMCS data.[78]
Note that our analysis did not have any flavored skim milk products, the top source of added sugars in school meals for breakfast and lunch.

Compliance ranges were high (≥ 75 percent) for more than three-fourths (14 of the 18) of minor food groups for grades K-5 and 9-12 breakfast. There was at least one company that met 100 percent compliance for 13 of the 18 minor food groups for grades K-5 breakfast. However, the compliance jumps to 15 of the 18 minor

food groups for grades 9-12 breakfast (the more lenient standard).

For grades K-5 breakfast, several companies had very low compliance rates (≤ 50 percent): Ocean Spray for dried fruit (0 percent); Rich Products for condiments and toppings (33 percent); Kellogg for pancakes, waffles, French toast, and pastries (40 percent for grades K-5; however this increases to 73 percent for grades 9-12), and General Mills for yogurt (36 percent for grades K-5; however this increases to 80 percent for grades 9-12). For grades 9-12 breakfast, Ocean Spray (0 percent) and Rich Products (33 percent) remained very low.

For some companies, the difference in 100 calories (or 2.5 grams of added sugars) between K-5 and 9-12 (as detailed in Table 6: Added Sugars Standard by Grade Group, Consistent with DGA Recommendations) drastically impacts compliance: as mentioned, Kellogg from 40 to 73 percent for pancakes, waffles, French toast, and pastries; and General Mills Foodservice from 36 to 80 percent for yogurt. All of Danone North America yogurt is compliant for grades 9-12 breakfast.

Of the top sources of added sugars in breakfast (bolded), compliance ranges were high (≥ 75 percent) for all minor food groups except for condiments and toppings. However, even for the condiments and toppings food group, all companies except one (Rich Products at 33 percent) had high compliance.

PRODUCT EXAMPLES

Worst Cold Cereal

Post Foodservice Marshmallow Mateys 2 oz bowl contains **23 g added sugars. It also has 380 mg sodium, and contains synthetic dyes (Yellow 5, Red 40, Blue 1, and Yellow 6).**

Better Cold Cereal

Post Foodservice Frosted Strawberry Shredded Wheat 2 oz bowl contains **10 g added sugars.** It also has only **5 mg sodium and no synthetic dyes.**

Worst Condiments and Toppings

Rich's Heat'n Ice™ Icing Vanilla Artificially Flavored has a whopping **33 g added sugars per 2 tbsp.**

Second Worst Condiments and Toppings

Smucker's 2.1 Ounce Breakfast Syrup has **32 g added sugars** per 2.1 oz container.

Worst Granola and Breakfast Bars

Rich's UBR (Ultimate Breakfast Round) Chocolate Chip IW has **18 g added sugars** per 2.2 oz bar.

Better Granola and Breakfast Bars

Mondelez's BelVita Sandwich Peanut Butter has **9 g added sugars** per 50 g biscuit sandwich.

Worst Pancakes, Waffles, French toast

Pillsbury™ Mini Pancakes Chocolatey Chip Explosion have **14 g added sugars** per 3.17 oz serving.

Better Pancakes, Waffles, French toast

Cargill Whole Grain French Toast Sticks have **5 g added sugars** per 2.65 oz. serving.

Worst Yogurt

Yoplait® Smooth Yogurts K12 cups have **11 g added sugars** per 4 oz cup.

Better Yogurt

Yoplait® Trix™ yogurts have **5 g added sugars** per 4 oz. cup.

Artificial sweeteners

Table 12 shows the percentage of a company's products containing no artificial sweeteners for all companies offering at least five products in which there was at least one instance of less than 100 percent compliance (5 of 36 minor food groups). The full list of minor food groups can be found in Table 1: Compliance Ranges for Companies by Minor Food Group. There are several possibilities for why so many minor food groups were free of artificial sweeteners of concern: companies may have intentionally eliminated or refrained from introducing artificial sweeteners in their K-12 products already (*e.g.* cold cereal); some minor food groups by nature would not have artificial sweeteners (or any sweeteners) added (*e.g.*, eggs, cheese); or, a limited sample size did not capture products in these groups that do contain artificial sweeteners of concern.

Double Trouble

Danone's Light + Fit products contain not one but two harmful artificial sweeteners: sucralose and acesulfame-k.

Sneaky Sweeteners

Tyson's Mexican Original® 12" 100% Whole Grain Flour Tortillas, 3.6 oz. may be 100 percent whole grain, but they also contain sucralose.

TABLE 12. RANGES OF COMPANY COMPLIANCE WITH A STANDARD ELIMINATING ARTIFICIAL SWEETENERS OF CONCERN (ONLY MINOR FOOD GROUPS WITH < 100 PERCENT COMPLIANCE SHOWN)†

SNMCS MAJOR AND MINOR FOOD GROUP	CONTAINS NO ARTIFICIAL SWEETENERS OF CONCERN
Combination Entrées	
Hot dogs, corn dogs, and similar sausage sandwiches	89% (Foster Farms) - 100% (Tyson*)
Grains/Breads	
Breads, rolls, bagels, and other plain breads	73% (Tyson*) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.*, Rich Products)
Meats/Meat Alternates	
Chicken, turkey, and meat, breaded or fried	99% (Tyson*) - 100% (Pilgrim's Pride*, Perdue Foods)
Yogurt	79% (Danone North America) - 100% (General Mills Convenience & Foodservice)
Accompaniments	
Condiments and toppings	92% (J.M. Smucker Co.) - 98% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, Rich Products, Schwan Food Company)

* We were only able to assess a subset of the total products found due to missing information required for analysis.
† Only included companies offering at least five products in the minor food group.

All companies with products in these minor food groups were near high compliance rates (> 73 percent). In addition, all minor food groups had at least one company entirely free of artificial sweeteners, emphasizing the feasibility of eliminating artificial sweeteners from each minor food group.

Synthetic dyes

Table 13 shows the percentage of a company's products containing no synthetic dyes for all companies offering at least five products in which there was at least one instance of less than 100 percent compliance (9 of 36 minor food groups). The full list of minor food groups can be found in Table 1: Compliance Ranges for Companies by Minor Food Group. As is the case for artificial sweeteners, there are several possibilities for why the majority of minor food groups were free of synthetic dyes: companies may have intentionally eliminated or refrained from introducing synthetic dyes in their

Synthetically Dyed Onion Rings?

McCain® Grabitizers® Battered Preformed Onion Rings 12X2 LB contain **Blue 1**, **Red 40** and **Yellow 5**.

K-12 products already (*e.g.* yogurt); some food groups by nature would not have synthetic dyes added (*e.g.* fruits and vegetables, although, we did observe dyes in McCain vegetables); or, a limited sample size did not capture products in these groups that do in fact contain synthetic dyes.

TABLE 13. RANGES OF COMPANY COMPLIANCE WITH A STANDARD ELIMINATING SYNTHETIC DYES (ONLY MINOR FOOD GROUPS WITH < 100 PERCENT COMPLIANCE SHOWN)†

SNMCS MAJOR AND MINOR FOOD GROUP	CONTAINS NO SYNTHETIC DYES
Vegetables	
Dark green, other, beans and peas, mixtures, cooked and raw	67% McCain Foods USA - 100% (J.R. Simplot Co., Campbell's Foodservice)
Grains/Breads	
Breads, rolls, bagels, and other plain breads	93% (Tyson*) - 100% (Flowers Foods Inc. [Flowers Foodservice], J&J Snack Foods Corp.*, Rich Products)
Cold cereal	58% (Kellogg*) - 84% (Post Holdings Inc.) - 91% (General Mills Convenience & Foodservice*)
Crackers, croutons, pretzels	77% (Kellogg) - 100% (Campbell's Foodservice, J&J Snack Foods Corp., Mondelez International)
Granola and breakfast bars	82% (Kellogg) - 93% (PepsiCo Foodservice) - 100% (General Mills Convenience & Foodservice, J&J Snack Foods Corp.*, Mondelez International)
Pancakes, waffles, French toast, and pastries	73% (Kellogg*) - 100% (Cargill, General Mills Convenience & Foodservice, Rich Products)
Meats/Meat Alternates	
Chicken, turkey, and meat, breaded or fried	95% (Perdue Foods) -100% (Pilgrim's Pride*, Tyson*)
Desserts and Other Menu Items	
Grain-based desserts, cookies and brownies	68% (J&J Snack Food) - 100% (Rich Products)
Accompaniments	
Condiments and toppings	87% (Rich Products) - 99% (Kraft Heinz Co.) - 100% (Campbell's Foodservice, J.M. Smucker Co., Schwan Food Company)

*We were only able to assess a subset of the total products found due to missing information required for analysis.
† Only included companies offering at least five products in the minor food group.

Compliance ranges varied drastically through all minor food groups, but all minor food groups except cold cereal had at least one company with 100 percent compliance. Four minor food groups had at least one company with less than 75 percent compliance (*e.g.*, McCain dark green, other, beans and peas, mixtures, cooked and raw, 67 percent; Kellogg cold cereal, 58 percent; Kellogg pancakes, waffles, French toast, and pastries, 73 percent; and J&J Snack Foods grain-based desserts, cookies and brownies, 68 percent). No company had very low compliance (≤ 50 percent).

Recommendations

Summary

Across the 18 minor food groups with grains, most companies had high compliance (≥ 75 percent) for whole grains. For sodium, most companies were close to or met 100 percent compliance for Target 2 for grades 9-12 lunch. Similarly, all companies with products from the top sources of sodium in school lunch meet, or are very close to meeting, Target 2 sodium (grades 9-12 lunch) with compliance ranging from 93-100 percent. Compliance ranges for Target 3 were more variable. For instance, companies had higher compliance ranges for condiments and toppings, and breads, rolls, bagels, and other plain breads, but lower ranges for sandwiches, Mexican-style entrées, and pizza. For added sugars (currently not required), most companies had high compliance for grades 9-12 breakfast. Similarly, most companies with products from the top sources of added sugars in breakfast had high compliance ranges. For artificial sweeteners, all companies with products in minor food groups that contained artificial sweeteners had high compliance rates, and every minor food group had a company with 100 percent compliance. For synthetic dyes, all but one minor food group had at least one 100 percent compliant company, but four minor food groups had companies below 75 percent compliance.

Whole grains

Most companies were close, if not at, 100 percent compliance across many minor food groups for providing only whole-grain-rich products. We recommend that the USDA maintain the 100-percent whole-grain-rich standard (currently required but not enforced

under the COVID-19 meal pattern waivers;[79] the USDA could begin enforcing School Year 2022-2023). Schools have been serving only whole-grain-rich products since SY 2014-2015 and for many students these are the only products they have known in school. Without a strong commitment from the USDA to maintain the 100 percent whole-grain-rich requirement, this progress, and children's health, will be at stake.

Sodium

Companies were largely at 100 percent compliance for Target 2 lunch (grades 9-12) for sodium. Similarly, all companies with products from the top sources of sodium in school lunch meet or are very close to meeting, Target 2 lunch (grades 9-12) with compliance ranging from 93-100 percent. Our analysis shows that Target 2 is imminently achievable, and much progress is being made toward Target 3. Given this, we recommend that the USDA extend the compliance dates for Targets 2 and 3 with a short but realistic timeframe (*e.g.* from School Year 2017-2018 to School Year 2023-2024 for Target 2 and from School Year 2022-2023 to School Year 2028-2029 for Target 3). Currently Target 2 is in effect and Target 3 would go into effect School Year 2022-2023. The foodservice industry should prioritize reformulating the remaining products that do not meet Targets 2 and 3.

Further, we recommend that the USDA establish a Target 4 with a compliance timeline after Target 3 (*e.g.*, School Year 2032-2033). Currently, the sodium reduction targets are not aligned with the most recent DGA recommendations for younger children. The USDA must provide robust technical assistance to support schools with menu planning to meet safe sodium levels for children while offering appealing meals.

Added sugars

In our analysis of the proposed added sugars standard (currently not required under the USDA standards), companies would have high compliance (≥ 75 percent for grades 9-12 breakfast) in most minor food groups (15 out of 18). Similarly, companies would have a high compliance with products from the top sources of added sugars in grades 9-12 breakfast. Given that our analysis shows these company products could imminently meet an added sugars

standard, we recommend that the USDA establish a standard with a short timeline for compliance (*e.g.* School Year 2026-2027). The standard could be an average of added sugars over the course of the week, similar to the standards for sodium and saturated fat (*e.g.*, that no more than 10 percent of total calories come from saturated fat over the course of the week). In addition, companies should prioritize reformulation among products that are the leading sources of added sugars in school meals, particularly for breakfast: flavored skim milk; sweetened cereals; condiments and toppings; and muffins and sweet/quick breads.[80]

Artificial sweeteners and synthetic dyes of concern

Our analysis shows that many company products do not contain harmful sweeteners and dyes, therefore we recommend that the USDA quickly phase them out (*e.g.*, School Year 2026-2027).

Photo: xixinxing/stock.adobe.com.

Limitations

There are several limitations to this report. First, we selected the largest companies based on the Food Processing's 45th Annual Top 100 list for 2020 by overall company sales with a K-12 portfolio. While these companies are major players in the K-12 marketplace, we cannot determine the top K-12 companies. Since we do not have school sales data, we cannot weigh the products by sales to determine which companies have the greatest share of the school food marketplace and the most commonly sold brands.

Second, compliance with sodium and added sugars standards are based on whether the *individual* product did not exceed the standard for the *whole* meal, a generous standard. Thus, certain products that would be close to the limit were coded as compliant, but in reality, could exceed the standard if combined with other meal components. As noted in the Methods section, offering milk is required as part of every meal. According to the USDA, sodium in milk varies greatly; one individual school container of plain, low-fat milk contains 95.2 mg sodium, while the same size container of chocolate milk contains 196 mg of sodium.[81,82] Given the variability of sodium content in milk is outside of the control of companies that do not sell milk, we did not consider the sodium in milk when determining whether a product fits within the sodium targets. Further, sodium compliance is based on an average over the week. We assume an added sugars standard would be similar. Thus, in reality, schools could serve products coded as non-compliant on one day while balancing out the weekly average with less salty or sweet items on other days.

Third, there may be instances in which we were relying on an adult portion size rather than a child nutrition portion. For example, if there was no specific child nutrition portion listed, we may have used an adult portion size instead. However, even when companies reported both portion sizes and we could compare, the difference in size was nominal.

Fourth, given the timing of this report, some products analyzed may have since been discontinued or reformulated, particularly given supply chain issues due to COVID-19. Therefore, we tried to ensure that nutrition information reflected what was available in SY 2020-2021 (data collected between December 2020 through July 2021). Still, in cases where company websites were used in place of a product guide (9 of the 28 companies), product information may have been outdated already at the time we pulled the data.

Fifth, while our findings suggest a sufficient mix of products in the K-12 marketplace to meet these standards, our analysis did not consider cost or regional availability of products.

Finally, because we used SNMCS Food Grouping System, any given food group may fail to capture the heterogeneity of its products.

Appendices

Appendix A: Added sugars estimation methodology

- Products with no apparent sources of added sugars in their ingredients list were estimated to contain **0 g added sugars** per serving.
- Products that met all of the following criteria were conservatively estimated to contain **0 g added sugars** per serving because they could contain less than ½ gram per serving, which rounds to 0 g on Nutrition Facts labels:
  - Contain 1 g total sugars per serving
  - Contain only small amounts of added sugars in their ingredients list*
  - Contain possible sources of naturally occurring sugars in their ingredients list
- Products that met all of the following criteria were estimated to contain **<1 g added sugars** per serving:
  - Contain 1 g total sugars per serving
  - Contain more than small amounts of both added sugars and naturally occurring sugars in their ingredients list*
- Products that met all of the following criteria were estimated to contain an amount of added sugars per serving **equal to their total sugars** per serving:
  - Contain at least 1 g total sugars per serving
  - Contain sources of added sugars in their ingredients list
  - Do not contain possible sources of naturally occurring sugars in their ingredients list, or contain only small amounts of naturally occurring sugars in their ingredients list*

- Products that appeared identical or nearly identical (based on a review of Nutrition Facts and ingredients) to a brand's corresponding retail product that discloses added sugars on its website were estimated according to **the proportion of total sugars that are added sugars in the retail product**.

Products that could not be estimated included:

- Products with missing information for serving sizes or with only partial Nutrition Facts information available.
- Products that appeared to contain significant amounts of both added and naturally occurring sugars in their ingredients list* and did not have another basis for estimation available (*e.g.*, an equivalent retail product or a proxy for estimating natural sugars content, such as percent juice labeling).

*Relative amounts were assessed by the order of ingredients relative to minor ingredients, like salt, spices, or additives, and/or the placement of ingredients relative to a "2% or less" statement.

Appendix B: Summary tables for each minor food group

Appendix C: Summary tables for each company

Appendix D: Product list

Appendices B-D can be found at
https://cspinet.org/school-meals-corporate-report-card-2021

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