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Smart Snacks: Graded

**2023 Competitive Foods
in Schools Report**

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Table of Contents

Executive Summary	4	Figure 3: Percentage of Snacks that Meet or Exceed CSPI's 5 g per Item Added Sugars Limit, Percentage of Entrées that Meet or Exceed CSPI's 9 g per Item Added Sugars Limit, and Percentage of Milks that Meet or Exceed the USDA's 10 g Added Sugars Limit for 8 fl oz Flavored Milks	22
Table 1: Summary of CSPI Recommendations for Snacks and Entrées Sold in K–12 Settings Compared to Current Smart Snacks Standards	6	Figure 4: Percentage of Competitive Foods that Meet or Exceed a ≤ 10% of Calories from Added Sugars Standard	23
Table 2: Summary of CSPI Recommendations for Beverages Sold in K–12 Settings Compared to Current Smart Snacks Standards	6	Low-Calorie Sweeteners of Concern & Synthetic Dyes	23
Introduction	7	Table 9: Proportion of Products Containing Low-Calorie Sweeteners of Concern or Synthetic Dyes, by Category, Subcategory, and Company	24
Definition of Competitive Foods	7	Table 10: Prevalence of Low-Calorie Sweeteners of Concern and Synthetic Dyes, by Company and Subcategory	25
Background on Smart Snacks Standards	7	Limitations	27
Current Smart Snacks Standards	8	Summary of Main Findings	27
Table 3: Current Smart Snacks Nutrient Standards for Snacks and Entrées	8	Recommendations for the USDA	28
Table 4: Current Smart Snacks Standards for Beverages	9	Sodium	28
Impact of Smart Snacks Standards	9	Snacks & Entrées	28
Nutrients, Additives, and Other Areas for Improvement Considered in this Report	10	Beverages	28
Sodium	10	Summary of Sodium Recommendations	28
Added Sugars	10	Added Sugars	29
Low-Calorie Sweeteners of Concern	10	Snacks & Entrées	29
Synthetic Dyes	11	Beverages	30
Entrée Exemption	11	Summary of Added Sugars Recommendations	30
Report Objectives	12	Low-Calorie Sweeteners of Concern	30
Methods	12	Summary of Low-Calorie Sweeteners of Concern Recommendations	31
Data Source	13	Flavored Water	31
Data Collection & Entry	13	Synthetic Dyes	31
Table 5: Data Entry Rules	14	Summary of Synthetic Dyes Recommendations	31
Product Inclusion & Exclusion Criteria	14	Entrée Exemption	32
Product Classification	15	Recommendations for Manufacturers	32
Table 6: Product Categories and Subcategories with Examples	15	Recommendations for States and Schools	32
Outcomes & Statistical Analysis	16	Conclusion	32
Results	17		
Table 7: Products Sampled, by Company, Category, and Subcategory	18		
Table 8: Product Sodium and Added Sugars Content, by Category and Subcategory	19		
Sodium	19		
Figure 1: Median Sodium Content of Beverages with Range (mg)	20		
Added Sugars	20		
Figure 2: Median Added Sugars Content of Snacks with Range (g)	21		
Compliance with the Added Sugars Standards Proposed by CSPI and the USDA	21		

Executive Summary

The Center for Science in the Public Interest (CSPI) is pleased to release the 2023 Competitive Foods in Schools Report. This report builds on the [2021 School Meals Corporate Report Card](#) and assesses the nutritional quality of the single-serve, individually packaged foods and beverages available on the K–12 market that qualify to be sold as competitive foods in schools.

Competitive foods are the snacks, entrées, and beverages that students may purchase at school; they compete with the federally reimbursable school meal programs, which are an essential source of nutrient-dense foods for 30 million children annually.ⁱ The school food environment plays an important role in shaping dietary behaviors because the eating habits established in childhood tend to persist into adulthood,ⁱⁱ and setting strong nutrition standards for competitive foods ensures that the healthy choice is the easy choice at school. The standards regulating competitive foods should protect children from adverse health outcomes, but the U.S. Department of Agriculture’s (USDA) current Smart Snacks standards—the federal nutrition standards for competitive foods in K–12 schools—are not sufficient.

Smart Snacks standards are not aligned with the recommendations for added sugars in the most recent Dietary Guidelines for Americans (DGA) or the compelling scientific evidence on the harms posed by certain low-calorie sweeteners and synthetic dyes. Most children in the United States consume more added sugars than the DGA recommends,ⁱⁱⁱ and excessive intake of foods or beverages high in added sugars is associated with dental decay^{iv,v} and weight gain^{vi} among children, which may increase risk for cardiovascular disease.^{vii} Certain low-calorie sweeteners (i.e., aspartame, acesulfame potassium, saccharin, and sucralose) are likely carcinogenic according to CSPI,^{viii} and the long-term safety of consuming them in childhood has not yet been assessed.^{ix} Synthetic dyes can cause adverse neurobehavioral effects in some children.^x

For this report, we analyzed 623 single-serve, individually packaged, Smart Snacks-compliant K–12 products from 22 of the largest food and beverage manufacturers to determine whether they would meet science-based standards for added sugars, low-calorie sweeteners of concern, and synthetic dyes.

We calculated a DGA-aligned added sugars limit to be 5 g for snacks and 9 g for entrées. We found that half of all the snacks (157 of 315) in our sample were compliant with the 5 g limit, and all the entrées—a small sample size of five—were compliant with the 9 g limit. Desserts (e.g., cookies, graham crackers, churros, crispy rice treats) and breakfast items (e.g., cereal bowls, granola bars, toaster pastries) tended to be higher in added sugars than other snacks. The items with the most added sugars were sweetened dried cranberries with 21 g per 1.16 oz serving. Although many snacks (158 of 315) had more than 5 g of added sugars and would need to be reformulated to comply with our proposed limit, there were at the same time multiple products in every snack subcategory that had 5 g of added sugars or less.

Most of the beverages in our sample (291 of 303, or 96 percent) had no added sugars. Of the five flavored milks with added sugars, only two were compliant with the USDA’s proposed product-based standard (no more than 10 g per 8 fl oz), which we support.^{xi} The seven sugar-sweetened beverages, which had up to 15 g of added sugars in a 12 fl oz container, would not be compliant with a standard based on the DGA which recommends against their consumption, especially for children and adolescents.^{xii}



21 g of added sugars.

We detected low-calorie sweeteners of concern in over one-third of beverages (107 of 303, or 35 percent) and a handful of light yogurts (n= 5). None of the beverages allowed to be sold in elementary and middle schools (i.e., water, milk, 100-percent juice, and diluted juice) contained these harmful low-calorie sweeteners. All the diet sodas (n= 74), seven diet teas, two fruit drinks, and nearly one-fifth of the flavored waters (24 of 126, or 19 percent)—all of which are only allowed to be sold to high school students—had at least one low-calorie sweetener of concern as an ingredient.



15 g of added sugars, Sucralose, Blue 1, Red 40.

Twelve percent of snacks (37 of 315) and 12 percent of beverages (36 of 303) contained at least one synthetic dye. As with low-calorie sweeteners of concern, we only found synthetic dyes in those beverages allowed to be sold in high schools: diet sodas (23 of 74, or 31 percent), flavored waters (11 of 126, or 9 percent), and fruit drinks (2 of 11 items in the other beverages subcategory, or 18 percent). Among snacks, there was at least one synthetically dyed item in six of the nine subcategories, but products containing synthetic dyes were in the minority (12 percent of all snacks). We found no products with Red 3, a known carcinogen.^{xiii}

No entrées contained low-calorie sweeteners of concern or synthetic dyes.

Overall, 334 of the 623 (54 percent) products assessed in this report are already compliant with strong science-based standards for added sugars, low-calorie sweeteners, and synthetic dyes.

Based on these findings, we recommend that the USDA transition from the current limit on total sugars by weight to DGA-aligned gram limits for added sugars: no more than 5 g for snacks, and no more than 9 g for entrées. In the interest of aligning standards across programs, we suggest that the USDA exempt yogurts and breakfast cereals from this limit and instead require these items to meet the department’s proposed product-based limits for the school meal programs: no more than 12 g per 6 oz of yogurt, and no more than 6 g per dry ounce of breakfast cereal.^{xiv} The USDA should not, however, exempt dried cranberries, tart cherries, or blueberries from the added sugars limit.

For beverages, we urge the USDA to ban the sale of sugar-sweetened beverages in schools. Current Smart Snacks standards allow beverages with up to 15 g of added sugars in a 12 fl oz container to be sold in high schools, even though the DGA states that children and adolescents should primarily consume beverages with no added sugars.^{xv} We recommend, however, that the USDA exempt flavored milk from this ban and instead require those items to meet the department’s proposed product-based added sugars limits: no more than 10 g per 8 fl oz, and no more than 15 g per 12 fl oz.^{xvi} We make this recommendation again in the interest of aligning standards across programs and in acknowledgment that the DGA allows flexibility to add small amounts of added sugars to some nutrient-dense foods (including fat-free or low-fat milk) to improve palatability.^{xvii} In contrast, sugar-sweetened beverages are not nutrient-dense and so should be subject to a stricter standard.

We also recommend that the USDA ban the use of low-calorie sweeteners of concern and synthetic dyes in competitive foods. These bans could stimulate industry innovation and create space for more unsweetened and dye-free products to enter the K–12 market. We also encourage the department to allow unsweetened, no-calorie flavored water (with no caffeine) to be sold in elementary and middle schools.

Although we analyzed the sodium content of all the products in our sample, we decided against recommending a change to the current sodium limits for snacks or entrées because they were not so out of line with the DGA recommendations as to warrant updating. We suggest, however, that the USDA require all 100-percent tomato and vegetable juices to be low-sodium because those in our sample had up to 980 mg in an 11.5 fl oz serving.

Finally, we urge the USDA to eliminate the entrée exemption—an existing loophole that allows entrées sold à la carte to be exempt from Smart Snacks standards if offered as part of the school meal programs. Instead of having operators handle leftover entrées by selling them à la carte, the USDA should provide training and technical assistance to help them prevent food waste.

Table 1: Summary of CSPI Recommendations for Snacks and Entrées Sold in K–12 Settings Compared to Current Smart Snacks Standards

	Current USDA Standard	CSPI Recommendation
Calories	≤ 200 kcal for snacks ≤ 350 kcal for entrées	No change.
Total Fat	≤ 35% of kcal	No change.
Saturated Fat	< 10% of kcal	No change.
Trans Fat	0 g (≤ 0.5 g)	No change.
Sodium	≤ 200 mg for snacks ≤ 480 mg for entrées	No change.
Total Sugars	≤ 35% by weight	Replace with an added sugars limit by grams.
Added Sugars	N/A	a. ≤ 5 g for snacks (with exemptions for yogurt and breakfast cereal) b. ≤ 9 g for entrées
Low-Calorie Sweeteners	N/A	Ban aspartame, acesulfame potassium, saccharin, and sucralose.
Synthetic Dyes	N/A	Ban Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, and Yellow 6.
Entrée Exemption	Any entrée offered as the main dish of the NSLP or SBP may be sold the same day or the day after without having to meet Smart Snacks standards.	Eliminate the entrée exemption and require that all entrées sold meet Smart Snacks standards.

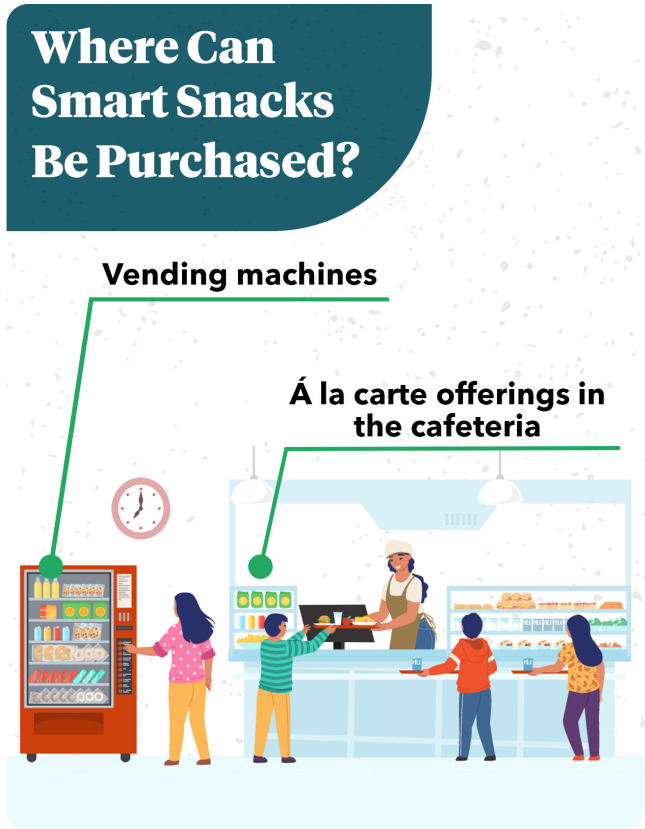
Table 2: Summary of CSPI Recommendations for Beverages Sold in K–12 Settings Compared to Current Smart Snacks Standards

	Current USDA Standard	CSPI Recommendation
Sodium	N/A	Require all 100% tomato and vegetable juices to be low-sodium.
Added Sugars	a. Proposed limiting the added sugars in flavored milk to ≤ 10 g per 8 fl oz and ≤ 15 g per 12 fl oz. b. In effect, beverages with up to 15 g of added sugars in a 12 fl oz container may be sold in high schools only.	a. Finalize the proposed added sugars limits for flavored milk. b. Ban the sale of all other sugar-sweetened beverages.
Low-Calorie Sweeteners	In effect, beverages with any low-calorie sweeteners may be sold in high schools only.	Ban aspartame, acesulfame potassium, saccharin, and sucralose.
No-Calorie Flavored Water	Only allowed to be sold in high schools.	Allow to be sold in elementary and middle schools if unsweetened and with no caffeine.
Synthetic Dyes	N/A	Ban Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, and Yellow 6.

Introduction

DEFINITION OF COMPETITIVE FOODS

Competitive foods are the foods and beverages available for students to purchase at school outside of the National School Lunch Program (NSLP) and School Breakfast Program (SBP). They are called competitive foods because they compete with the reimbursable school meal programs, which are an essential source of nutrient-dense foods for 30 million children annually.^{xviii} Students can purchase competitive foods from à la carte lines in the cafeteria, vending machines, school stores, snack bars, fundraisers, and other venues, but schools are not required to sell competitive foods on campus. According to the USDA’s School Nutrition and Meal Cost Study (SNMCS), most schools in school year (SY) 2014–15 had at least one source of competitive foods available to all students; only 8 percent of schools had no source of competitive foods.^{xix} À la carte offerings were the most common (available in 87 percent of schools for lunch and 56 percent for breakfast), followed by vending machines (available in 30 percent of all schools, including 71 percent of high schools, 44 percent of middle schools, and 10 percent of elementary schools); only 24 percent of schools offered competitive foods through alternative sources (i.e., school stores, snack bars, food carts, kiosks, bake sales, or fundraisers).^{xx} Foods and beverages sold at school during the school day (i.e., the midnight before the start to 30 minutes after the end of the school day) must meet the USDA’s Smart Snacks standards, which only apply to competitive foods and are separate from the nutrition standards for school meals.^{xxi}



BACKGROUND ON SMART SNACKS STANDARDS

Prior to the Healthy Hunger-Free Kids Act of 2010 (HHFKA), the federal nutrition standards for competitive foods were weak, requiring only that “foods of minimal nutritional value,” as defined by the USDA (e.g., soda, chewing gum, hard candy), not be sold during meal periods in the school cafeteria or other foodservice areas.^{xxii}

Many states adopted laws or regulations establishing nutrition standards for competitive foods prior to the HHFKA.^{xxiii} Several large school districts also strengthened their policies around competitive foods in response to the Child Nutrition and WIC Reauthorization Act of 2004 (2004 CNR).^{xxiv} The 2004 CNR required school districts to develop and implement local wellness policies which are school district policies that must include nutrition guidelines for all foods available on the school campus during the school day.^{xxv} Advocates had tried to update

the nutrition standards for competitive foods in the 2004 CNR, but local wellness policies were created instead as a compromise.^{xxvi}

In 2007, due to advocacy by CSPI and others to secure congressional funding,^{xxvii} the Institute of Medicine (IOM)—now the National Academy of Medicine—recommended standards for competitive foods with the goal of encouraging the consumption of fruits, vegetables, whole grains, and low- or nonfat dairy products; limiting calories, fats, sodium, and added sugars; and aligning with the recommendations in the DGA.^{xxviii} Around this time, CSPI and others were also successful in securing voluntary agreements from the American Beverage Association and several food and beverage manufacturers to remove candy, snack cakes, and full-calorie soda from schools.^{xxix}

In 2010, the HRFKA directed the USDA to establish science-based nutrition standards—consistent with the most recent DGA, and accounting for existing voluntary commitments from industry as well as state and local policies—for competitive foods sold outside of the school meal programs, on the school campus, and at any time during the school day.^{xxx} The USDA issued a proposed rule in February 2013,^{xxxi} followed by an interim final rule in June 2013^{xxxii} and a final rule in July 2016,^{xxxiii} which established stronger nutrition standards for competitive foods (known as Smart Snacks in Schools, or simply Smart Snacks).

In January 2020, the USDA issued a proposed rule that would have weakened Smart Snacks standards by extending the entrée exemption—whereby NSLP and SBP entrées may be sold à la carte without having to meet Smart Snacks standards—from the same day and the day after to the same day and two days after, which would have allowed entrée items like pizza, chicken nuggets, and cheeseburgers to be sold à la carte without having to meet Smart Snacks standards more often.^{xxxiv} The 2020 rule also would have allowed fried potatoes to be offered at school breakfast and lunch more frequently.^{xxxv} The 2020 rule also proposed allowing up to 20 fl oz calorie-free, naturally flavored waters to be sold in elementary and middle schools.^{xxxvi} In September 2022, the USDA announced that it would not be finalizing the 2020 proposed rule and withdrew it.^{xxxvii} In February 2023, the USDA issued another proposed rule that included proposals to exempt hummus from the total fat standard and limit the added sugars in flavored milk to no more than 10 g per 8 fl oz or 15 g per 12 fl oz.^{xxxviii}

CURRENT SMART SNACKS STANDARDS

Under current Smart Snacks standards, competitive foods are divided into three categories: snacks, entrées, and beverages.^{xxxix} The USDA has established both nutrient and ingredient standards that snacks, entrées, and beverages must meet to qualify as a competitive food. Snacks and entrées must be whole grain-rich (WGR) (i.e., contain at least 50 percent whole grains by weight); have a whole grain, fruit, vegetable, dairy food, or protein food as the first ingredient; or be a combination food with at least ¼ cup of fruits and/or vegetables. Snacks and entrées must also meet nutrient standards for calories, sodium, total fat, saturated fat, trans fat, and total sugars (Table 3). These nutrient standards are the same for all grade groups: K–5, 6–8, and 9–12.

Table 3: Current Smart Snacks Nutrient Standards for Snacks and Entrées

Nutrient	Snacks	Entrées
Calories	≤ 200 kcal	≤ 350 kcal
Sodium	≤ 200 mg	≤ 480 mg
Total fat	≤ 35% of kcal	≤ 35% of kcal
Saturated fat	< 10% of kcal	< 10% of kcal
Trans fat	0 g (≤ 0.5 g)	0 g (≤ 0.5 g)
Total sugars	≤ 35% by weight	≤ 35% by weight

Certain foods or combinations of foods are, however, exempt from some or all of these nutrient standards. For example, fruit cups packed in 100-percent juice are exempt from all nutrient standards; reduced-fat cheeses (including part-skim mozzarella) are exempt from the total fat and saturated fat standards; and sweetened dried cranberries, tart cherries, and blueberries are exempt from the total sugars standard.

Entrées must be a food item intended as a main dish that is a combination of a meat or meat alternate (M/MA) and a WGR food; a combination of a vegetable or fruit and a M/MA; or a M/MA alone with some exceptions. Entrées served as part of the NSLP or SBP may also be sold à la carte on the same day or the day after and are exempt from all Smart Snacks standards. This flexibility—known as the entrée exemption—was primarily adopted to help operators handle leftovers.^{xi} The USDA also allows grain-only, WGR entrées served as the main dish of the SBP to be sold as competitive foods under the entrée exemption, but those entrées cannot qualify on their own to be sold as a competitive food outside of the entrée exemption.^{xli,xliii} Side dishes from a reimbursable meal may also be sold à la carte, but unlike entrées, they must always meet Smart Snacks standards.

Smart Snacks standards for beverages vary by beverage type and grade group (Table 4).



Exempt from the total fat and saturated fat standards.

Table 4: Current Smart Snacks Standards for Beverages

Beverage Type and Standards	Grade Group(s) Permitted	Size(s) Permitted
Plain water (with or without carbonation)	K–12	No size restriction.
Unflavored or flavored fat-free or low-fat milk or milk substitutes	K–12	≤ 8 fl oz in K–5 ≤ 12 fl oz in 6–12
100-percent juice or 100-percent juice diluted with water (with no added sweeteners)	K–12	≤ 8 fl oz in K–5 ≤ 12 fl oz in 6–12
Low-calorie beverages (≤ 5 kcal per fl oz; may contain caffeine)	9–12	≤ 12 fl oz
No-calorie beverages (< 5 kcal per 8 fl oz and no more than 10 kcal total; may contain caffeine)	9–12	≤ 20 fl oz

IMPACT OF SMART SNACKS STANDARDS

While federal Smart Snacks standards have brought positive changes to the school food environment, the research evaluating the impact of the standards nationally is limited. A 2020 cross-sectional study using data from the USDA’s nationally representative SNMCS found that most beverages sold in middle schools (85 percent) and high schools (74 percent) in SY 2014–15 were compliant with Smart Snacks standards, and that high school students were less likely to consume non-compliant beverages when enrolled in schools that sold a higher proportion of compliant beverages.^{xliii}

NUTRIENTS, ADDITIVES, AND OTHER AREAS FOR IMPROVEMENT CONSIDERED IN THIS REPORT

In the United States, children consume about a quarter of their daily calories from snacks^{xliv} and as much as half of their daily calories at school.^{xlv} The school food environment plays an important role in shaping the dietary behaviors of children, and the eating habits established in childhood tend to persist into adulthood.^{xlvi} While reimbursable school meals should be the primary source of healthy food at school, setting strong nutrition standards for competitive foods ensures that the healthy choice is always the easy choice for every student at school. The standards regulating competitive foods should protect children from adverse health outcomes and so should take into account the latest scientific evidence and the recommendations of the most recent DGA. Considering that Smart Snacks standards have not been updated since 2016, a review of opportunities to better align them with the 2020–25 DGAs and expert recommendations regarding low-calorie sweeteners and synthetic dyes is warranted.

Sodium

Excessive sodium consumption is common among children and adolescents in the United States. According to the 2020–25 DGA, on a typical day, 95–97 percent of children 2–13 years and 77–97 percent of adolescents 14–18 years exceed the recommended daily limit for sodium intake.^{xlvii} This overconsumption of sodium increases risk for high blood pressure and subsequently heart disease and stroke.^{xlviii} The 2020–25 DGA recommends limiting sodium to $\leq 1,500$ mg per day for children 4–8 years, $\leq 1,800$ mg per day for children 9–13 years, and $\leq 2,300$ mg per day for individuals 14 years and older.^{xlix} In contrast, average daily sodium intake for children 4–18 years ranges from approximately 2,400–3,800 mg.¹

Current Smart Snacks standards allow no more than 200 mg of sodium in snacks and no more than 480 mg in entrées, and no foods are exempt from the sodium limits. There is no sodium limit for beverages sold as competitive foods.

Added Sugars

Approximately 77–80 percent of children 5–13 years and 72–76 percent of adolescents 14–18 years consume more than the DGA-recommended daily limit of added sugars.^{li} Among children, excessive intake of foods or beverages high in added sugars has been associated with dental decay^{lii,liii} and weight gain,^{liv} which may increase risk for cardiovascular disease.^{lv} The 2020–25 DGA recommends that people two years and older consume less than ten percent of calories per day from added sugars.^{lvi}

Current Smart Snacks standards limit the total sugars in snacks and entrées but not added sugars directly. The USDA's calorie limits for the low- and no-calorie beverages sold in high schools also indirectly cap added sugars to no more than 15 g in a 12 fl oz container if added sugars is the only source of calories. The USDA also recently proposed a product-based added sugars standard for flavored milk offered as part of a reimbursable school meal or sold as a competitive food.^{lvii}

Low-Calorie Sweeteners of Concern

The safety of low-calorie sweeteners (LCS)—sometimes called artificial sweeteners, non-nutritive sweeteners (NNS), or high-intensity sweeteners—has been the subject of significant debate. In 2018, an American Heart Association Science Advisory concluded, “it is prudent to advise against prolonged consumption of LCS beverages by children.”^{lviii} In 2019, the American Academy of Pediatrics concluded, “the long-term safety of NNS in childhood has not been assessed in humans.”^{lix} In contrast, the U.S. Food and Drug Administration (FDA) has concluded that high-intensity sweeteners are safe and permits their use in food.^{lx} Based on the available evidence, CSPI advises that children avoid all low-calorie sweeteners. CSPI is especially concerned about aspartame, acesulfame potassium, saccharin, and sucralose and encourages consumers to avoid them due to cancer concerns.^{lxi} There is particularly compelling evidence

that aspartame is a carcinogen,^{lxii} with the World Health Organization recently classifying aspartame as “possibly carcinogenic to humans.”^{lxiii}

Current Smart Snacks standards do not address address low-calorie sweeteners except in one case: diluted juices may not contain any added sweeteners, including low-calorie sweeteners.

The USDA declined to explicitly address low-calorie sweeteners in the 2016 final rule but noted that schools could choose not to sell items with low-calorie sweeteners.^{lxiv}

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.”^{lxv} The OEHHA report also concluded that the FDA’s Acceptable Daily Intakes (ADIs) “may not provide adequate protection from neurobehavioral impacts in children,” explaining that these ADIs were based on old animal studies that could not detect “the types of neurobehavioral outcomes measured in later studies.”^{lxvi} The synthetic dye Red 3 is also a known carcinogen.^{lxvii} Nonetheless, the FDA permits the use of synthetic dyes in food.^{lxviii}

Current Smart Snacks standards do not address synthetic dyes.

Entrée Exemption

So long as the entrée exemption is in place, updating Smart Snacks standards will only be effective at improving the nutritional quality of snacks and beverages, because entrées offered as the main dish of the NSLP or SBP may be sold as competitive foods on the same day or the day after without having to meet Smart Snacks standards.^{lxix}

The HHFKA did not allow for any exemptions to nutrition standards—including à la carte sales—other than infrequent school-sponsored fundraisers.^{lxx} Despite this and the more than 209,000 commenters who suggested that NSLP and SBP menu items should not receive any exemption from the standards, the USDA established the entrée exemption to provide operators flexibility in planning à la carte sales and handling leftovers.^{lxxi} The USDA stated that it would, “closely monitor this exemption during implementation to determine the overall nutrient profile of products being offered under the exemption... *Should the exemption undermine the overall goal of the competitive food standards for healthier products for sale in schools, we will consider a stricter standard* [emphasis added].”^{lxxii} To date, the USDA has not released its findings from monitoring the entrée exemption.

In the absence of data from the USDA, it is reasonable to assume that the most common entrée items on school menus are also the most common entrée items being sold à la carte. Moreover, considering that cafeteria lines that sold both reimbursable meals and à la carte snacks, entrées, and beverages were the leading source of competitive foods in SY 2014–15,^{lxxiii} it is reasonable to assume that the entrées being sold as competitive foods are primarily being sold à la carte under the entrée exemption.

In SY 2014–15, approximately one-third (31 percent) of daily school lunch menus featured pizza (19 percent in elementary schools, 49 percent in middle schools, and 48 percent in high schools).^{lxxiv} Other entrées high in calories, saturated fat, and/or sodium were also offered regularly: 21 percent of daily school lunch menus contained breaded or fried chicken nuggets (18 percent in elementary schools, 27 percent in middle schools, and 25 percent in high schools); 16 percent contained hamburgers (11 percent in elementary schools, 24 percent in middle schools, and 21 percent in high schools); and 14 percent contained cheeseburgers (7 percent in elementary schools, 23 percent in middle schools, and 25 percent in high schools).^{lxxv}

The main dish of a reimbursable school meal is often not healthy enough to be sold à la carte without the other components that balance the meal nutritionally. According to the USDA’s SNMCS, combination entrée items like pizza and cheeseburgers provide 60 percent of the saturated fat and 47 percent of the sodium in a typical school lunch.^{lxxvi} In a reimbursable school lunch, these combination entrées must be served alongside servings of fruits and vegetables and a cup of fat-free or low-fat milk.^{lxxvii} Moreover, because the nutrient standards for school meals are averaged over the course of a week, if operators serve these entrées like these that are high in calories, saturated fat, and/or sodium, the other entrées that they serve that week must be lower in those nutrients to compensate.^{lxxviii} Whereas the nutrition standards for school meals help ensure that these sorts of entrée items are served alongside healthy sides and cannot be offered most days of the week, the entrée exemption bypasses these protections and even allows these entrée items to be sold more often than they can be offered as part of a balanced reimbursable meal. This undercuts both the reimbursable school meal programs as well as Smart Snacks standards, which should prompt the USDA to consider a stricter standard as it said that it would.

Because the entrées sold through entrée exemption were outside of the scope of this report and would require a separate analysis worthy of its own report, we did not analyze those items. We do, however, provide recommendations regarding the entrée exemption as it relates to the need to uphold the integrity of Smart Snacks standards.

REPORT OBJECTIVES

This report builds on CSPI’s [2021 School Meals Corporate Report Card](#), which assessed the nutritional quality of about 1,800 K–12 products sold by the largest food and beverage manufacturers in SY 2020–21.^{lxxix} The 2021 report measured the extent to which products on the K–12 market were meeting the USDA’s WGR and sodium standards, would meet a DGA-aligned standard for added sugars, and were free from low-calorie sweeteners of concern and synthetic dyes. That report looked at products exclusively in the context of the NSLP and SBP and did not assess them as competitive foods.

The objective of this report is to catalog the single-serve, individually packaged, Smart Snacks-compliant products sold to K–12 by the largest food and beverage manufacturers and determine whether those products would meet science-based standards for sodium, added sugars, and harmful low-calorie sweeteners and synthetic dyes.

We are not aware of any studies examining the nutritional quality of the competitive foods post SY 2014–15 when Smart Snacks standards were first implemented nationally. While we are aware of the A-List managed by the John C. Stalker Institute of Food and Nutrition (JSI) which evaluates competitive foods against the Massachusetts nutrition standards,^{lxxx} we do not know of any lists evaluating competitive foods against the federal Smart Snacks standards on a national scale. This report seeks to fill in those gaps.

METHODS

In February 2022, CSPI convened an advisory board of school nutrition researchers, school foodservice personnel, and national advocacy partners to inform the report’s methodology. The advisory board members specifically provided guidance on company and product inclusion criteria as well as the nutrition standards to assess products against.

DATA SOURCE

As a proxy for which companies have the largest share of the K–12 market, we consulted a top companies list from an industry publication, as we did in our [2021 School Meals Corporate Report Card](#) and our [2022 School Milk Report](#). We specifically consulted Food Processing’s 46th Annual Top 100 list from 2021 (the most recent year available), 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.”^{lxxxi} See [Appendix A](#) for the full list of companies.

To determine which companies sold to the K–12 market, we reviewed all 100 companies’ websites, including foodservice websites, looking for a K–12 channel, a K–12 product guide, or products denoted for K–12. If there was no indication online that a company sold specifically to K–12, we contacted the company. If we could not determine whether a company sold to K–12, and if the company either did not respond to our outreach or could not give a definitive answer, we excluded them. We did not attempt to contact any companies that exclusively sold products that could not qualify as competitive foods (e.g., alcoholic beverages, raw meat, spices, bulk ingredients).

We identified 37 companies with K–12 products.

We attempted to collect up-to-date K–12 product guides, spec sheets, and/or sell sheets along with the Nutrition Facts labels and ingredient lists for all K–12 products directly from company websites and contacted customer service or a company representative to confirm.¹ If a company said that they sold to K–12 but did not have any additional information online, we reached out to the company and requested a K–12 product guide, spec sheets, and/or sell sheets along with the Nutrition Facts labels and ingredient lists for all their K–12 products.

DATA COLLECTION & ENTRY

Data collection and entry took place from June 2022 to August 2023, across the procurement cycles of two school years. We requested K–12 product information for SY 2022–23 or SY 2023–24.² We used the data for the most recent school year available; if a company provided data for SY 2022–23, we did not later attempt to obtain data for SY 2023–24.

We captured 2,460 K–12 products from 37 companies.

We extracted product information from the data sources mentioned above. If data sources conflicted, we attempted to contact the company for the correct information. If the company did not respond or could not provide the correct information, we internally determined and used the highest quality data source available. If no one data source included all the information that we were looking for, and if none of data sources for that product conflicted, we extracted data from multiple sources for that item.

We extracted the following for each product: servings per container, serving size, calories, total fat, saturated fat, trans fat, sodium, total carbohydrates, dietary fiber, total sugars, added sugars, protein, ingredients, and whether the company claimed that the item was Smart Snacks-compliant.

For foods, we coded whether each item was WGR or had a whole grain, fruit, vegetable, dairy food, or protein food as its first ingredient after water; we also coded whether each item would be considered an entrée by the USDA’s definition.

¹ In the case of Coca-Cola Co., we are aware that the company has a catalog of Smart Snacks-compliant products, but the information online appeared to be out of date because the foodservice webpage (<https://www.cokesolutions.com/tools-and-resources/operations/usda-compliant-catalog.html>) referred to the USDA’s 2013 interim final rule as “new” and the copywrite notice was from 2017. When we contacted Coca-Cola Co., a company representative informed us that Coca-Cola Co. produces beverage syrups and concentrates, and that regional bottlers produce the products sold to schools. The company representative also informed us that there was not a comprehensive catalog of Smart Snacks-compliant Coca-Cola Co. products, and that up-to-date nutrition information could be found on each Coca-Cola Co. brand website. Based on this information, we contacted Coca-Cola Beverages Northeast and received an order form with all the products that they supply to the schools in their market. We obtained the Nutrition Facts labels and ingredient lists for each product on the sell sheet from the corresponding Coca-Cola Co. brand website.

² In the case of Campbell Soup Co., a company representative provided a copy of their latest K–12 product guide which was for SY 2021–22. There was not a version for SY 2022–23 available at the time of outreach.

For beverages, we coded whether any products would be considered a water, allowable milk (i.e., low-fat or fat-free) or milk substitute, 100-percent juice, or diluted juice by the USDA.

Table 5 outlines the system that we used to solve for missing nutrient values.

Table 5: Data Entry Rules

Issue with Data Source	Data Entry Decision
A single-serve item is listed as having > 1 serving because the servings per container is referring to the number of items sold per case.	Enter 1 for servings per container.
Added sugars is < 1 g.	Enter 0.5 g for added sugars. ³
Some nutrient values are not listed on the label.	Enter "Missing" for each value not listed; check if the following exceptions apply.
Total fat is 0 g; saturated fat and/or trans fat is "Missing."	Enter 0 g for saturated fat and/or trans fat.
Total carbohydrates is 0 g; dietary fiber and/or total sugars is "Missing."	Enter 0 g for dietary fiber and/or total sugars.
Total sugars is 0 g; added sugars is "Missing."	Enter 0 g for added sugars.

All extracted data were checked by another team member to ensure accuracy.

PRODUCT INCLUSION & EXCLUSION CRITERIA

Only single-serve, individually packaged, Smart Snacks-compliant foods and beverages were included so that we could be certain of the portion sizes of the items being sold as competitive foods.⁴ Items that require preparation before consuming (e.g., single-serve oatmeal packages that need to be heated with water) were included. Single-serve condiments were excluded. Entrées that could only be sold à la carte under the entrée exemption were excluded.

We excluded 1,599 products for being condiments, items that were not single-serve, items that were not individually wrapped (i.e., bulk items), or ingredients (e.g., flour, chicken broth). We excluded another 54 products that were missing the information (i.e., serving size, key nutrient values, and/or ingredients) needed to calculate Smart Snacks-compliance.

We then calculated whether the remaining 807 products were Smart Snacks-compliant as a snack, entrée, and/or beverage using Microsoft Excel and, if applicable, compared our result to the company's claim about compliance. For foods, our formulas checked to see whether products had appropriate ingredients and were compliant with the nutrient standards for snacks and entrées (excluding any standards that a product was exempt from); the formulas also checked to see if each food item met the USDA's definition of an entrée. Each food item was then labelled as noncompliant or compliant as a snack, entrée, or both. For beverages, our formulas checked which milks, 100-percent juices, and diluted juices could be sold to which grade groups (i.e., K-5 or 6-12) based on their size. The plain waters were compliant in all grades regardless of size. The formulas compared the remaining beverages—which can only be sold in high schools—of up to 12 fl oz against the USDA's standards for low-calorie beverages and of up to 20 fl oz against the USDA's standards for no-calorie beverages. All beverages were labeled as noncompliant or compliant in elementary, middle, and/or high school.

³ Per FDA rules on added sugars declaration, a statement of the number of grams of added sugars in a serving is not required for products with less than 1 g of added sugars in a serving if no claims are made about sweeteners, sugars, added sugars, or sugar alcohol content. When a serving contains less than 0.5 g of added sugars, it may be expressed as zero. (81 FR 33741. Food Labeling: Revision of the Nutrition and Supplement Facts Labels.)

⁴ We included three bottles of waters with serving sizes greater than one because the USDA allows plain water of any size to be sold to all grades.

We excluded 184 products that were not Smart Snacks-compliant. Among them, we found 25 products from eight companies that were incorrectly labelled as being Smart Snacks-compliant when, in fact, they were not. See [Appendix B](#) for the complete list.

Of the 37 companies with K–12 products, only 22 of them had items that met our inclusion criteria: Campbell Soup Co., Cargill Inc., Coca-Cola Co., Danone North America, Del Monte Pacific Ltd., Foster Farms LLC, General Mills Inc., Hershey Co., J&J Snack Foods, Kellogg Co., Keurig Dr Pepper, Kraft Heinz Co., Land O’Lakes Inc., McKee Foods Corp., Mondelez International, Ocean Spray, PepsiCo Inc., Post Holdings Inc., Rich Products Corp., Schwan’s Co., Tyson Foods Inc., and Wells Enterprises Inc.

In total, 623 products from 22 companies met our inclusion criteria: 315 snacks, 4 entrées, 303 beverages, and 1 product that was compliant as both a snack and an entrée (a pair of hard cooked eggs) which we categorized as an entrée only. The pair of hard cooked eggs was categorized as an entrée because there were no other egg products in the sample, and with a higher protein content per serving than the snacks in our sample, it was comparable to the products in the entrée category. See [Appendix C](#) for the final sample.

PRODUCT CLASSIFICATION

We classified products according to whether they were Smart Snacks-compliant as a snack, entrée, or beverage. For snacks and beverages, we assigned each product to an additional subcategory (Table 6). In developing our product subcategories, we referred to those used in Gorski et al.’s 2016 study^{lxxxii} and Jahn et al.’s 2018 study.^{lxxxiii}

Table 6: Product Categories and Subcategories with Examples

Category	Subcategory	Example Products from Sample
Snack	Cereals, bars, breakfast items	Cereal bowls and pouches, cereal bars, granola, granola bars, oatmeal packets, toaster pastries
	Cheese	Cheese cubes, string cheese
	Chips, crackers, popcorn, other savory snacks	Cheese puffs, crackers, popcorn, potato chips, pretzels, tortilla chips, savory snack mixes
	Cookies and baked sweets	Animal crackers, churros, cookies, crispy rice treats, graham crackers
	Fruit	Apple sauce, fruit cups in 100% juice, sweetened dried cranberries
	Frozen treats	Frozen juice cups, ice cream, sherbet, sorbet
	Nuts	Almonds, cashews
	Other sweets	Fruit gummies, fruit roll-ups, sweet snack mixes
	Yogurt and pudding	Pudding, yogurt
Entrée	Entrée	Chicken corn dog, diced chicken, hard cooked eggs, pizza slice with turkey sausage, cheese-stuffed breadsticks

Beverage	Juice	100% fruit or vegetable juice, 100% fruit or vegetable juice diluted with water (with or without carbonation, and with no added sweeteners)
	Flavored water	Flavored water (with or without carbonation, and with or without added sweeteners) – Includes flavored seltzers, flavored sports drinks and waters with electrolytes
	Milk	Unflavored or flavored fat-free or low-fat milk, fortified soy milk
	Water	Unflavored water (with or without carbonation, and with no added sweeteners) – Includes plain water, plain soda water, water with added minerals
	Diet soda	Diet and zero-sugar sodas
	Other beverages	Fruit drinks, teas

OUTCOMES & STATISTICAL ANALYSIS

We calculated the median, interquartile range, and range of sodium and added sugars content for all snack, entrée, and beverage products by category and subcategory. We do not present mean values because Shapiro-Wilk tests (results were considered significant at $P < 0.05$) found that the distributions of added sugar and sodium content were skewed, so medians are a better measure of data spread. All analyses were conducted using IBM SPSS v. 29.0.1.0.

We calculated DGA-aligned sodium standards for snacks for each grade group but decided not to compare the food items in our sample against them because the differences between the existing Smart Snacks limits and a DGA-aligned standard for each grade group (a difference of 60 mg for K–5, 40 mg for 6–8, and no change for grades 9–12) were not large enough to justify the increased cost and administrative burden that would be required to implement them. We also compared the existing Smart Snacks sodium limit for entrées against the USDA’s current and proposed sodium targets for school breakfast and lunch as well as DGA-aligned sodium targets that we calculated. However, we chose not to propose a DGA-aligned sodium limit for entrées in this report. See [Appendix D](#) for a detailed discussion.

To understand the feasibility of DGA-aligned added sugars gram limits for snacks and entrées, we calculated the percentage of total snacks and snacks in each subcategory with 5 g of added sugars or less per item and the percentage of entrées with 9 g of added sugars or less per item. We developed these limits based on the 2020–25 DGA recommendation to limit calories from added sugars to less than 10 percent of total calories per day.^{lxxxiv} Existing Smart Snacks calorie maximums per item are 200 kcal for snacks and 350 kcal for entrées; we multiplied those maximums by 0.1 and divided the result by 4—because 1 g of sugar is equal to 4 kcal—to yield a limit of 5 g for snacks and 9 g for entrées. Because setting gram limits at *less than* 10 percent of calories would complicate calculating compliance for operators because snacks with 5 g and entrées with 9 g would not be compliant, we set the limits at *no more than* 10 percent of calories.

We did not evaluate the feasibility of an added sugars gram limit for beverages. The only existing calorie limits for beverages are for low- and no-calorie beverages sold in high schools, and we determined—using the same method as for snacks and entrées—that a DGA-aligned added sugars limit for a 12 fl oz beverage with 60 kcal (the highest calorie allowance) would be 1.5 g, which we understood would have the same effect as banning sugar-sweetened beverages. The 2020–25 DGA states that, “sugar-sweetened beverages (e.g., soda, fruit drinks, sports and energy drinks) are not necessary in the child or adolescent diet,” and that, “beverages that contain no added sugars should be the primary choice for children and

adolescents.”^{lxxxv} For these reasons, we decided that disallowing the sale of sugar-sweetened beverages in schools would be the simplest and most effective way to set a DGA-aligned added sugars standard for beverages.

The 2020–25 DGA offers some flexibility to add small amounts of added sugars to some nutrient-dense foods to improve palatability, and fat-free and low-fat milk is considered a nutrient-dense food.^{lxxxvi} Just as we do not support banning flavored milk in school meals, we do not believe that allowing flavored milk—limited in added sugars—to be sold as a competitive food runs contrary to the recommendations of the 2020–25 DGA. For this reason, we compared the added sugars content of the flavored milks in our sample against the USDA’s proposed product-based limits (i.e., no more than 10 g per 8 fl oz, and no more than 15 g per 12 fl oz) to see how many of them were already compliant.^{lxxxvii}

We also examined the feasibility of an alternate limit of no more than 10 percent of the number of calories in each product coming from added sugars; we calculated the percentage of snacks, entrées, and beverages that would comply with this standard. We were primarily interested in measuring products against the DGA-aligned standards that we set and ran this secondary analysis as a point of comparison.

To understand the current prevalence of select low-calorie sweeteners and synthetic dyes of concern in competitive foods, we used ingredient lists to calculate the percentage of products that contained the following chemicals: aspartame, acesulfame potassium, saccharin, and sucralose; Food, Drugs and Cosmetics (FD&C) Blue No. 1 (Blue No. 1, Blue 1), FD&C Blue No. 2 (Blue No. 2, Blue 2), FD&C Green No. 3 (Green No. 3, Green 3), FD&C Red No. 3 (Red No. 3, Red 3), FD&C Red No. 40 (Red No. 40, Red 40), FD&C Yellow No. 5 (Yellow No. 5, Yellow 5), and FD&C Yellow No. 6 (Yellow No. 6, Yellow 6).

RESULTS

We analyzed the nutrition information and ingredients of 623 Smart Snack-compliant food and beverage products from 22 food and beverage manufacturers (Table 7). In total, just five companies accounted for approximately 76 percent of all products in the study: Keurig Dr Pepper (39 percent), PepsiCo Inc. (14 percent), General Mills Inc. (11 percent), J&J Snack Foods (7 percent), and Coca-Cola Co. (6 percent). Cereals, bars, and breakfast items (n= 89) were the most common snacks followed by chips, crackers, popcorn, and other savory snacks (n= 48), while the most common beverages were flavored waters (n= 126) followed by diet sodas (n= 74).

Table 7: Products Sampled, by Company, Category, and Subcategory

	Snacks									Beverages						Total	
	Cereals, bars, breakfast items	Cheese	Chips, crackers, popcorn, other savory snacks	Cookies & baked sweets	Fruit	Frozen treats	Nuts	Other sweets	Yogurt & pudding	Entrées*	Diet soda	Flavored water	Juice	Milk	Other beverages		Water
Campbell Soup Co.	-	-	8	4	-	-	7	-	-	-	-	-	8	-	-	-	27
Cargill Inc.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Coca-Cola Co.	-	-	-	-	-	-	-	-	-	-	5	21	2	-	1	8	37
Danone North America	-	-	-	-	-	-	-	-	14	-	-	-	-	6	-	-	20
Del Monte Pacific Ltd.	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	5
Foster Farms LLC	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2
General Mills Inc.	34	-	2	4	-	-	-	8	18	-	-	-	-	-	-	-	66
Hershey Co.	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
J&J Snack Foods	4	-	6	7	-	27	-	-	-	-	-	-	-	-	-	-	44
Kellogg Co.	19	-	2	13	-	-	-	-	-	-	-	-	-	-	-	-	34
Keurig Dr Pepper	-	-	-	-	34	-	-	-	-	-	69	85	21	-	10	24	243
Kraft Heinz Co.	-	-	-	-	-	-	-	-	2	-	-	-	3	-	-	-	5
Land O'Lakes Inc.	-	6	-	-	-	-	-	-	2	-	-	-	-	-	-	-	8
McKee Foods Corp.	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3
Mondelez International	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	6
Ocean Spray	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6
PepsiCo Inc.	14	-	29	2	-	-	-	-	-	-	-	20	20	-	-	-	85
Post Holdings Inc.	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Rich Products Corp.	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
Schwan's Co.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Tyson Foods Inc.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Wells Enterprises Inc.	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	8
Total	89	6	48	41	45	35	7	8	36	5	74	126	54	6	11	32	623

*The entrées category includes one product (Sunny Fresh Eggs ASAP! Double Pack Hard Cooked Eggs sold by Cargill Inc.) that also met the nutrient standards for a snack. For the purposes of this analysis, it was only categorized as an entrée.

Table 8 shows the median, interquartile range, and range of sodium and added sugars content for each product category and subcategory.

Table 8: Product Sodium and Added Sugars Content, by Category and Subcategory⁵

Product Category	n	Sodium (mg)		Added Sugars (g)	
		Median (Q1, Q3)	Range	Median (Q1, Q3)	Range
Snacks	315	95 (15, 140)	0–200	6 (0, 9)	0–21
Cereals, bars, breakfast items*	89	120 (85, 160)	0–200	8 (6, 9)	0–15
Cheese	6	190 (190, 200)	180–200	0 (0, 0)	0–0
Chips, crackers, popcorn, other savory snacks	48	170 (140, 200)	90–200	1 (0, 2)	0–5
Cookies and baked sweets*	41	105 (80, 140)	45–170	8 (7, 9)	3–14
Fruit*	45	0 (0, 5)	0–10	0 (0, 12)	0–21
Frozen treats*	35	0 (0, 20)	0–110	0 (0, 10)	0–20
Nuts*	7	190 (75, 195)	0–200	1 (0, 1)	0–9
Other sweets*	8	55 (53, 60)	35–65	6 (4, 11)	4–14
Yogurt and pudding*	36	70 (60, 93)	30–135	10 (5, 13)	2–17
Entrées	5	310 (220, 470)	110–480	2 (0, 2)	0–7
Beverages	303	20 (0, 80)	0–980	0 (0, 0)	0–20
Diet Soda	74	75 (60, 115)	0–220	0 (0, 0)	0–0
Flavored water*	126	0 (0, 40)	0–270	0 (0, 0)	0–13
Juice	54	20 (10, 30)	0–980	0 (0, 0)	0–0
Milk*	6	130 (90, 160)	80–180	11 (9, 14)	0–20
Other beverages*	11	15 (15, 15)	0–150	0 (0, 0)	0–15
Water	32	0 (0, 23)	0–115	0 (0, 0)	0–0

*This subcategory includes products that exceed an added sugars standard proposed or supported by CSPI.

Sodium

Because our product inclusion criteria required Smart Snacks-compliance, none of the snacks in our sample exceeded 200 mg of sodium, but there were 20 snacks (6 percent) that had the maximum amount of sodium allowed. These products with 200 mg of sodium appeared in four snack subcategories: chips, crackers, popcorn, and other savory snacks (13 of 48, or 27 percent); cereals, bars, and breakfast items (3 of 89, or 3 percent); cheese (2 of 6, or 33 percent); and nuts (2 of 7, or 29 percent). These were also the four snack subcategories with the highest median sodium content.

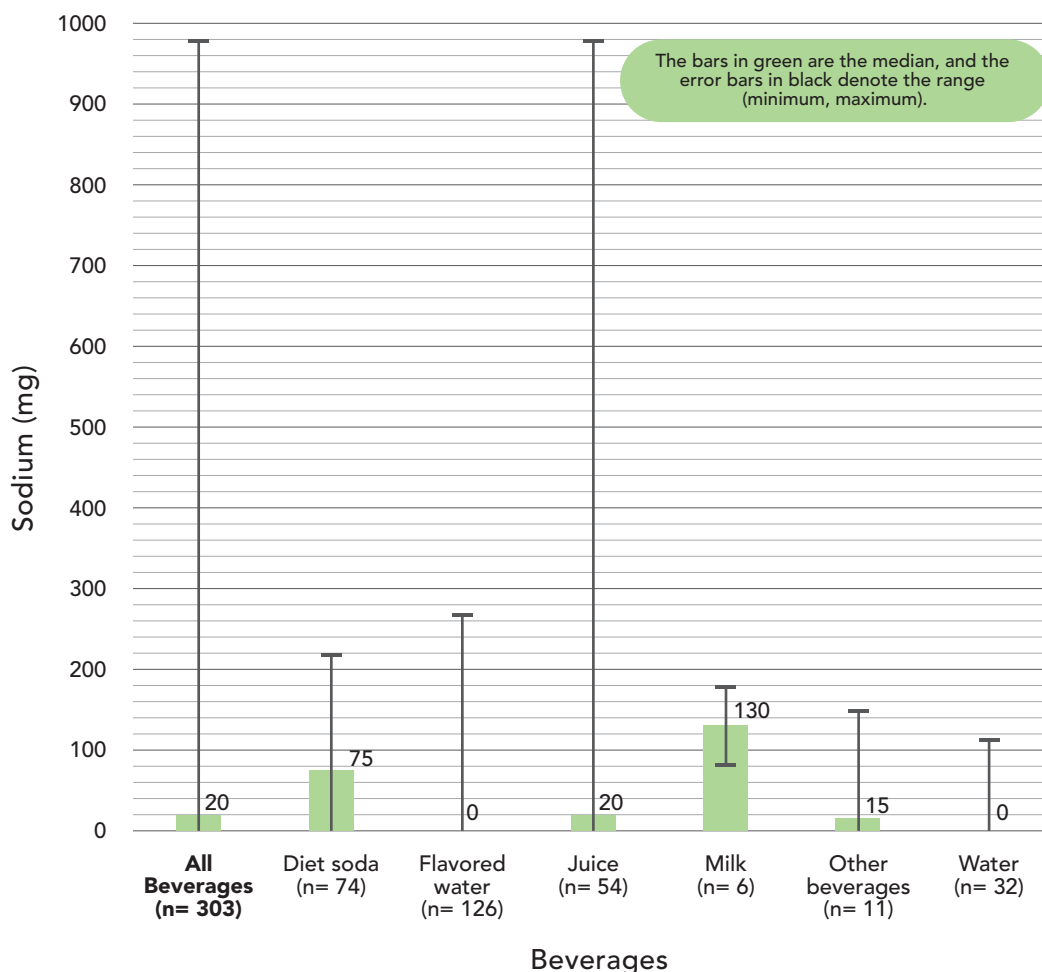
For the same reason as snacks, none of the five entrées in our sample exceeded the maximum amount of allowable sodium (480 mg), but one product (a packet of diced chicken) did contain that maximum.

Of the beverages in our sample, milk had the highest median sodium, in part because fat-free^{lxxxviii} and low-fat milk^{lxxxix} have around 100 mg of naturally occurring sodium per cup (Figure 1). Twenty fluid ounce flavored sports waters with electrolytes explain the 270 mg maximum for flavored water, and a 12 fl oz club soda explains the 115 mg maximum for water. However, juice as a subcategory had beverages with

⁵ The Shapiro-Wilk test for normality indicated that the distribution of sodium and added sugars within almost all categories was not normal (skewed), so medians are presented instead of means to better represent the data spread.

the highest sodium content: all three 100-percent tomato juices in our sample had between 470–980 mg of sodium per 5.5–11.5 fl oz serving, and all four 100-percent vegetable juices had between 440–960 mg of sodium per 5.5–12 fl oz serving.

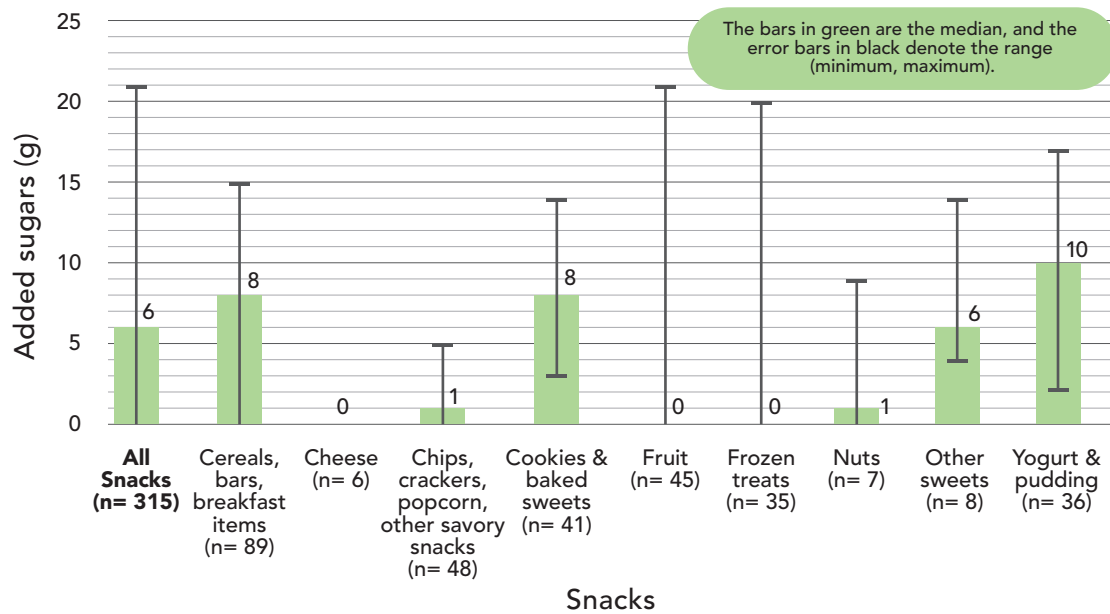
Figure 1: Median Sodium Content of All Beverages with Range (mg)



Added Sugars

Although every snack subcategory had more than one product that would already be compliant with our proposed 5 g added sugars limit, seven of the nine subcategories had items with more than 5 g of added sugars (Figure 2). Yogurt and pudding had the highest median added sugars content (10 g) followed by cereals, bars, and breakfast items (8 g) and cookies and baked sweets (8 g). Other sweets were not far behind with a median added sugars content of 6 g. Each of these four subcategories had a maximum added sugars content between 14 g and 17 g. In addition to ice cream, frozen treats included 23 frozen juice cups and sorbets with 100-percent juice, which explains the 0 g median. Notably, the six snacks with the highest added sugars content were different flavors of dried sweetened cranberries with 21 g per 1.16 oz serving; the fruit subcategory also included 11 apple sauces with 7–15 g of added sugars per 90–128 g serving.

Figure 2: Median Added Sugars Content of Snacks with Range (g)



All five entrées in our sample would be compliant with our proposed 9 g added sugars limit. Two entrées had no added sugars, and the entrée with the highest added sugars content was a chicken corn dog with 7 g. For beverages, milk had the highest median (11 g) and maximum (20 g) added sugars content. The flavored cow’s milks in our sample had 9–11 g of added sugars per 8 fl oz serving, while the flavored soy milks had 14–20 g per 8 fl oz serving. Other beverages and flavored water were the only other subcategories with sugar-sweetened beverages, including one product (a 12 fl oz fruit drink) with the maximum added sugars content possible under the current Smart Snacks calorie limit for low-calorie beverages: 60 kcal and 15 g of added sugars. None of the beverages in diet soda, juice, or water contained added sugars.

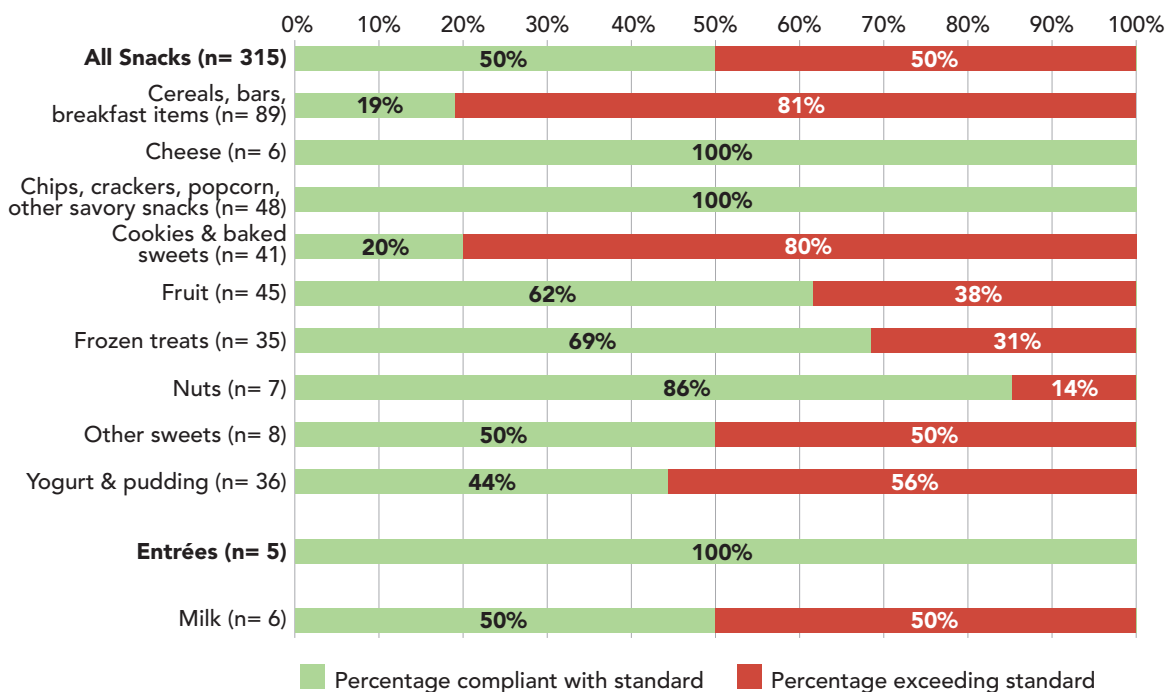
Compliance with the Added Sugars Standards Proposed by CSPI and the USDA

In total, half of the snacks in our sample (157 of 315) were compliant with CSPI’s proposed limit of 5 g of added sugars or less, and at least half of the items in six of the nine subcategories would already be compliant with that standard (Figure 3). The two subcategories with the lowest compliance were cereals, bars, and breakfast items followed closely by cookies and baked sweets: 81 percent (72 of 89) and 80 percent (33 of 41) noncompliant, respectively. Nevertheless, every snack subcategory had multiple products with no more than 5 g of added sugars.

Among the beverages in our sample, we found 5 flavored milks with 9–20 g of added sugars, 5 flavored waters with 7–13 g, and 2 fruit drinks with 12–15 g. By the standards established above, the five flavored milks would be subject to the USDA’s proposed product-based limits while the other seven beverages (2 percent of all beverages) would not be compliant with our proposed ban on sugar-sweetened beverages.

Two of the five flavored milks in our sample currently meet the USDA’s proposed product-based limit of no more than 10 g of added sugars per 8 fl oz, which CSPI supports (Figure 3). Of the flavored cow’s milks, only one (a low-fat strawberry milk) will need to be reformulated to comply with the USDA’s proposed standard; the other two (the low-fat vanilla and chocolate milks) are already compliant. Neither of the flavored soy milks had less than 10 g of added sugars, and so both will need to be reformulated if the USDA applies its proposed limit to flavored soy milks as well.

Figure 3: Percentage of Snacks that Meet or Exceed CSPI’s 5 g per Item Added Sugars Limit, Percentage of Entrées that Meet or Exceed CSPI’s 9 g per Item Added Sugars Limit, and Percentage of Milks that Meet or Exceed the USDA’s 10 g Added Sugars Limit for 8 fl oz Flavored Milks^{8,9}

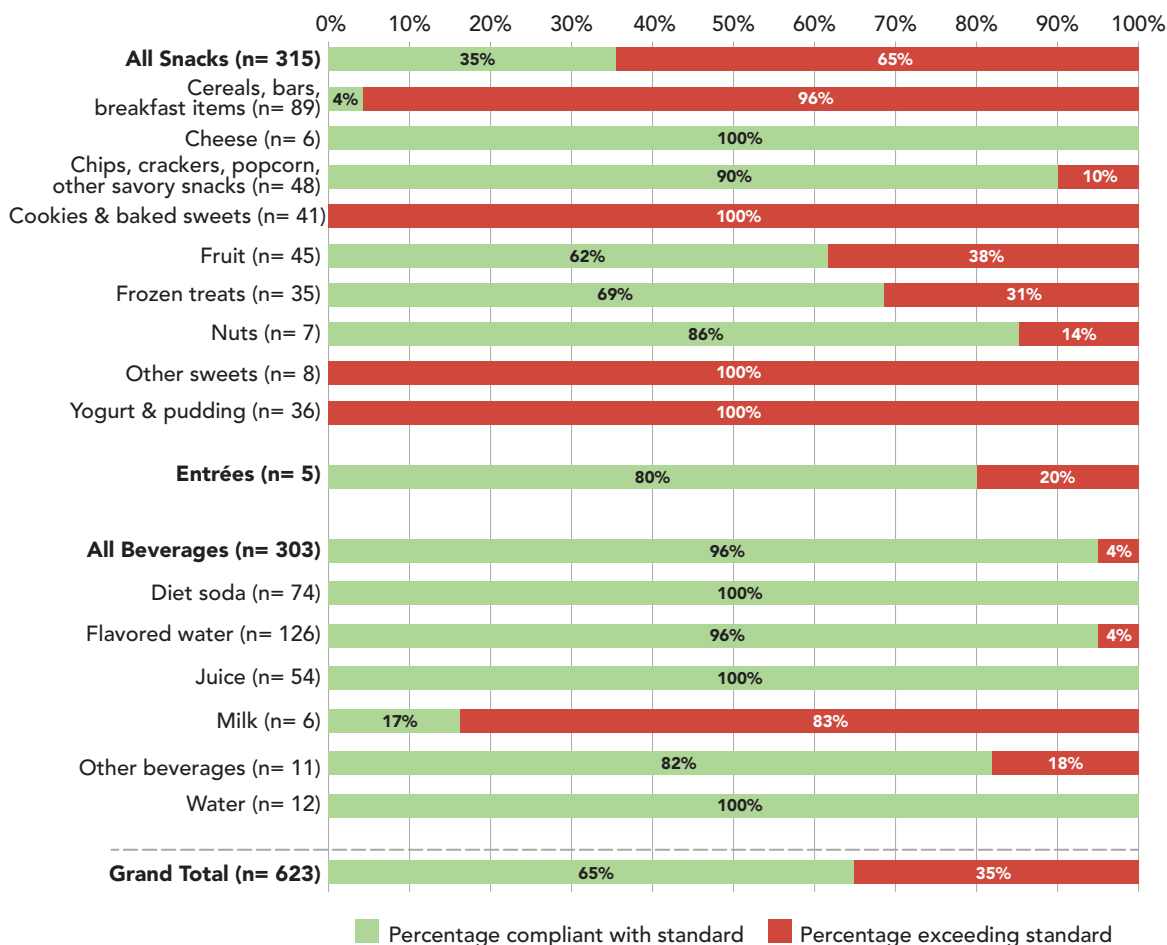


For comparison, we also calculated what percentage of snacks, entrées, and beverages would be compliant with a standard where each item’s added sugars content could account for no more than 10 percent of their calories (Figure 4). In total, 65 percent of all products would meet this standard. Only 111 snacks (35 percent)—46 fewer than under our proposed 5 g added sugars limit—would be compliant under this standard, and 1 entrée (20 percent) would no longer be compliant. There were no food items that were compliant with this standard that were not also compliant with the 5 g and 9 g limits for snacks and entrées, respectively. No products in cookies and baked sweets (n= 41); other sweets (n= 8); or yogurt and pudding (n= 36) would be compliant, and very few items in cereals, bars, breakfast items (4 of 89, or 4 percent) would be compliant either. Five products in chips, crackers, popcorn, and other savory snacks would no longer be compliant, but there was no change in compliance for the remaining four subcategories. Because there were so few beverages with added sugars (12 of 303, or 4 percent), the flavored milks (n= 5) and sugar-sweetened beverages (n= 7) in our sample were the only items that would not comply with this standard, confirming our position that any DGA-aligned added sugars standard would result in a ban on sugar-sweetened beverages.

⁸ No other beverages are shown in Figure 3 because we did not assess any beverages other than flavored milk against an added sugars gram limit. Instead, we recommended that the USDA ban the sale of all sugar-sweetened beverages, with an exemption for flavored milk. In our sample, there were seven sugar-sweetened beverages (2 percent of all beverages)—excluding five flavored milks—that would be banned under our proposal.

⁹ Milk includes five flavored milks with added sugars and one unflavored milk with no added sugars.

Figure 4: Percentage of Competitive Foods that Meet or Exceed a $\leq 10\%$ of Calories from Added Sugars Standard



Low-Calorie Sweeteners of Concern & Synthetic Dyes

In total, 18 percent of products in our sample (112 of 623) contained one or more low-calorie sweeteners of concern (Table 9). The vast majority of those (107 of 110) were beverages; over one-third of beverages (35 percent) contained low-calorie sweeteners of concern. There was only a handful of snacks—five light yogurts all sold by Danone North America—that contained low-calorie sweeteners of concern, and none of the five entrées contained them.

All the beverages containing low-calorie sweeteners of concern were what the USDA considers low- or no-calorie beverages, which are only permitted to be sold in high schools. Diet sodas, flavored waters, diet teas, and fruit drinks—all sold by Keurig Dr Pepper, PepsiCo Inc., and Coca-Cola Co.—accounted for all 107 beverages with low-calorie sweeteners of concern (Table 9). We did not find any low-calorie sweeteners of concern in any waters, milks, or juices, so none of the beverages allowed to be sold in elementary or middle schools contained low-calorie sweeteners of concern.

Twelve percent of the products in our sample (73 of 623) contained one or more synthetic dyes (Table 9). Two-thirds of the snack subcategories contained at least one synthetically dyed product, but the vast majority of snacks in each subcategory were free from synthetic dyes (88 percent of all snacks). Synthetic dyes were found most frequently in frozen treats (29 percent, or 10 of 35) followed by chips, crackers, popcorn, and other savory snacks (23 percent, or 11 of 48). Notably, there were also six flavored apple sauces that were synthetically dyed. None of the five entrées in our sample were synthetically dyed.

As was the case for low-calorie sweeteners of concern, none of the beverages in our sample that are allowed to be sold in elementary and middle schools contained synthetic dyes. Diet sodas, flavored waters, and fruit drinks—which can only be sold to high school students—were the only synthetically dyed beverages (Table 9).

Table 9: Proportion of Products Containing Low-Calorie Sweeteners of Concern or Synthetic Dyes, by Category, Subcategory, and Company





Product category	n	Count (category %) of products containing LCS of concern*	Manufacturers with products containing LCS of concern (# products)	Count (category %) of products containing synthetic dyes**	Manufacturers with products containing synthetic dyes (# products)
Snacks	315	5 (2%)		37 (12%)	
Cereals, bars, breakfast items	89	-	-	6 (7%)	Kellogg Co. (5) General Mills Inc. (1)
Cheese	6	-	-	-	-
Chips, crackers, popcorn, other savory snacks	48	-	-	11 (23%)	PepsiCo Inc. (11)
Cookies & baked sweets	41	-	-	3 (7%)	J&J Snack Foods (1) Kellogg Co. (1) McKee Foods Corp. (1)
Fruit	45	-	-	6 (13%)	Keurig Dr Pepper (6)
Frozen treats	35	-	-	10 (29%)	J&J Snack Foods (8) Wells Enterprises Inc. (2)
Nuts	7	-	-	-	-
Other sweets	8	-	-	-	-
Yogurt & pudding	36	5 (14%)	Danone North America (5)	1 (3%)	Kraft Heinz Co. (1)
Entrées	5	-	-	-	-
Beverages	303	107 (35%)	-	36 (12%)	-
Diet Soda	74	74 (100%)	Keurig Dr Pepper (69) Coca-Cola Co. (5)	23 (31%)	Keurig Dr Pepper (22) Coca-Cola Co. (1)
Flavored water	126	24 (19%)	PepsiCo Inc. (20) Coca-Cola Co. (4)	11 (9%)	PepsiCo Inc. (9) Coca-Cola Co. (2)
Juice	54	-	-	-	-
Milk	6	-	-	-	-
Other beverages	11	9 (82%)	Keurig Dr Pepper (9)	2 (18%)	Keurig Dr Pepper (2)
Water	32	-	-	-	-
Total	623	112 (18%)		73 (12%)	

*Products contain one or more of the following low-calorie sweeteners: aspartame, acesulfame potassium, saccharin, sucralose.

**Products contain one or more of the following synthetic dyes: Blue No. 1, Blue No. 2, Red No. 40, Yellow No. 5, Yellow No. 6.

Of the low-calorie sweeteners of concern, acesulfame potassium was found most frequently, followed by aspartame, sucralose, and saccharin (Table 10). Of the synthetic dyes, Red 40 was found most frequently, followed by Yellow 6, Yellow 5, Blue 1, and Blue 2 (Table 10). We did not find any products with Green 3 or Red 3.

Table 10: Prevalence of Low-Calorie Sweeteners of Concern and Synthetic Dyes, by Company and Subcategory

Additive	Prevalence of the additive in the total sample (n, %)	Prevalence of the additive by manufacturer (# products)	Prevalence of the additive by product subcategory (# products)		
Aspartame 	68 (11%)	Keurig Dr Pepper (63)	Diet soda (57) Other beverages (6)		
		Coca-Cola Co. (5)	Diet soda (5)		
Acesulfame potassium 	75 (12%)	Danone North America (5)	Yogurt & pudding (5)		
		Keurig Dr Pepper (44)	Diet soda (43) Other beverages (1)		
		PepsiCo Inc. (20)	Flavored water (20)		
		Coca-Cola Co. (6)	Diet soda (4) Flavored water (2)		
Saccharin	3 (1%)	Keurig Dr Pepper (3)	Diet soda (3)		
Sucralose 	42 (7%)	Danone North America (5)	Yogurt & pudding (5)		
		Keurig Dr Pepper (13)	Diet soda (10) Other beverages (3)		
		PepsiCo Inc. (20)	Flavored water (20)		
		Coca-Cola Co. (4)	Flavored water (4)		
Blue 1 	26 (4%)	General Mills Inc. (1)	Cereals, bars, breakfast items (1)		
		J&J Snack Foods (6)	Frozen treats (6)		
		Kellogg Co. (6)	Cereals, bars, breakfast items (5) Cookies & baked sweets (1)		
		Keurig Dr Pepper (5)	Diet soda (1) Fruit (2) Other beverages (2)		
		PepsiCo Inc. (7)	Chips, crackers, popcorn, other savory snacks (1) Flavored water (6)		
		Coca-Cola Co. (1)	Flavored water (1)		
		Blue 2	2 (0.3%)	Kellogg Co. (2)	Cereals, bars, breakfast items (1) Cookies & baked sweets (1)
		Green 3	0 (0%)	-	-
Red 3	0 (0%)	-	-		

Red 40

42 (7%)



General Mills Inc. (1)	Cereals, bars, breakfast items (1)
J&J Snack Foods (4)	Cookies & baked sweets (1) Frozen treats (3)
Kellogg Co. (6)	Cereals, bars, breakfast items (5) Cookies & baked sweets (1)
Keurig Dr Pepper (19)	Diet soda (14) Fruit (3) Other beverages (2)
PepsiCo Inc. (9)	Chips, crackers, popcorn, other savory snacks (6) Flavored water (3)
Coca-Cola Co. (2)	Diet soda (1) Flavored water (1)
Wells Enterprises Inc. (1)	Frozen treats (1)

Yellow 5

28 (4%)



General Mills Inc. (1)	Cereals, bars, breakfast items (1)
J&J Snack Foods (3)	Frozen treats (3)
Kellogg Co. (5)	Cereals, bars, breakfast items (4) Cookies & baked sweets (1)
Keurig Dr Pepper (8)	Diet soda (8)
Kraft Heinz Co. (1)	Yogurt & pudding (1)
McKee Foods Corp. (1)	Cookies & baked sweets (1)
PepsiCo Inc. (9)	Chips, crackers, popcorn, other savory snacks (8) Flavored water (1)

Yellow 6

31 (5%)



General Mills Inc. (1)	Cereals, bars, breakfast items (1)
J&J Snack Foods (1)	Frozen treats (1)
Kellogg Co. (5)	Cereals, bars, breakfast items (4) Cookies & baked sweets (1)
Keurig Dr Pepper (10)	Diet soda (8) Fruit (2)
Kraft Heinz Co. (1)	Yogurt & pudding (1)
PepsiCo Inc. (11)	Chips, crackers, popcorn, other savory snacks (10) Flavored water (1)
Coca-Cola Co. (1)	Diet soda (1)
Wells Enterprises Inc. (1)	Frozen treats (1)

| Limitations

Our report has several limitations. We conducted a cross-sectional analysis of single-serve, individually packaged, Smart Snacks-compliant products sold to K–12 schools from 22 food and beverage manufacturers. It did not include all Smart Snacks-compliant products sold in K–12 schools, and our results are not generalizable to multi-serving, bulk products, or all Smart Snacks-compliant products available nationally. Additionally, our method of company selection may not have captured all the major food and beverage manufacturers in the K–12 market. For example, if a company was a leading seller to K–12 but was not one of the top 100 most profitable companies in the U.S. and Canada, it was not included in the report.

This report also does not reflect the availability or popularity of items in schools and therefore does not reflect actual exposure. As such, there may be products in this study that are infrequently sold in schools or infrequently purchased by students. There are also some items in our sample that we suspect are not likely to be sold in schools but were labelled for K–12 by the manufacturer. For example, our sample includes eight club sodas and two tonic waters that are unlikely to be sold in schools. Conversely, there is likely a subset of products that are frequently purchased and consumed.

Lastly, we collected data for this report between June 2022 and August 2023. Companies' K–12 portfolios may have changed, some products analyzed in this report may no longer be available, and there may have been new products added.

| Summary of Main Findings

In total, 334 of the 623 (54 percent) products assessed in this report already meet strong science-based standards for added sugars, low-calorie sweeteners, and synthetic dyes. Compliance with the standards assessed above varied by category, with compliance rates of 43 percent for snacks (136 of 315), 100 percent for entrées (5 of 5), and 64 percent for beverages (193 of 303).

Our analysis found that while a small number of snacks (20 of 315, 6 percent) contained the maximum amount of sodium allowed under current Smart Snacks standards (200 mg), the median sodium for all snacks was much lower (95 mg), and the median for most subcategories (6 of 9) was 120 mg or less. Our findings for entrées were similar with one item containing the maximum (480 mg), and the median for the category being much lower (310 mg). Of the beverages in our sample, we found that the 100-percent tomato and vegetable juices had the highest levels of sodium: between 440 mg and 980 mg. The rest of the beverages had no more than 270 mg.

For added sugars, we found that half of the snacks in our sample (157 of 315) would already comply with a DGA-aligned added sugars limit (no more than 5 g), and at least half of products in six of the nine snack subcategories would already be compliant. All five entrées met our proposed added sugars standard (no more than 9 g). We found 12 beverages with added sugars, seven of which would be eliminated under our proposed sugar-sweetened beverages ban. Of the five flavored milks, only two met the USDA's proposed product-based added sugars limit of 10 g per 8 fl oz.

We detected low-calorie sweeteners of concern primarily in the diet sodas (74 of 74, or 100 percent), flavored waters (24 of 126, or 19 percent), diet teas (7 of 11 items in the other beverages subcategory, or 64 percent), and fruit drinks (2 of 11 items in the other beverages subcategory, or 18 percent) sold in high schools only as well as a handful of yogurts (5 of 36 items in the yogurt and pudding subcategory, or 14 percent) available to all grades. Synthetic dyes, on the other hand, were found more frequently in snacks; there was at least

one synthetically dyed item in six of the nine snack subcategories, but products containing synthetic dyes were in the minority overall (12 percent of all snacks). As with low-calorie sweeteners of concern, the only beverages with synthetic dyes were those sold in high schools: diet sodas (23 of 74, or 31 percent), flavored waters (11 of 126, or 9 percent), and fruit drinks (2 of 11 items in the other beverages subcategory, or 18 percent). No entrées contained low-calorie sweeteners of concern or synthetic dyes.

| Recommendations for the USDA

SODIUM

Snacks & Entrées

We recommend that the USDA *not* change the current sodium limits for snacks or entrées.

The current Smart Snacks sodium standards—which regulate snacks and entrées only—do not differ by grade group and are not aligned with the limits that we calculated based on the 2020–25 DGA. Nevertheless, we do not believe that the differences between the USDA’s current sodium limits and the DGA-aligned sodium limits that we calculated for K–5, 6–8, and 9–12 are large enough to warrant the increased administrative burden on operators to implement. Moreover, the USDA would likely also need to set DGA-aligned calorie limits for each grade group in order for the standards to be consistent, which would further complicate compliance for operators.

Beverages

We recommend that the USDA limit the sodium allowed in 100-percent tomato and vegetable juices.

The seven 100-percent tomato and vegetable juices in our sample had concerningly high levels of sodium: 440–980 mg. We do not know how commonly 100-percent tomato or vegetable juice is sold in schools or how frequently they are purchased by students, but the USDA should nevertheless set a standard that prevents these beverages from being sold in schools. Although our sample did not include low-sodium varieties, we recommend that the USDA only allow low-sodium 100-percent tomato and vegetable juices—which are available commercially—to be sold as competitive foods. For example, Campbell Soup Co. sells a low-sodium version of its 100-percent vegetable juice with 95 mg per 5.5 fl oz (as opposed to 440 mg) or 200 mg per 11.5 fl oz. (as opposed to 920 mg).^{xc}

We are not, however, recommending a sodium limit for all beverages at this time.



980 mg of sodium.

| Summary of Sodium Recommendations

- Maintain the current 200 mg sodium limit for snacks sold to all grades.
- Maintain the current 480 mg sodium limit for entrées sold to all grades.
- Require all 100-percent tomato and vegetable juices to be the low-sodium versions.

ADDED SUGARS

Snacks & Entrées

To bring Smart Snacks standards into alignment with the 2020–25 DGA, we recommend that the USDA replace the total sugars standard by weight with an added sugars standard by grams.

When the Smart Snacks standards were being developed, the USDA admitted that an added sugars standard was “preferable,” but it would have been too difficult to implement at the time (July 2016) because the Nutrition Facts label did not yet distinguish between total sugars and added sugars.^{xcii} Nevertheless, the USDA stated that it would reconsider updating the standards to address added sugars if the FDA succeeded in updating the Nutrition Facts label.^{xciii} The FDA required all manufacturers to have their Nutrition Facts labels updated to include added sugars by 2021, thereby removing the primary obstacle to implementation.^{xciii} Moreover, the USDA is currently taking steps to limit the added sugars in school meals, and so the department should do the same for competitive foods.

For food items, we recommend setting a 5 g added sugars limit for snacks (which calorically represents 10 percent of the 200 kcal calorie maximum for snacks) and a 9 g added sugars limit for entrées (which calorically represents 10 percent of the 350 kcal calorie maximum for entrées, rounded up from 8.75 g). We prefer these flat limits to grams of added sugars allowed in snacks and entrées over a requirement that no more than 10 percent of a food item’s calories come from added sugars because these gram limits will help operators more easily identify compliant products without needing to make separate calculations for each individual product.



15 g of added sugars.

Our findings show that there are many Smart Snacks-compliant snacks and entrées on the K–12 market that are also compliant with our proposed added sugars standards. Schools can currently purchase snacks with 5 g of added sugars or less and entrées with 9 g of added sugars or less from the largest manufacturers.



17 g of added sugars.
Does not meet the USDA's proposed standard.

While there were yogurts and breakfast cereals in our sample with equal to or less than 5 g of added sugars, the USDA’s recent proposed rule would limit the added sugars in yogurt to no more than 12 g per 6 oz and in breakfast cereal to no more than 6 g per dry ounce.^{xciv} We recognize that conflicting standards across programs present a challenge for operators as well as manufacturers, and so we recommend that the department exempt yogurt and breakfast cereal from the 5 g added sugars limit and instead require those products to meet the USDA’s proposed product-based added sugars limits for the NSLP and SBP.

We do not, however, recommend that the USDA exempt dried cranberries, tart cherries, or blueberries from the added sugars limit. Manufacturers choose to sweeten these dried fruits because they are naturally tart and are more palatable to consumers when sweetened, but that does not mean that these products should be exempt from the standards regulating added sugars, especially when they are high in added sugars. The six dried cranberry products in our sample all had 21 g of added sugars in a 1.16 oz package. There were no other products in any other category or subcategory—snack, entrée, or beverage—with 21 g of added sugars.

Beverages

We recommend that the USDA maintain its proposed product-based added sugars limits for flavored milk and ban the sale of all other sugar-sweetened beverages.

As we explained above, setting an added sugars standard for beverages using the same calculation method for snacks and entrées would essentially result in a ban on sugar-sweetened beverages, which the 2020–25 DGA recommends.^{xcv}

We believe, however, that flavored milk should be exempt from a ban on sugar-sweetened beverages because low-fat and fat-free milk is considered nutrient-dense, and the 2020–25 DGA allows for some nutrient-dense foods to be sweetened. All flavored milks sold as competitive foods should be required to meet the product-based limits recently proposed by the USDA (no more than 10 g per 8 fl oz, and no more than 15 g per 12 fl oz), and we urge the USDA to maintain that proposed standard for flavored milk in the final rule.^{xcvi} Our [2022 School Milk Report](#) confirmed that an added sugars limit of 10 g per 8 fl oz was feasible and revealed that some processors had reduced added sugars to as low as 6 g per 8 fl oz.^{xcvii}



7 g of added sugars, Acesulfame Potassium, Sucralose, Blue 1, Red 40.

Summary of Added Sugars Recommendations

- Set DGA-aligned added sugars gram limits of 5 g for snacks and 9 g for entrées.
- Apply the following product-based limits proposed for the NSLP and SBP to competitive foods:
 - No more than 12 g of added sugars per 6 oz of yogurt; and
 - No more than 6 g of added sugars per dry ounce of breakfast cereal.
- Maintain the proposed product-based added sugars limits for flavored milk (no more than 10 g per 8 fl oz, and no more than 15 g per 12 fl oz).
- Ban the sale of all other sugar-sweetened beverages in schools.

LOW-CALORIE SWEETENERS OF CONCERN

We recommend that the USDA ban aspartame, acesulfame potassium, saccharin, and sucralose in both competitive foods and the school meals program.

Although there was only a handful of snacks (and no entrées) in our sample that contained low-calorie sweeteners of concern, manufacturers may transition to them if the USDA sets strong added sugars limits for competitive foods and/or school meals, which we urge the department to do. This is why the USDA must ban low-calorie sweeteners of concern at the same time that it limits added sugars.

We are also aware that if the USDA bans low-calorie sweeteners of concern, all the diet sodas (n= 74), seven diet teas, two fruit drinks, and some of the flavored waters (24 of 126, or 19 percent) in our sample would no longer be compliant. However, the elimination of these beverages as competitive foods should not dissuade the USDA from banning low-calorie sweeteners of concern because these items are of no nutritional value, and alternative beverages are available (e.g., unsweetened, no-calorie flavored waters).

Summary of Low-Calorie Sweeteners of Concern Recommendations

- Ban aspartame, acesulfame potassium, saccharin, and sucralose in competitive foods and school meals.



0 kcal, no added sweeteners, caffeine-free.

FLAVORED WATER

If the USDA bans low-calorie sweeteners of concern, we recommend that the department start allowing unsweetened, no-calorie flavored waters (with or without carbonation) to be sold in elementary and middle schools.

Under current Smart Snacks standards, all flavored waters are considered low- or no-calorie beverages and are only allowed to be sold in high schools. We do not believe, however, that there is a compelling health rationale for keeping unsweetened, no-calorie flavored waters out of elementary and middle schools. They could even compete with sugar-sweetened and/or caffeinated beverages that elementary and middle school students purchase outside of and bring to school.

We are aware that the USDA proposed allowing calorie-free, naturally flavored waters (with or without carbonation) of up to 20 fl oz to be sold in elementary and middle schools in its 2020 proposed rule.^{xcviii} We support this proposal but recommend that the USDA allow these beverages in younger grades (i.e., K–5 and 6–8) only if the department takes action on low-calorie sweeteners of concern or requires that the flavored waters be unsweetened. Furthermore, the USDA should continue to allow beverages with caffeine—including flavored waters—to be sold in high schools only. We also recommend that the USDA allow flavored waters that are artificially as well as naturally flavored, because there is no evidence that artificial flavors are inherently any less safe than natural flavors. We do not believe that there is a compelling rationale for requiring flavored waters to be naturally flavored.^{xcix}

SYNTHETIC DYES

We recommend that the USDA ban the harmful synthetic dyes Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, and Yellow 6 in both competitive foods and school meals.

These dyes are only used to make foods and beverages more visually enticing; they offer no nutritional benefits. There are safe alternatives already available, and many of the K–12 products in our sample use them for color instead.

Summary of Synthetic Dyes Recommendations

- Ban synthetic dyes in competitive foods and school meals.

ENTRÉE EXEMPTION

Although this was not directly examined in our report, we recommend that the USDA eliminate the entrée exemption because it is undermining the goal of Smart Snacks standards.

Setting strong nutrition standards for entrées sold as competitive foods serves little purpose so long as the entrée exemption exists. The USDA also recently proposed removing WGR from the definition of an entrée, which would further distance the entrée items sold under the entrée exemption from Smart Snacks standards.^c This is all the more reason for the USDA to eliminate the entrée exemption and require all entrées sold à la carte to meet Smart Snacks standards.

The USDA established the entrée exemption to provide operators flexibility when handling leftovers, so we recommend that the USDA provide additional training and technical assistance to help operators reduce food waste in other ways. We also urge Congress to increase the reimbursement rate for school meals and increase the funding for kitchen equipment grants, training, and technical assistance through a comprehensive child nutrition reauthorization so that schools are not financially dependent on the revenue generated by selling NSLP and SBP entrées à la carte.

RECOMMENDATIONS FOR MANUFACTURERS

Food and beverage manufacturers have made considerable progress since the HHFKA in reformulating K–12 products to be lower in sodium and higher in whole grains. Some manufacturers have also taken steps to reduce added sugars and remove harmful low-calorie sweeteners and synthetic dyes from at least a portion of their K–12 catalog.

We urge manufacturers to build on this progress and continue improving the products that they sell to schools by further reducing sodium and added sugars, removing harmful low-calorie sweeteners, and replacing synthetic dyes with safe alternatives. We also encourage manufacturers not to switch to other low-calorie sweeteners until the long-term safety of consuming those sweeteners in childhood has been assessed. Instead, we suggest that manufacturers provide a wider variety of unsweetened products to the K–12 market.

RECOMMENDATIONS FOR STATES AND SCHOOLS

States should pass legislation—like Massachusetts did in 2012—setting science-based nutrition standards for competitive foods including limiting added sugars and banning harmful additives.^d School districts can achieve the same result at a local level by adopting strong local wellness policies that address added sugars, low-calorie sweeteners of concern, and synthetic dyes.

| Conclusion

Our report found that there are many food and beverage products currently on the K–12 market that meet the USDA's current Smart Snacks standards and are low in added sugars and free from harmful low-calorie sweeteners and synthetic dyes, indicating that strong nutrition standards are feasible. We urge the USDA to update Smart Snacks standards to limit added sugars and eliminate low-calorie sweeteners of concern and synthetic dyes as we have proposed. Additionally, in order to stop undermining the goals of Smart Snacks standards, we recommend that the USDA eliminate the loophole known as the entrée exemption. Updating Smart Snacks standards and eliminating the entrée exemption will encourage food and beverage manufacturers to improve not only the products formulated for the K–12 market but also similar products sold in the retail environment.

References

- ⁱ U.S. Department of Agriculture (USDA). *Child Nutrition Tables: National Level Annual Summary Tables: FY 1969-2022*. 2023. <https://www.fns.usda.gov/pd/child-nutrition-tables>. Accessed September 25, 2023.
- ⁱⁱ Rosettie KL, et al. Comparative risk assessment of school food environment policies and childhood diets, childhood obesity, and future cardiometabolic mortality in the United States. *PLoS ONE*. 2018;13(7): e0200378.
- ⁱⁱⁱ U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services (HHS). *2020-2025 Dietary Guidelines for Americans*. 2020. <https://www.dietaryguidelines.gov/>. Accessed September 25, 2023.
- ^{iv} Moynihan PJ, Kelly SA. Effect on Caries of Restricting Sugars Intake: Systematic Review to Inform WHO Guidelines. *J Dent Res*. 2014;93(1):8-18.
- ^v Valenzuela MJ, et al. Effect of sugar-sweetened beverages on oral health: a systematic review and meta-analysis. *Eur J Public Health*. 2020;31(1):122-129.
- ^{vi} Nguyen M, et al. Sugar-sweetened beverage consumption and weight gain in children and adults: a systematic review and meta-analysis of prospective cohort studies and randomized controlled trials. *Am J Clin Nutr*. 2023;117(1):160-174.
- ^{vii} Vos MB, et al. Added Sugars and Cardiovascular Disease Risk in Children: A Scientific Statement From the American Heart Association. *Circulation*. 2017;135(19):e1017-e1034.
- ^{viii} Center for Science in the Public Interest (CSPI). *Low-Calorie Sweeteners*. 2021. <https://www.cspinet.org/article/low-calorie-sweeteners>. Accessed September 25, 2023.
- ^{ix} Baker-Smith CM, et al. The Use of Nonnutritive Sweeteners in Children. *Pediatrics*. 2019;144(5):e20192765.
- ^x Office of Environmental Health Hazard Assessment (OEHHHA). *Health Effects Assessment. Potential Neurobehavioral Effects of Synthetic Food Dyes in Children*. 2021. <https://oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food>. Accessed September 25, 2023.
- ^{xi} 88 FR 8050. Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans.
- ^{xii} USDA and HHS, 2020.
- ^{xiii} 55 FR 3520-01. Color Additives; Denial of Petition for Listing of FD&C Red No. 3 for Use in Cosmetics and Externally Applied Drugs; Withdrawal of Petition for Use in Cosmetics Intended for Use in the Area of the Eye.
- ^{xiv} 88 FR 8050.
- ^{xv} USDA and HHS, 2020.
- ^{xvi} 88 FR 8050.
- ^{xvii} USDA and HHS, 2020.
- ^{xviii} USDA. *Child Nutrition Tables: National Level Annual Summary Tables: FY 1969-2022*. 2023.
- ^{xix} U.S. Department of Agriculture (USDA). *School Nutrition and Meal Cost Study (SNMCS)*. Vol. 1. 2019. <https://www.fns.usda.gov/school-nutrition-and-meal-cost-study>. Accessed September 25, 2023.
- ^{xx} USDA. *SNMCS*. Vol. 1. 2019.
- ^{xxi} U.S. Department of Agriculture (USDA). *A Guide to Smart Snacks in Schools*. 2022. <https://www.fns.usda.gov/tn/guide-smart-snacks-school>. Accessed September 25, 2023.
- ^{xxii} U.S. Government Accountability Office (GAO). *School Meal Programs: Competitive Foods Are Widely Available and Generate Substantial Revenues for Schools*. 2005. <https://www.gao.gov/products/gao-05-563>. Accessed September 25, 2023.
- ^{xxiii} Center for Science in the Public Interest (CSPI). *School Foods Report Card: A State-by-State Evaluation of Policies for Foods and Beverages Sold through Vending Machines, School Stores, A la carte, and Other Venues Outside of School Meals*. 2006. <https://www.cspinet.org/resource/school-foods-report-card>. Accessed September 25, 2023.
- ^{xxiv} CSPI, 2006.
- ^{xxv} Child Nutrition and WIC Reauthorization Act of 2004. P.L. 108-265.
- ^{xxvi} Schwartz C, Wootan MG. How a Public Health Goal Became a National Law: The Healthy, Hunger-Free Kids Act of 2010. *Nutrition Today*. 2019;54(2):67-77.
- ^{xxvii} Schwartz, 2019.
- ^{xxviii} Institute of Medicine (IOM). *Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth*. 2007. <https://nap.nationalacademies.org/catalog/11899/nutrition-standards-for-foods-in-schools-leading-the-way-toward>. Accessed September 25, 2023.
- ^{xxix} Schwartz, 2019.
- ^{xxx} Healthy, Hunger-Free Kids Act. P.L. 111-296.
- ^{xxxi} 78 FR 9530. National School Lunch Program and School Breakfast Program: Nutrition Standards for All Foods Sold in School as Required by the Healthy, Hunger-Free Kids Act of 2010.
- ^{xxxii} 78 FR 39068. National School Lunch Program and School Breakfast Program: Nutrition Standards for All Foods Sold in School as Required by the Healthy, Hunger-Free Kids Act of 2010.
- ^{xxxiii} 81 FR 50132. National School Lunch Program and School Breakfast Program: Nutrition Standards for All Foods Sold in School as Required by the Healthy, Hunger-Free Kids Act of 2010.
- ^{xxxiv} 85 FR 4094. Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs.
- ^{xxxv} 85 FR 4094.
- ^{xxxvi} 85 FR 4094.
- ^{xxxvii} RIN 0584-AE67. Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs. 2022. <https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202210&RIN=0584-AE67>. Accessed September 25, 2023.
- ^{xxxviii} 88 FR 8050.

- xxxix USDA. *A Guide to Smart Snacks in Schools*. 2022.
- xl 78 FR 39068.
- xli U.S. Department of Agriculture (USDA). SP 35-2014. *Grain Entrees Related to the Smart Snacks in School Standards*. 2014. <https://www.fns.usda.gov/cn/grain-entrees-related-smart-snacks-school-standards>. Accessed September 25, 2023.
- xlii 81 FR 50132.
- xliii Chriqui JF, et al. Are Nutrition Standards for Beverages in Schools Associated with Healthier Beverage Intakes among Adolescents in the US? *Nutrients*. 2020;13(1):75.
- xliv U.S. Department of Agriculture (USDA). *Snacks: Percentages of Selected Nutrients Contributed by Food and Beverages Consumed at Snack Occasions, by Gender and Age, What We Eat in America, NHANES 2017-March 2020 Prepandemic*. 2022. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/1720/Table_25_SNK_GEN_1720.pdf. Accessed September 25, 2023.
- xlv Centers for Disease Control and Prevention (CDC). *School Nutrition*. 2022. <https://www.cdc.gov/healthyschools/nutrition/schoolnutrition.htm>. Accessed September 25, 2023.
- xlvi Rosettie, 2018.
- xlvii USDA and HHS, 2020.
- xlviii Appel LJ, et al. Reducing Sodium Intake in Children: A Public Health Investment. *J Clin Hypertens*. 2015;17:657-62.
- lix USDA and HHS, 2020.
- ¹ U.S. Department of Agriculture (USDA). *Total Usual Nutrient Intake from Food, Beverages, and Dietary Supplements, by Gender and Age, What We Eat in America, NHANES 2015-2018*. 2021. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/usual/Usual_Intake_Gender_WWEIA_2015_2018_Tables_TA.pdf. Accessed September 25, 2023.
- ⁱⁱ USDA and HHS, 2020.
- ⁱⁱⁱ Moynihan, 2014.
- ⁱⁱⁱⁱ Valenzuela, 2020.
- ^{lv} Nguyen, 2023.
- ^{lv} Vos, 2017.
- ^{lvi} USDA and HHS, 2020.
- ^{lvii} 88 FR 8050.
- ^{lviii} Johnson RK, et al. Low-Calorie Sweetened Beverages and Cardiometabolic Health: A Science Advisory from the American Heart Association. *Circulation*. 2018;138(9):e126-e140.
- ^{lix} Baker-Smith, 2019.
- ^{lx} U.S. Food and Drug Administration (FDA). *Aspartame and Other Sweeteners in Food*. 2023. <https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food>. Accessed September 25, 2023.
- ^{lxi} CSPI. *Low-Calorie Sweeteners*. 2021.
- ^{lxii} Center for Science in the Public Interest (CSPI). *Aspartame (Nutrasweet)*. 2021. <https://www.cspinet.org/article/aspartame-nutrasweet>. Accessed September 25, 2023.
- ^{lxiii} Riboli E, et al. Carcinogenicity of Aspartame, Methyleugenol, and Isoeugenol. *The Lancet Oncology*. 2023;24(8):848-850.
- ^{lxiv} 78 FR 39068.
- ^{lxv} OEHHA, 2021.
- ^{lxvi} OEHHA, 2021.
- ^{lxvii} 55 FR 3520-01.
- ^{lxviii} U.S. Food and Drug Administration (FDA). *Summary of Color Additives for Use in the United States in Foods, Drugs, Cosmetics, and Medical Devices*. 2022. <https://www.fda.gov/industry/color-additive-inventories/summary-color-additives-use-united-states-foods-drugs-cosmetics-and-medical-devices>. Accessed September 25, 2023.
- ^{lxix} USDA. *A Guide to Smart Snacks in Schools*. 2022.
- ^{lxx} Healthy, Hunger-Free Kids Act. P.L. 111-296.
- ^{lxxi} 78 FR 39068.
- ^{lxxii} 78 FR 39068.
- ^{lxxiii} U.S. Department of Agriculture (USDA). *School Nutrition and Meal Cost Study (SNMCS)*. Vol. 4. 2019. <https://www.fns.usda.gov/school-nutrition-and-meal-cost-study>. Accessed September 25, 2023.
- ^{lxxiv} U.S. Department of Agriculture (USDA). *School Nutrition and Meal Cost Study (SNMCS)*. Vol. 2. 2019. <https://www.fns.usda.gov/school-nutrition-and-meal-cost-study>. Accessed September 25, 2023.
- ^{lxxv} USDA. *SNMCS*. Vol. 2. 2019.
- ^{lxxvi} USDA. *SNMCS*. Vol. 2. 2019.
- ^{lxxvii} U.S. Department of Agriculture. *National School Lunch Program Meal Pattern Chart*. 2022. <https://www.fns.usda.gov/nslp/national-school-lunch-program-meal-pattern-chart>. Accessed September 25, 2023.
- ^{lxxviii} 87 FR 6984. Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium.
- ^{lxxix} Center for Science in the Public Interest. *2021 School Meals Corporate Report Card*. 2021. <https://www.cspinet.org/resource/school-meals-corporate-report-card-2021>. Accessed September 25, 2023.
- ^{lxxx} John C. Stalker Institute of Food and Nutrition. *A-List*. 2023. <https://johnstalkerinstitute.org/resources/school-snacks/alist/>. Accessed September 25, 2023.
- ^{lxxxi} Food Processing. *Food Processing's Top 100 – 2021*. 2021. <https://www.foodprocessing.com/top100/2021>. Accessed September 25, 2023.
- ^{lxxxii} Gorski MT, et al. Impact of Nutrition Standards on Competitive Food Quality in Massachusetts Middle and High Schools. *Am J*

Public Health. 2016;106(6):1101-8.

^{lxxxiii} Jahn JL, et al. Product Reformulation and Nutritional Improvements after New Competitive Food Standards in Schools. *Public Health Nutr*. 2018;21(5):1011-1018.

^{lxxxiv} USDA and HHS, 2020.

^{lxxxv} USDA and HHS, 2020.

^{lxxxvi} USDA and HHS, 2020.

^{lxxxvii} 88 FR 8050.

^{lxxxviii} FoodData Central. *Milk, nonfat, fluid, with added vitamin A and vitamin D (fat free or skim)*. 2019. <https://fdc.nal.usda.gov/fdc-app.html#/food-details/746776/nutrients>. Accessed September 25, 2023.

^{lxxxix} FoodData Central. *Milk, lowfat, fluid, 1% milkfat, with added vitamin A and vitamin D*. 2019. <https://fdc.nal.usda.gov/fdc-app.html#/food-details/746772/nutrients>. Accessed September 25, 2023.

^{xc} Campbell Soup Co. *Low Sodium 100% Vegetable Juice*. n.d. <https://www.campbells.com/v8/products/v8-vegetable-juice/low-sodium-vegetable-juice/>. Accessed September 25, 2023.

^{xci} 81 FR 50132.

^{xcii} 81 FR 50132.

^{xciii} U.S. Food and Drug Administration. Changes to the Nutrition Facts Label. 2022. <https://www.fda.gov/food/food-labeling-nutrition/changes-nutrition-facts-label>. Accessed September 25, 2023.

^{xciv} 88 FR 8050.

^{xcv} USDA and HHS, 2020.

^{xcvi} 88 FR 8050.

^{xcvii} Center for Science in the Public Interest. *Behind the Carton: 2022 School Milk Report*. 2022. <https://www.cspinet.org/resource/behind-carton-school-milk-report-2022>. Accessed September 25, 2022.

^{xcviii} 85 FR 4094.

^{xcix} Center for Science in the Public Interest. *Artificial and natural flavoring*. 2022. <https://www.cspinet.org/article/artificial-and-natural-flavoring>. Accessed September 25, 2023.

^c 88 FR 8050.

^{ci} Commonwealth of Massachusetts. General Laws, Part I, Title XVI, Chapter 111, Section 223: Nutritional standards for sale or provision of foods or beverages in public schools; school wellness advisory committees; food safety inspections at public schools. <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section223>. Accessed September 25, 2023.

Appendix A.

LIST OF COMPANIES

Manufacturers from Food Processing’s 2021 Top 100 list included in CSPI’s 2023 Competitive Foods Report are listed in white. Those shaded grey were excluded because their products did not meet our inclusion criteria.

Rank	Company	Was the company included in CSPI’s 2021 School Meals Corporate Report Card?	Did CSPI obtain product information for K-12 products for SY 2022-23 or SY 2023-24?	Does the company sell single-serve, individually packaged, Smart Snacks-compliant products?
1	PepsiCo Inc.	Yes	Yes	Yes
2	Tyson Foods Inc.	Yes	Yes	Yes
3	Nestle (U.S. & Canada)	No	No	No
4	JBS USA	No	No	No
5	Kraft Heinz Co.	Yes	Yes	Yes
6	Anheuser-Busch InBev	No	No	No
7	Smithfield Foods Inc.	Yes	Yes	No
8	General Mills Inc.	Yes	Yes	Yes
9	Mars Inc.	Yes	Yes	No
10	Coca-Cola Co.	No	Yes	Yes
11	Conagra Brands Inc.	Yes	Yes	No
12	Hormel Foods Corp.	No	No	No
13	Cargill Inc.	Yes	Yes	Yes
14	Bimbo Bakeries (U.S. & Canada)	No	Yes	No
15	Campbell Soup Co.	Yes	Yes*	Yes
16	National Beef Packing Co.	No	No	No
17	Kellogg Co.	Yes	Yes	Yes
18	Molson Coors Co.	No	No	No
19	Mondelez International	Yes	Yes	Yes
20	Saputo Inc.	No	No	No
21	J.M. Smucker Co.	Yes	Yes	No
22	Pilgrim’s Pride	Yes	Yes	No
23	Hershey Co.	No	Yes	Yes
24	Keurig Dr Pepper	No	Yes	Yes
25	Danone North America	Yes	Yes	Yes
26	Agropur Cooperative	No	No	No
27	Post Holdings Inc.	Yes	Yes	Yes
28	Dairy Farmers of America	No	No	No
29	Golden State Foods	No	No	No
30	Perdue Farms Inc.	Yes	Yes	No
31	Lactalis American Group	No	No	No
32	Flowers Foods Inc.	Yes	Yes	No
33	Unilever U.S.	No	No	No
34	TreeHouse Foods Inc.	No	No	No
35	Constellation Brands	No	No	No

36	E&J Gallo Winery	No	No	No
37	Grupo Lala	No	No	No
38	Land O'Lakes Inc.	Yes	Yes	Yes
39	Sanderson Farms	No	No	No
40	Prairie Farms Dairy Inc.	No	No	No
41	Great Lakes Cheese Co.	No	No	No
42	Koch Foods Inc.	No	No	No
43	California Dairies Inc.	No	No	No
44	McCain Foods	Yes	Yes	No
45	Beam Suntory Inc. (U.S.)	No	No	No
46	Hearthside Food Solutions	No	No	No
47	Maple Leaf Foods	No	No	No
48	Colgate-Palmolive Co.	No	No	No
49	Rich Products Corp.	Yes	Yes	Yes
50	Trident Seafoods Corp.	Yes	Yes	No
51	Wonderful Co.	No	No	No
52	McCormick & Co. Inc.	No	No	No
53	Ferrara USA	No	No	No
54	Foster Farms LLC	Yes	Yes	Yes
55	American Foods Group LLC	Yes	No	No
56	Schreiber Foods Inc.	No	No	No
57	Mountaire Farms	No	No	No
58	H.P. Hood Inc.	No	No	No
59	Brown-Forman Corp.	No	No	No
60	Wayne Farms LLC	No	No	No
61	Hilmar Cheese Co.	No	No	No
62	Premium Brands Holdings Corp.	No	No	No
63	OSI Group	No	No	No
64	Schwan's Co.	Yes	Yes	Yes
65	B&G Foods	No	Yes	No
66	Seaboard Corp. (Butterball Foodservice)	No	Yes	No
67	Associated Milk Producers	No	No	No
68	J. R. Simplot Co.	Yes	Yes	No
69	Leprino Foods Co.	No	No	No
70	Lindt & Sprungli	No	No	No
71	Boston Beer Co.	No	No	No
72	Grassland Dairy	No	No	No
73	Weston Foods	No	No	No
74	Bonduelle N.A.	No	No	No
75	Triumph Foods	No	No	No
76	Chobani Inc.	No	No	No
77	Del Monte Pacific Ltd.	Yes	Yes	Yes

78	McKee Foods Corp.	No	Yes	Yes
79	Seneca Foods Inc.	No	No	No
80	Cal-Maine Foods	No	No	No
81	Lancaster Colony Corp.	No	Yes	No
82	Reser's Fine Foods	No	No	No
83	Borden Dairy Co.	No	No	No
84	CROPP Cooperative/ Organic Valley	No	No	No
85	Darigold	No	No	No
86	Sargento Foods Inc.	No	No	No
87	National Beverage Corp.	No	No	No
88	Hain Celestial Group	No	No	No
89	J&J Snack Foods	Yes	Yes	Yes
90	Hostess Brands Inc.	No	No	No
91	American Crystal Sugar Co.	No	No	No
92	Ocean Spray	Yes	Yes	Yes
93	Wells Enterprises Inc.	No	Yes	Yes
94	Agri-Mark	No	No	No
95	Foremost Farms USA	No	No	No
96	Utz	No	No	No
97	Johnsonville	No	No	No
98	Sovos Brands	No	No	No
99	John B. Sanfilippo & Son	No	No	No
100	SugarCreek	No	No	No

Source: Food Processing. Food Processing's Top 100 – 2021. 2021. <https://www.foodprocessing.com/top100/2021>. Accessed September 25, 2023.

*In the case of Campbell Soup Co., a company representative provided a copy of their latest K-12 product guide which was for SY 2021-22. There was not a version for SY 2022-23 available at the time of outreach.

SY: School Year.

RETURN

Appendix B.

PRODUCTS SOLD BY COMPANIES EVALUATED IN CSPI'S 2023 COMPETITIVE FOODS IN SCHOOLS REPORT INCORRECTLY LABELED OR ADVERTISED AS SMART SNACKS-COMPLIANT

Company	Product Name	Reason(s) for Noncompliance
	Superpretzel Superstix WG Cinnamon Bun Sticks (I/W)	> 0.5 g of trans fat
	Readi-Bake Benefit Mini Bars Made With 51% Whole Grains (I/W) - Oatmeal Chocolate Chip	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as School Breakfast Program (SBP) entrée
	Tio Pepe's 51% Whole Grain Churros Cinnamon (I/W)	> 35% of calories from total fat; Can only be sold under the entrée exemption if served as SBP entrée
 POST HOLDINGS, INC.	Honey Graham Toasters - Small Bowl Pack	> 35% of weight from total sugars; Can only be sold under the entrée exemption if served as SBP entrée
	Honey Scooters - Large Bowl Pack	> 200 kcal; > 200 mg of sodium; Can only be sold under the entrée exemption if served as SBP entrée
	Cinnamon Toasters - Large Bowl Pack	> 200 kcal; > 200 mg of sodium; Can only be sold under the entrée exemption if served as SBP entrée
	Marshmallow Mateys Special Edition - Small Bowl Pack	> 200 mg of sodium; Can only be sold under the entrée exemption if served as SBP entrée
	Marshmallow Mateys Special Edition - Pouch	> 200 mg of sodium; Can only be sold under the entrée exemption if served as SBP entrée
	Honey Bunches of Oats Vanilla - Large Bowl Pack	> 200 kcal; Can only be sold under the entrée exemption if served as SBP entrée
	Honey Bunches of Oats Honey Crunch - Large Bowl Pack	> 200 kcal; Can only be sold under the entrée exemption if served as SBP entrée
	Emerald Roasted and Salted Cashews	> 200 kcal; Does not meet the USDA definition of an entrée item
	Quaker Chewy Granola Bars Chocolate Chip 0.84 oz 8 Count	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée
	Quaker Chewy Granola Bars Peanut Butter Chocolate Chip Reduced Sugar 0.84 oz 8 Count	> 35% of calories from total fats; Can only be sold under the entrée exemption if served as SBP entrée
	Quaker Chewy Granola Bars Chocolate Chip Reduced Sugar 0.84 oz 8 Count	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée
	Quaker Chewy Granola Bar Peanut Butter Chocolate Chip Reduced Sugar 0.84 oz	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée
	Quaker Chewy Granola Bar Chocolate Chip 0.84 oz	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée

	Fieldstone Bakery Grains 2 Go Apple Cinnamon	> 200 kcal; Can only be sold under the entrée exemption if served as SBP entrée
	Fieldstone Bakery Grains 2 Go Chocolate Chip	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée
	Kellogg's Gripz Chocolate Chip Grahams	≥ 10% of calories from saturated fat; Can only be sold under the entrée exemption if served as SBP entrée
	Snapple Zero Sugar Peach Tea 16 fl oz	No-calorie beverage ≥ 5 kcal per 8 fl oz
	Minute Maid Cranberry Apple Raspberry 12 oz	Low-calorie beverage > 5 kcal per fl oz; Not 100% juice; Not diluted juice with no added sweeteners
	Minute Maid Cranberry Grape 12 oz	Low-calorie beverage > 5 kcal per fl oz; Not 100% juice; Not diluted juice with no added sweeteners
	Smartwater Cucumber Lime 700 mL	No-calorie beverage > 20 fl oz
	Smartwater Strawberry Blackberry 700 mL	No-calorie beverage > 20 fl oz
	Smartwater Pineapple Kiwi 700 mL	No-calorie beverage > 20 fl oz

SBP: School Breakfast Program.

USDA: U.S. Department of Agriculture.

RETURN

Appendix D.

CALCULATING DGA-ALIGNED SODIUM LIMITS FOR SNACKS AND ENTRÉES

Snacks

We considered what changes the USDA could make to the Smart Snacks sodium limits and were interested in calculating what the sodium limits would be if they were aligned with the DGA recommendation for each age group as opposed to being the same standard for all ages. We then compared the results of our product sodium analysis to the DGA-aligned standards to see how many products would already meet these new sodium limits, with the goal of understanding how feasible these standards would be for food manufacturers given the current products on the K–12 market.

We calculated how much sodium each grade group could consume from snacks and remain within the 2020–25 DGA recommendation for each Dietary Reference Intake (DRI) age group: 1,500 mg per day for ages 4–8 years; 1,800 mg for ages 9–13 years; and 2,300 mg for ages 14 years and older.ⁱ We calculated DGA-aligned limits by multiplying the DGA recommendation for each grade group (approximated by age) by the 9 percent of total daily energy intake available for discretionary energy consumption from snacks as used by the IOM in their 2007 report, *Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth* (Table 1).ⁱⁱ We assumed a one-to-one ratio of calories to sodium. All values were rounded to the nearest 10 mg.

Table 1: DGA-aligned Sodium Limits for Snacks

Grade group (Age range)	DGA recommendation (DRI age group)	DGA-aligned sodium limit
K–5 (5–10 years)	1,500 mg/day (4–8 years)	140 mg*
6–8 (11–13 years)	1,800 mg/day (9–13 years)	160 mg
9–12 (14–18 years)	2,300 mg/day (14+ years)	210 mg

*Since the K–5 grade group spans two DRI age groups (i.e., ages 4–8 and 9–13 years), we calculated this limit with a weighted average of the 2020–25 DGA recommendations for those two DRI age groups: four-sixths for ages 5–8 years (1,500 mg/day) and two-sixths for ages 9–10 years (1,800 mg/day). The weighted average was 144 mg, which we rounded down to 140 mg.

The current Smart Snacks sodium limit for snacks (200 mg) is in line with a DGA-aligned limit for high school students but above those for elementary and middle school students. Our analysis found that the median sodium content for six of the nine snack subcategories was at or below 120 mg, which shows that many of the Smart Snacks-compliant snacks currently on the K–12 market can already meet stronger sodium limits for K–5 and 6–8. It is also likely that food manufacturers could meet lower sodium limits by repackaging items in smaller serving sizes. Nevertheless, we are also cognizant of the challenges that setting different Smart Snacks sodium limits for each grade group would pose for operators, especially in combined grade campuses such as 7–12 and K–12. Furthermore, we do not believe that the differences between the DGA-aligned sodium limits for K–5 and 6–8 and the current limit—60 mg and 40 mg, respectively—are large enough to justify the increased difficulty and cost to administer. Moreover, if the USDA were to align the sodium limits for snacks with the DGA recommendations for each grade group, the agency would likely need to set new calorie—and thereby total and saturated fat—standards for each grade for consistency. Increasing the complexity of Smart Snacks standards in this way would create additional administrative burden for all schools. Therefore, we recommend that the USDA maintain the 200 mg sodium limit for snacks.

Entrées

We also compared the current Smart Snacks sodium limit for entrées (480 mg) against the current and proposed sodium limits for school breakfast and lunch as well as DGA-aligned sodium limits that we calculated. The sodium standards for the NSLP and SBP apply to the entire meal and are each an average over the course of a week, allowing some meals to be over the limit so long as they are balanced by other meals that are under the limit. We calculated DGA-aligned sodium limits by multiplying the sodium DGA recommendation for each grade group (approximated by age) by the mean daily calorie targets for breakfast (21.5 percent) and lunch (32 percent), following the methodology of the IOM in their 2010 report, *School Meals: Building Blocks for Healthy Children* (Table 2).ⁱⁱⁱ We again assumed a one-to-one ratio of calories to sodium. All values were rounded to the nearest 10 mg.

Table 2: Current and Proposed USDA Sodium Limits and DGA-aligned Limits for NSLP and SBP Meals

Grade group (Age range)	Target 1 effective July 1, 2022	Interim Target 1A effective July 1, 2023	Proposed sodium limit effective July 1, 2025	Proposed sodium limit effective July 1, 2027	Proposed sodium limit effective July 1, 2029	DGA recommendation (DRI age group)	DGA-aligned sodium limit
Breakfast							
K–5 (5–10 years)	≤ 540 mg	N/A	≤ 485 mg	≤ 435 mg	N/A	1,500 mg/day (4–8 years)	≤ 340 mg*
6–8 (11–13 years)	≤ 600 mg	N/A	≤ 540 mg	≤ 485 mg	N/A	1,800 mg/day (9–13 years)	≤ 390 mg
9–12 (14–18 years)	≤ 640 mg	N/A	≤ 575 mg	≤ 520 mg	N/A	2,300 mg/day (14+ years)	≤ 500 mg
Lunch							
K–5 (5–10 years)	≤ 1,230 mg	≤ 1,110 mg	≤ 1,000 mg	≤ 900 mg	≤ 810 mg	1,500 mg/day (4–8 years)	≤ 510 mg*
6–8 (11–13 years)	≤ 1,360 mg	≤ 1,225 mg	≤ 1,105 mg	≤ 990 mg	≤ 895 mg	1,800 mg/day (9–13 years)	≤ 580 mg
9–12 (14–18 years)	≤ 1,420 mg	≤ 1,280 mg	≤ 1,150 mg	≤ 1,035 mg	≤ 935 mg	2,300 mg/day (14+ years)	≤ 740 mg

* Since the K–5 grade group spans two DRI age groups (i.e., ages 4–8 and 9–13 years), we calculated these limits with a weighted average of the 2020–25 DGA recommendations for those two DRI age groups: four-sixths for ages 5–8 years (1,500 mg/day) and two-sixths for ages 9–10 years (1,800 mg/day). For breakfast, the weighted average was 344 mg, which we rounded down to 340 mg. For lunch, the weighted average was 512 mg, which we rounded down to 510 mg.

The current Smart Snacks sodium limit for entrées (480 mg) is below the DGA-aligned sodium limits for K–5, 6–8, and 9–12 lunch, below the DGA-aligned sodium limit for 9–12 breakfast, and above the DGA-aligned sodium limits for K–5 and 6–8 breakfast. Although the entrée as the main dish likely accounts for the largest share of sodium, fat-free or low-fat milk—which is required to be offered at every meal—and sides (e.g., fried potatoes) also contain sodium that counts toward the limit at each meal. For this reason, we believe that a DGA-aligned sodium standard for entrées sold as competitive foods would likely need to be lower than 480 mg. As with snacks, however, we do not recommend that the USDA set separate

sodium limits for each grade group, nor does the small sample size of entrées in our dataset (n= 5) allow us to answer whether a lower sodium limit for entrées would be feasible for food manufacturers in the near future. Therefore, we recommend that the USDA maintain the current 480 mg sodium limit for entrées. However, as the USDA implements stronger sodium standards for the NSLP and SBP, the agency should consider whether to lower the sodium limit for Smart Snack-compliant entrées as food manufacturers reformulate their products.

References

ⁱ U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services (HHS). 2020-2025 Dietary Guidelines for Americans. 2020. <https://www.dietaryguidelines.gov/>. Accessed September 26, 2023.

ⁱⁱ Institute of Medicine (IOM). Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth. 2007. <https://nap.nationalacademies.org/catalog/11899/nutrition-standards-for-foods-in-schools-leading-the-way-toward>. Accessed September 26, 2023.

ⁱⁱⁱ Institute of Medicine (IOM). School Meals: Building Blocks for Healthy Children. 2010. <https://nap.nationalacademies.org/catalog/12751/school-meals-building-blocks-for-healthy-children>. Accessed September 26, 2023.

RETURN