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Tina Namian
Chief, School Programs Branch
Policy and Program Development Division, 4th Floor
Food and Nutrition Service
1320 Braddock Place
U.S. Department of Agriculture
Alexandria, VA 22314

Re: Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium, FNS-2020-0038-2936

Ms. Namian:

Thank you for the opportunity to comment on USDA's Transitional Standards for Milk, Whole Grains, and Sodium in the Child Nutrition Programs. The American Public Health Association (APHA) commends USDA for taking action to get the regulatory process back on track and to focus on the 2020–2025 Dietary Guidelines for Americans in order to inform healthy nutrition standards.

APHA represents 25,000 public health professionals working to improve the health of all people and communities for more than 140 years. From the public health perspective, strong nutritional standards for the school meals program are very important. While research shows that children receive their healthiest meals at school, there are still opportunities for improvement.

APHA supports the new healthier transitional nutrition standards as a short-term bridge to the planned more comprehensive revision. The new healthier transition standards will make much needed nutrition improvements including increasing whole grains and reducing sodium in school meals.

Moving forward, APHA endorses USDA's plan to collect input from parents and stakeholders and undertake a comprehensive revision of the standards to be implemented in school year 2024-2025. For the next rule, APHA recommends permanent comprehensive robust nutrition standards consistent with the Dietary Guidelines for Americans. The 2020-2025 Dietary Guidelines for Americans emphasize healthy meal patterns with nutrient-dense foods, like vegetables, fruits, lean meats, and whole grains, that are low in saturated fat, added sugar, and sodium.

Our comments and recommendations are organized into the following categories:
I. Nutritious School Meals Help Students Thrive
II. The Transition Standards Will Help Schools and Students
III. Future Rule: Priorities for Strengthening the School Meal Nutrition Standards

- Unhealthy Nutrients
- Healthy Food Groups
- Competitive Food Policies

- Stronger Nutrition Standards Will Promote Equity

I. Nutritious School Meals Help Students Thrive

Improving the nutritional quality of children's diets is urgently needed. According to the 2020-2015 Dietary Guidelines for Americans (DGAs), school-age children and adolescents had the lowest dietary quality of any age group. Compared to a maximum Healthy Eating Index score of 100, children ages 5 to 8 had an average score of 55, adolescents ages 9 to 13 had an average score of 52, and adolescents 14 to 18 had an average score of 51. From 2017-2018, 41.5 percent of children ages 2 to 19 were overweight or obese, with higher rates among children who are Latino, Black, live in rural areas, and have parents with less than a college degree. Since the beginning of the pandemic, the rate of increase in obesity has accelerated, particularly for Black and Latino children, exacerbating disparities.

Poor nutrition does not only impact obesity rates. Children with food insecurity and/or poor nutrition tend to have poor nutrition later in life, increased rates of overweight and obesity, and higher risk of other poor health outcomes like cardiovascular disease and mental health problems. In addition to healthy physical growth and development, nutrition is also critical for children's ability to do well in school and psychological growth. Food insecurity in particular leads to poor performance in school, and hinders social and emotional development.

Nutritious food, therefore, is necessary in order for children to have a quality education and become healthy, thriving adults. School meals fuel children's health and learning by reducing hunger, decreasing childhood obesity, improving child nutrition, and enhancing child development and school readiness. Extensive research has linked participation in school meals to a number of benefits:

- improving academic achievement, standardized test scores, and cognitive function;
- improving attendance, which is positively linked to academic achievement;
- reducing food insecurity, which is linked to poor academic outcomes;
- improving nutrition, such as by increasing the consumption of fruit, vegetables, and milk;
- reducing poor health outcomes and obesity rates;
- improving student behavior, including one study that found drops in suspension rates in middle and elementary school students after their schools implemented the Community Eligibility Provision; and
- improving mental health and reducing anxiety and depression.

Furthermore, good nutrition in school meals is important beyond the physiological impact of nutritious meals. Meal time creates a social environment where students learn food behaviors from their peers. For example, adolescents tend to eat the same amount of junk food as their friends do, regardless of their individual preferences. Therefore, establishing strong nutrition standards for the types of food available to students becomes more crucial for students to help each other build healthy habits.

Strong school meal nutrition standards improve diet quality

After the implementation of the Healthy, Hunger-Free Kids Act (HHFKA), the dietary quality of school meals improved. An analysis by APHA in 2016 found that the revised nutrition standards have had a positive impact

on the school nutrition environment as well as student food selection and consumption, especially for fruits and vegetables. Research published since then supports these conclusions. Perhaps most notably, USDA issued a national, comprehensive assessment of school meal programs since the implementation of the updated school meal nutrition standards. The nutritional quality of school lunches increased by 41 percent, and by 44 percent for school breakfasts, after the implementation of the nutrition standards. The assessment also found that serving lunches of higher nutritional quality was associated with higher school lunch participation rates, but not with higher costs per lunch.

School meals are now healthier than lunches brought from home and participation in school meals improves dietary quality among students from all socioeconomic backgrounds. Furthermore, they are the healthiest source of food among children as well as the source of food that has seen the largest improvement in diet quality in the U.S. since 2003. These improvements in the nutritional quality of school meals due to HHFKA have also been associated with slowing down increasing childhood obesity rates in California, with the greatest impact among Black and Latino children, and with the reducing the risk of obesity among children living in poverty nationwide.

II. The Transition Standards Will Help Schools and Students

APHA supports the "short-term" bridge rule, establishing transitional standards for milk, whole grains, and sodium. This final rule makes important nutrition improvements while maintaining some continuity for school meal rules over the next two school years. These standards will improve nutrition for the millions of children that rely on school meals.

The transitional standards represent progress, requiring at least 80 percent of grains — such as breads and cereals – served for school breakfast and lunch will be whole grain rich, as opposed to only half the servings. The small, but important decrease in sodium in the second year of the bridge rule is a step in the right direction.

The transitional nutrition standards will help school meal providers prepare for a healthier future and continue their heroic efforts in keeping children nourished amidst supply chain disruptions and staff shortages resulting from the COVID-19 pandemic. The bridge rule will allow the Department the time needed for a comprehensive public engagement and regulatory process toward a permanent and complete update of the nutrition standards.

III. Future Rule: Priorities for Strengthening the School Meal Nutrition Standards

APHA endorses USDA's plan to collect input from parents and stakeholders and undertake a comprehensive revision of the standards to be implemented in school year 2024-2025. APHA recommends establishing revised nutrition standards consistent with the Dietary Guidelines for Americans. The 2020-2025 Dietary Guidelines for Americans emphasize healthy meal patterns that are low in saturated fat, added sugar, and sodium and high in nutrient-dense foods, like vegetables, fruits, and whole grains.

III.A Unhealthy nutrients

- ***Added Sugar***

The revised school meal standards should set a limit for added sugar. Following guidelines for saturated fat, we recommend added sugar standards be established relative to average consumption over the school week. Specifically, standards should follow the 2020-2025 DGAs and limit added sugars to 10 percent of calories from school meals averaged over the school week.

Children of all ages greatly exceed their recommended intake of added sugar. Table 1 summarizes analysis from the 2020 DGAs, which used data from 2015-2106 to calculate average intake. Since the publication of the 2020 DGAs, new data using NHANES 2017-2018 found that added sugar consumption was still high at 54 g/day among children 2 to 8 years of age, and 73 g/day among children 9 to 18 years of age.

Table 1: Added sugar consumption among school-age children exceeds recommended 10 percent limit from the Dietary Guidelines for Americans 2020-2025

Age Group	Recommended Daily Limit, in calories*	Recommended Daily Limit, in grams or teaspoons	Percent Exceeding 10%**	Actual intake,** in calories
4-8 years old	120 – 140	30 – 35 g or 8 – 9 tsp	77 – 80%	240 – 270
9-13 years old	160 – 180	40 – 45 g or 10 – 11 tsp	78 – 79%	260 – 320
14-18 years old	180 – 220	50 – 55 g or 13 – 14 tsp	72 – 76%***	280 – 350

Note: Calculations are from the 2020-2025 DGAs using data from What We Eat in America, NHANES 2015-2016

*Recommended limits come from calculating 10 percent of the caloric intake guidelines in the 2020-2025 Dietary Guidelines for Americans. A range is presented for calories, grams, and teaspoons because there are slightly different caloric intake recommendations depending on age and gender. For example, the recommended calorie intake for girls ages 9 to 13 is 1,600 calories per day, while the recommended intake for boys ages 14 to 18 is 2,200 calories per day.

**A range is presented for average intake to reflect different consumption between males and females. Females have lower consumption than males.

***In this case, a lower percent of males exceed the added sugar recommendations compared to females

Limiting added sugar in the diet is urgent. Science increasingly shows the poor impacts of sugar on the health of adults and children. Among children, these health effects include childhood obesity, anxiety and depression, dental caries, and higher probability of obesity and other poor health outcomes later in life. Research has also demonstrated an association between foods rich in refined carbohydrates, such as SSBs and sweet snacks, with a measurable reduction in hippocampal volume in adults and with poorer academic achievement in children.

The adverse health effects of sugar led the 2020-2025 DGA Scientific Advisory Group to recommend that the 10 percent threshold for added sugars be lowered to 6 percent of total calories. The World Health Organization (WHO) has stricter guidelines than the DGAs. WHO recommends that adults and children consume no more than 10 percent of their total calories from 'free' sugars, which includes added sugars as

well as naturally occurring sugars in honey, syrup, and fruit juices, and suggests that consumption be limited to 5 percent of calories for additional health benefits.

Compared to naturally occurring sugars in foods, added sugars are the main source of sugar in children's diet, particularly sweetened beverages, sweet bakery products, confectionary and dairy products. Sugar reduction in beverages should be targeted. Beverages account for 39 percent of added sugars for ages 6 to 11 years and 49 percent of added sugars for adolescents 12 to 19 years.

The consumption of added sugar is high in school meals specifically. When nutrition standards were established in HHKFA, it was assumed that schools would choose foods low in added sugar in order to stay within maximum calorie limits. However, from 2014-2015, over 62 percent of children had school breakfasts where added sugar exceeded ten percent of calories and almost half of children had school lunches where added sugar exceeded the recommended limit.

A reduction in added sugar consumption in school meal foods and beverages is feasible. The addition of added sugars on the Nutrition Facts Panel and information about added sugars has led to increased consumer preference for foods lower in sugar. In turn, consumer preferences have spurred industry efforts to innovate and reformulate foods both to meet nutritional standards and to innovate in a market area with high potential growth.

Reformulation methods exist to reduce sugar, and, if done gradually, does not change consumer preferences for reformulated foods. Research around reducing added sugar in chocolate milk is a particularly important example for school meals, since school milk consumption is an important source of calcium and vitamin D yet flavored skim milk is the largest single contributor of added sugar in school meals. Across numerous studies, a reduction of 20-30 percent is detectable, but does not cause a change in how much children and adolescents like chocolate milk, suggesting that sugar can be reduced over time without sacrificing consumption. Other methods of increasing milk without adding sugar are also possible. For example, the consumption of white milk can also be increased through behavioral nudges by teachers or cafeteria staff.

- ***Standards for Non-Nutritive Sweeteners***

Standards for added sugar should be accompanied by standards for the use of non-nutritive sweeteners (NNS) in school meal foods. Systematic reviews have found mixed results on the health impacts of artificial sweeteners (e.g., aspartame, saccharin, sucralose). Observational studies tend to find that artificial sweetener consumption is associated with higher risk of obesity and type II diabetes, while randomized controlled trials do not find negative short-term health impacts.

When considering NNS, children are a special population. Preferences for sweet foods develop in childhood and can persist throughout life, which could lead to high consumption of other unhealthy foods and beverages. In addition, the safe daily intake of NNS is calculated based on body weight, making it easier for children to reach this threshold due to their smaller size. Because evidence about long-term impacts early in life are limited and inconsistent, intake should be limited until further evidence demonstrates their safety.

- ***Sodium***

While APHA recognizes that schools will experience challenges with achieving the sodium standards for multiple reasons, it is important that a reasonable, practical timeline be created to implement sodium standards consistent with the Dietary Guidelines for Americans. APHA supports a return to stronger sodium

standards on a timeline should allow schools to plan, source, and test meals that are nutritious, palatable to students and abide by new guidelines.

The 2020 DGAs recommend limiting sodium to 1,500 mg/day for children ages 4 through 8, 1,800 mg/day for ages 9 through 12, and 2,300 mg/day for adolescents 14-18. Average consumption of sodium far exceeds these recommendations (*see Table 2*).

Table 2: Sodium intake among school-age children exceeds recommended limits from the Dietary Guidelines for Americans 2020-2025

Age Group	Recommended Daily Limit, mg/day	Percent Exceeding Recommendation*	Average intake,* mg/day
4-8 years old	1,500	97%	2,500 – 2,800
9-13 years old	1,800	96 - 97%	3,000 – 3,500
14-18 years old	2,300	77 - 97%	2,900 – 3,900

Note: Calculations are from the 2020-2025 DGAs using data from What We Eat in America, NHANES 2015-2016

*A range is presented for average intake to reflect different consumption between males and females. Females have lower consumption than males.

In the short term, high sodium intake among children is associated with hypertension, adiposity and inflammation. In the long-term, it is associated with increased risk of hypertension, heart attack and stroke, making it is imperative that robust sodium restrictions on school meals be maintained to prevent future chronic illness.

To lower the consumption of sodium, the 2020-2025 DGAs recommend increasing the use of other herbs and spices. This strategy is proven to increase the consumption of vegetables in school meals, including among high school students in both urban and rural areas.

Similar to added sugar, industry is increasingly focused on reformulating foods to have a lower sodium content. Notably, the Food and Drug Administration released guidance for sodium reduction targets by 2024.[xviii] While these guidelines are voluntary, they are expected to spur innovation and reformulation in the food industry, increasing the availability of prepared foods containing lower levels of sodium.

- ***Saturated fat***

APHA recommends that revised standards maintain the same limit on saturated fat, where no more than 10 percent of calories from school meals can come from saturated fat in a one-week period.

Average consumption of saturated fat exceeds recommendations (see Table 3). Children are more likely to exceed dietary recommendations for saturated fat compared to adults.

Table 3: Saturated fat consumption among school-age children exceeds recommended 10 percent limit from the Dietary Guidelines for Americans 2020-2025

Age Group	Recommended Daily Limit, in calories*	Recommended Daily Limit, in grams or teaspoons	Percent Exceeding Recommendations**	Average intake,** calories
4-8 years old	120 – 140	13 – 16 g or 1.0 – 1.1 tsp	82 – 84%	200 – 220
9-13 years old	160 – 180	18 – 20 g or 1.3 – 1.4 tsp	86 – 88%	230 – 260
14-18 years old	180 – 220	22 – 24 g or 1.6 – 1.7 tsp	78 – 85%	200 – 280

Note: Calculations are from the 2020-2025 DGAs using data from What We Eat in America, NHANES 2015-2016

*Recommended limits come from calculating 10 percent of the caloric intake guidelines in the 2020-2025 Dietary Guidelines for Americans. A range is presented for calories, grams, and teaspoons because there are slightly different caloric intake recommendations depending on age and gender. For example, the recommended calorie intake for girls ages 9 to 13 is 1,600 calories per day, while the recommended intake for boys ages 14 to 18 is 2,200 calories per day.

**A range is presented for average intake to reflect different consumption between males and females. Females have lower consumption than males.

Limiting saturated fat in foods is also necessary to decrease the consumption of added sugar due to the interaction between fat and sugar. Foods with a higher fat content require higher sugar contents to be perceived as sweet, making it more difficult to reduce sugars in high-fat foods.

- ***Reformulation is a feasible tool to meet standards for added sugar, sodium, and saturated fat***

Broad reformulation is possible. Industry has always reformulated products in response to consumer demand. They also have to reformulate products to meet stricter standards in European and Latin American countries. While some progress can be made through voluntary standards, evidence suggests that mandatory standards are needed.

Gradual reduction of sugar and sodium in specific foods can be successful at altering consumer preferences without impacting their preferences for products. The benefits of gradual reduction can also be applied at the population level. School meals are an important area to catalyze these population level changes because they help set taste and dietary preferences in children, and do so across socio-economic classes.

III.B Healthy Food Groups

APHA supports continued strong standards for fruit and vegetable options in school meals. We suggest strategies to increase consumption of fruits and vegetables. In addition, schools should return to previous standards for requiring 100 percent grain-rich foods.

- ***Vegetables***

Average intake is below dietary recommendations for children ages 6 to 11 and adolescents ages 12 to 19 (less than 1 cup per day). In addition, white potatoes are the most common type of vegetable consumed, while the intake of dark green and red and orange vegetables is quite low.

- ***Fruits***

Average intake is below dietary recommendations for children ages 6 to 11 and adolescents ages 12 to 19 (less than 1 cup per day). Two-thirds of fruit consumption is whole fruit.

- ***Whole grains***

APHA recommends returning to a whole grain standard that requires at least half of all grains in school meals to be whole grain, consistent with the 2020 DGAs. This could be accomplished by returning to the HHFKA standard of 100 percent whole grain-rich foods, where grain-rich foods are required to be at least 50 percent whole grain. Whole grain intake has increased among children from 2003 to 2016 but remains below recommended intake levels. USDA should provide technical assistance to school districts to meet whole grain standards with palatable and culturally appropriate foods.

- ***Increasing intake of healthy food groups through school meals***

USDA should encourage evidence-based strategies to improve the consumption of fruit and vegetables in the school meals programs. While participants in school lunch are more likely to consume vegetables, fruit or 100 percent fruit juices, and whole grain-rich foods, daily consumption, as indicated above, is still below recommendations.

In school meals, a higher percentage of vegetables are wasted (31 percent) compared to other food groups. A high percent of fruit and 100 percent fruit juice are also wasted (26 percent).

Strategies to increase consumption include:

- **Improve the quality and selection of fruit and vegetables offered**. Higher quality food is likely to be more attractive to students, especially with fresh fruits and vegetables, which may have more variability in product quality. In addition, a recent systematic review has shown that, across different locations and grade levels, children offered a choice of different types of fruits and vegetables are much more likely to be happy with their choice and to consume it.
- **Improve palatability.** Low-sodium strategies are effective at increasing the appeal of healthy foods to kids. Chef-designed meals have been shown to increase the consumption of vegetables and whole grains, and co-designing recipes with students to add more herbs and spices also increases vegetable consumption.
- **Promote fruit and vegetable consumption through creative marketing.** In order to increase consumption, fruits and vegetables must be marketed to students. Schools need technical assistance and resources from USDA so that they can use effective techniques, such as giving fruit and vegetable options creative names, ensuring appetizing presentation, and making fruit and vegetables a convenient food option.
- **Limit the availability of unhealthy competitive food items.** Students who purchase competitive food items with lunch often have significantly greater waste of school lunch foods including fruits and vegetables.

- **Improve scheduling.** Allowing school children to have recess before lunch and allowing them enough time to eat are both important evidence-based strategies that can support a significant increase in healthy food consumption.

III.C Competitive Food Policies

APHA recommends revising the school "smart snack" rules to reflect the sugar limit in the school meals. It will be counter-productive to allow sugary foods sold in school cafeterias and vending machines to compete with healthier school meals. Different nutritional standards in the school food environment send conflicting signals to students about nutrition and health. The "smart snack" rules have been effective in improving dietary intake in schools but they need to be updated to be consistent with the Dietary Guidelines for Americans and the availability of "added sugar" on labels.

Continuing to improve the competitive foods "smart snack" rules is important to all children throughout America. It is especially important to the well-being of children from families earning low incomes who disproportionately benefit from the free and reduced-price meals and snacks offered in school through the federal programs. Peer pressure and stigma can drive these students to purchase less healthy competitive foods with scarce funds instead of eating healthy school meals. Children from families with low incomes have more at risk nutritionally and economically than their more affluent peers.

III.D Stronger Nutrition Standards Will Promote Equity

School meal nutrition standards should be strengthened because doing so would improve equity in nutrition, health, and education. Black and Latino households have consistently reported higher rates of food insecurity and hunger when compared to other groups, and living in communities that are predominantly minority and low-income is associated with worse diet quality for children. These nutritional trends lead to poor health, and children of color are disproportionately impacted by diet-related chronic conditions such as obesity. Disparities in nutrition and obesity are rooted in structural racism, which refers to the ways society historically and currently fosters racial discrimination and the unjust distribution of resources through mutually reinforcing systems (i.e., education, jobs, housing, credit, health care, and the criminal justice system). These inequities must be addressed through systems change, such as national standards for school meal nutrition.

The passage of strong nutrition standards through HHFKA were associated with equitable improvements in diet quality and the school food environment. One study found that school meals have shown the greatest improvement in dietary quality compared to food from any other source (e.g., grocery stores, restaurants). Importantly, this study also found that Black and Latino children obtain a greater percent of their calories from food at school compared to White children and that improvements in school meal diet quality were equitable across race, ethnicity, household income, and parental education. In comparison, the disparities in the dietary quality of food from grocery stores have widened from 2003-2018 across race, ethnicity, household income, and parental education.

There is evidence that these equitable improvements in diet quality translate to equitable improvements in health outcomes. One study in California found that the passage of HHKFA, along with California's state-level policy on competitive foods, resulted in the greatest improvements in trends in overweight and obesity among Black and Latino children.

Strong nutrition standards for school meals are an important component in addressing continued disparities in child nutrition and health. They are an important tool for "increasing healthy options," one of the four pillars of the Getting to Equity framework, a public health tool for ensuring that policy is designed and implemented with explicit attention to reducing disparities. This framework was recently applied to the distribution of emergency school meals early in the pandemic, a useful case study for thinking about how school meal nutrition and access policies should be structured to maximize equitable impacts.

School nutrition standards are also important tools for addressing disparities in educational attainment and academic performance. A 2020 Robert Wood Johnson-funded Health Impact Assessment of earlier proposed rollbacks to school nutrition standards highlighted the negative impact on the health and learning of students from low-income households, those attending school in predominantly Black or Hispanic neighborhoods and those in rural areas would be most likely to be adversely impacted. Therefore, access to nutritious school meals impacts disparities in educational attainment and academic performance that exist among these populations. Inequities in education can negatively influence children's future access to employment, stable housing, healthy food and safe recreational spaces as well as healthcare utilization, all factors which can influence future well-being.

Conclusion

School meals play an important role in alleviating food insecurity and poverty, and in providing the nutrients students need for growth, development, learning, and overall health, especially for the nation's most vulnerable children and adolescents.

School meals are already the healthiest source of food in the US, but there is room for improvement. The bridge rule makes important nutrition improvements while maintaining some continuity for schools over the next two school years as they continue to adapt to disruptions caused by COVID-19 and supply chain constraints. Permanent revisions to the nutrition standards should align with the latest nutrition science and dietary guidance set by the 2020-2025 DGAs. In particular, added sugars should be limited to 10 percent of calories from school meals over the course of a week. Finally, these standards should be accompanied by technical assistance and policies that increase access to school meals so that students can take full advantage of the nutritious meals being offered.

Sincerely,

Georges C. Benjamin, MD

Executive Director