UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources
Nutrition Policy Institute

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School Programs Branch
Policy and Program Development Division
Food and Nutrition Service
1320 Braddock Place, 4th Floor
Alexandria, Virginia 22314

Re: Docket No. FNS-2022-0043; Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans

Nutrition Policy Institute, at the University of California Division of Agriculture and Natural Resources, submits these comments in support of the U.S. Department of Agriculture's (USDA) "Child Nutrition Programs: Revisions to Meal Patterns Consistent With the 2020 Dietary Guidelines for Americans" proposed rule (88 FR 8050), which would strengthen school nutrition standards. In this comment we express strong support for the proposed rule for added sugars in school meals, with a stated caveat to the rule related to artificial sweeteners, and remark briefly in support of other elements of the proposed rule.

Nutrition Policy Institute envisions a world in which healthy food, beverages and opportunities for physical activity are accessible, affordable, equitable and sustainable for everyone. Our mission is to conduct and translate policy-relevant research to transform environments for healthy children, families and communities. We focus much of our research on the federal nutrition programs as they are among our nation's best opportunities to improve the health of Americans.

The U.S. population is in poor health, much of which could be prevented or improved through diet;[1] as few as 12% of Americans may be metabolically healthy.[2] Setting strong nutrition standards for school meals will support the nutrition security and health of the more than 30 million school-age children receiving school lunches, and the 15 million children receiving school breakfasts.[3,4] This proposed rule prioritizes children's nutrition and health, and strives to align school meal requirements with the 2020-2025 Dietary Guidelines for Americans (DGA), as is required by the Healthy, Hunger-Free Kids Act of 2010 which "requires that school meals reflect the latest Dietary Guidelines for Americans."[5]

Nutrition Policy Institute applauds and strongly supports the USDA's proposed added sugar limits which will reduce the amount of added sugar made available in the school lunch and breakfast programs. Further, we support both the product-based limits and weekly dietary limits as written. This is critical because there is extensive research linking consumption of added sugars to myriad diet-related chronic

[1] Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.
[2] Araújo J, Cai J, Stevens J. Prevalence of Optimal Metabolic Health in American Adults: National Health and Nutrition Examination Survey 2009–2016.Metab Syndr Relat Disord. 2019. 17:46-52.
[3] U.S. Department of Agriculture. National School Lunch - Participation and Meals Served (Data as of February 10, 2023). Available at: https://fns-prod.azureedge.us/sites/default/files/resource-files/slsummar-2.pdf.
[4] U.S. Department of Agriculture. School Breakfast - Participation and Meals Served (Data as of February 10, 2023). Available at: https://fns-prod.azureedge.us/sites/default/files/resource-files/sbsummar-2.pdf.
[5] USDA FNS Nutrition Standards in NSLP and SBP; Final Rule. Fed Regis. 2012. 77:4088-167.

diseases, including obesity,[6] metabolic diseases including type 2 diabetes and fatty liver disease,[7] cardiovascular disease,[8] and dental decay.[9,10]

Since 2015, the DGA have recommended limiting added sugar to less than 10% of total daily caloric intake, yet children and adults of all ages exceed this daily limit. The Scientific Report of the 2020 Dietary Guidelines Advisory Committee, in fact, went farther and advised that "the recommendation be decreased from 10% to 6% of energy from added sugars." The Report explains that "for adults and children ages 2 years and older, a recommendation of less than 6% of energy from added sugars is more consistent with a dietary pattern that is nutritionally adequate while avoiding excess energy intake than is a pattern with less than 10% energy from added sugars."[11]

The American Heart Association (AHA) recommends that children consume no more than 25 grams (100 calories or about 6 teaspoons) of added sugars per day and that children under 2 years of age should avoid added sugars altogether. AHA states, "Although added sugars most likely can be safely consumed in low amounts as part of a healthy diet, few children achieve such levels, making this an important public health target."[12] Of note, California SB 348, recently offered by California Senator Nancy Skinner, would direct the State Department of Education, in partnership with the California School Nutrition Association and cafeteria workers, to develop guidelines and recommendations to reduce added sugars in school meals to no more than 25 grams per day.

Added sugars account on average for almost 270 calories, or more than 13% of total calories, per day in the U.S. population.[13] Nearly 70% of added sugars in the U.S. diet comes from five food categories: sweetened beverages (24%), desserts and sweet snacks (19%), pre-sweetened coffee and tea drinks (11%), candy and sugars (9%), and breakfast cereals and bars (7%).[14] Among younger children ages 2 to 5 years and 6 to 11 years, the leading sources of added sugars are sweetened beverages, sweet bakery products, candy, other desserts, and ready-to-eat cereals.[15] Flavored milk is the sixth leading source of added sugars among both

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[6] Malik VS, Popkin BM, Bray GA, Després J-P, Hu FB Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. Circulation. 2010. 121:1356-64.

[7] Neuenschwander M, Ballon A, Weber KS, Norat T, Aune D, Schwingshackl L, Schlesinger S. Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies. BMJ. 2019. 366:l2368.

[8] Yang Q, Zhang Z, Gregg EW, Flanders WD, Merritt R, Hu FB. Added sugar intake and cardiovascular diseases mortality among US adults. JAMA Intern Med. 2014. 174:516-24.

[9] Chi DL, Scott JM. Added Sugar and Dental Caries in Children: A Scientific Update and Future Steps. Dent Clin N Am. 2019. 63:17-33.

[10] Bleich S, Vercammen K. The negative impact of sugar-sweetened beverages on children's health: an update of the literature. BMC Obes. 2018. 5:6.

[11] Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

[12] Vos MB, Kaar JL, Welsh JA, Van Horn LV, Feig DI, et al. American Heart Association Nutrition Committee of the Council on Lifestyle and Cardiometabolic Health; Council on Clinical Cardiology; Council on Cardiovascular Disease in the Young; Council on Cardiovascular and Stroke Nursing; Council on Epidemiology and Prevention; Council on Functional Genomics and Translational Biology; and Council on Hypertension. Added Sugars and Cardiovascular Disease Risk in Children: A Scientific Statement From the American Heart Association. Circulation. 2017. **135**:e1017-e1034.

[13] Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

[14] Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

[15] Added Sugars in American Children's Diet: What We Eat in America, NHANES 2015-2016. Food Surveys Research Group Dietary Data Brief No. 26. December 2019. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/26_Sources%20of%20Added%20Sugars%20in%20Children%27s%20Diet_1516.pdf.

age groups. Because so many children consume flavored milk at school, and because it is offered so frequently, in the aggregate it is the largest source of added sugars in school meal programs.

Two recent studies using data from the School Nutrition and Meal Cost Study (SNMCS), a nationally representative study of the school meal environment, assessed the availability and consumption of added sugars during the school day.[16,17] These studies found that 92% of school breakfasts contained 10% or more of calories from added sugars, as did 69% of lunches. Additionally, both studies found that, in the aggregate, the main source of added sugars in both school breakfasts and school lunches was flavored fat-free milk. Flavored skim milk contributed 29% of the added sugars in school breakfasts and almost half (47%) of the added sugars in school lunches. These findings demonstrate the prevalence of added sugars in the school meal environment and support the need for establishing an added sugar standard for reimbursable school meals in alignment with the most recent DGA recommendations. A 2020 study done by Nutrition Policy Institute found that eliminating flavored sweetened milk from schools led to significant reductions in students' added sugars intake without a significant reduction in ounces of milk or grams of calcium consumed, suggesting it is possible to reduce sugars without compromising children's nutrition.[18]

Nutrition Policy Institute is retained by the State of California to evaluate our state's new School Meals for All initiative that offers breakfast and lunch daily to all students at no charge, regardless of family income level. Our research suggests that many parents will be supportive of a limit on added sugars in their children's school meals. A 2022 survey of 1,110 parents and guardians of California's K-12 public school students, in a sample selected to reflect the race and ethnicity, and free and reduced-price meal eligibility of the state's public school student population, found that over one-third of respondents were concerned about the amount of added sugars in school meals.[19] Nutrition Policy Institute was also part of a partnership leading a community-based participatory research study performed during the pandemic with Latino parents in California's San Joaquin Valley. A key finding was parents' concern about excessive amounts of added sugars with parents stating, for example:

> *"Children cannot sustain themselves on treats that give pure sugar. They [schools] give for the morning, bars and cereal that are full of sugar."*
>
> *"The cereal [in the school breakfast] is too sweet."*[20]

Nutrition Policy Institute strongly recommends that the USDA include language in the rule that restricts substitute sweeteners (e.g., artificial sweeteners, low and non-caloric sweeteners) in school meals, and explicitly not allow product reformulations that use substitute sweeteners in place of added sugars until such time as studies are conducted to assure our nation's children of their long-term safety. Without these safeguards in the new rule there is potential for serious unintended negative consequences to children's health.

The number of varieties of non-caloric/low-caloric sweeteners is growing rapidly, each with differing names and formulations and with different chemistries and biologic impacts. Although some low and no-calorie sweeteners may prove to be safe for children, there are numerous studies linking artificial sweeteners to a

[16] Added Sugars in School Meals and Competitive Foods: A Report to Congress. U.S. Department of Agriculture, Food and Nutrition Service. Alexandria, VA; 2022.
[17] Fox MK, Gearan EC, Schwartz C. Added Sugars in School Meals and the Diets of School-Age Children. Nutrients. 2021. 13:471.
[18] Thompson HR, Ritchie L, Park E, Madsen KA, Gosliner W. Effect of Removing Chocolate Milk on Milk and Nutrient Intake Among Urban Secondary School Students. Prev Chronic Dis. 2020. ;17:E95.
[19] Zuercher MD, Cohen FWJ, Ohri-Vachaspati P, Hecht CA, Hecht K, et al. What do parents and other caregivers think about school meals with Universal School Meal policies? Comparisons by race and ethnicity. Public Health Nutr. 2023. (In review).
[20] Sohlberg TM, Higuchi EC, Ordonez VM, Escobar GV, De La Rosa A, Islas G, Castro C, Hecht K, Hecht CE, Bruce JS, Patel AI. Parent Perception of School Meals in the San Joaquin Valley during COVID-19: A Photovoice Project. Nutrients. 2023. 15:1087.

variety of health risks.[21,22,23,24,25] We recognize that the Food and Drug Administration has oversight of the use of artificial sweeteners, and we acknowledge a 2021 analysis by the Center for Science in the Public Interest that found that most K-12 products from major companies at the time of analysis did not contain four artificial sweeteners of concern: sucralose, saccharine, aspartame, or acesulfame potassium.[26] Nonetheless, nutrition experts at Nutrition Policy Institute are concerned about the lack of longitudinal studies throughout childhood on the daily consumption of artificial and non-nutritive sweeteners and believe that dietary intervention studies on children's health effects of the many different low and no calorie sweeteners are needed, and in particular, neutral independent studies on child health risks funded by government, rather than industry.[27]

Nutrition Policy Institute supports the USDA's efforts to encourage **whole grains** and agrees with the USDA proposal that a minimum of 80% of grains be whole grain-rich. Similarly, we encourage the USDA to maintain the whole grain-rich requirement in the definition of an entree under Smart Snacks to maintain consistency with the quantitative recommendations of the DGA and ensure students not consuming the full reimbursable meal but purchasing entrees a la carte are still receiving whole grains.

Nutrition Policy Institute applauds the USDA's commitment to reducing **sodium** in school meals. The proposed reductions are a good next step and will help lower sodium intake in children.

Nutrition Policy Institute applauds the USDA's continued support of and emphasis on offering a variety of **fruits and vegetables** and supports the USDA's proposal to expand geographic preference to allow **locally grown, raised, or caught** as procurement specifications for unprocessed or minimally processed foods.

Nutrition Policy Institute applauds the USDA's attention to **culturally relevant food items** for U.S. children and, particularly, the USDA's proposal explicitly to state in regulation that traditional foods may be served as part of a reimbursable school meal and the USDA's proposal to allow tribally operated schools, schools operated by the Bureau of Indian Education, and schools serving primarily American Indian or Alaska Native children to serve vegetables to meet the grains requirement.

Technical Assistance and Training

Nutrition Policy Institute applauds the USDA's investment in healthier school meals that appeal to children through the $100 million Healthy Meals Incentive Program. Of that, $30 million is available for small and rural schools and $50 million will go toward working with food manufacturers on innovative solutions to increase the availability of nutritious school foods. Congress has also increased technical assistance funding each year for the past three fiscal years (FY) ($1 million in FY 2021; $2 million in FY 2022 and 2023), with $1 million of that funding being directed to assist with sodium reduction efforts in FY 2022-2023. Together these present an opportunity to address nutrition insecurity by incentivizing and providing

[21] Ruiz-Ojeda FJ, Plaza-Díaz J, Sáez-Lara MJ, Gil A. Effects of Sweeteners on the Gut Microbiota: A Review of Experimental Studies and Clinical Trials. Adv Nutr. 2019.10(suppl_1):S31-S48.. Erratum in: Adv Nutr. 2020. 11:468.
[22] Debras C, Chazelas E, Sellem L, Porcher R, Druesne-Pecollo N, Esseddik Y et al. Artificial sweeteners and risk of cardiovascular diseases: results from the prospective NutriNet-Santé cohort BMJ. 2022. 378 :e071204.
[23] Debras C, Chazelas E, Srour B, Druesne-Pecollo N, Esseddik Y, Szabo de Edelenyi F, et al. Artificial sweeteners and cancer risk: Results from the NutriNet-Santé population-based cohort study. PLoS Med. 2022. 19:e1003950.
[24] Shum B and Georgia S. The Effects of Non-Nutritive Sweetener Consumption in the Pediatric Populations: What We Know, What We Don't, and What We Need to Learn. Front. Endocrinol. 2021. 12:625415. .
[25] Witkowski, M., Nemet, I., Alamri, H. et al. The artificial sweetener erythritol and cardiovascular event risk. Nat Med. 2023. 29:710-18.
[26] Center for Science in the Public Interest. *2021 School Meals Corporate Report Card.* 2021.
[27] Espinosa A, Mendoza K, Laviada-Molina H, Rangel-Méndez JA, Molina-Segui F, Sun Q, Tobias DK, Willett WC, Mattei J. Effects of non-nutritive sweeteners on the BMI of children and adolescents: a systematic review and meta-analysis of randomised controlled trials and prospective cohort studies. Lancet Glob Health. 2023. 11 Suppl 1:S8.

critical support and direction to school food authorities to meet strong evidence-based nutrition standards aligned with the DGA.

To assist school districts in meeting these stronger nutrition standards, Nutrition Policy Institute recommends the USDA reiterate the importance of evidence-based nutrition standards to both schools and industry. Additionally, we encourage USDA to coordinate with state agencies to provide robust, tailored technical assistance to school food authorities.

Best Practices

Children's diet quality improves when they eat school meals.[28] Improving nutritional standards of school meals will most effectively benefit the nutritional status of school-aged children when participation and consumption is maximized. Initiatives and policies that have demonstrated increased meal consumption include providing children with choices in their meal selection, offering pre-sliced or a mix of pre-sliced and whole fruit, limiting availability of competitive foods, and improving the palatability and cultural appropriateness of foods offered.[29] Additional policy measures that have increased consumption at mealtimes include lengthening lunch periods and scheduling recess before lunch. Both policies help to improve focus in the classroom and more closely align with hunger and satiety cues by including physical activity and allowing ample time for consumption.[30]

The success of School Meals for All demonstrates the value of access to school meals. School Meals for All, also known as universal free school meals, provides all enrolled children in a school operating the National School Lunch or School Breakfast Programs breakfast and/or lunch at no charge, regardless of their family's income. Research has shown that offering free meals to every student improves access to nutritious school meals and improves equity by eliminating barriers such as filling out meal applications, stigma, and income-eligibility cut-offs.[31,32] Our 2022 study in California found that 38% of families not eligible for free or reduced-price meals were struggling with food insecurity.[33] A systematic review found that universal free school meals increases school meal participation, improves diet quality and attendance, and reduces food insecurity.[34] With school breakfast and lunch being the healthiest source of meals for school-age children,[35] strategies that increase equitable access to nutritious, appealing school meals for all children should be prioritized.

In conclusion, Nutrition Policy Institute supports the USDA's proposed nutrition standards that will improve the nutritional quality of school meals. We appreciate and applaud the USDA's commitment to improving school nutrition programs. Thank you for this opportunity to comment on the proposed rule.

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[28] Au LE, Gurzo K, Gosliner W, Webb KL, Crawford PB, Ritchie LD. Eating school meals daily is associated with healthier dietary intakes. J Acad Nutr Diet. 2018. 118:1474-81.
[29] Cohen J, Hecht A, Schwartz M. Promising and Low-Cost Strategies to Improve School Meal Consumption. Durham, NC: Healthy Eating Research
[30] Cohen JFW, Hecht AA, Hager ER, Turner L, Burkholder K, Schwartz MB. Strategies to Improve School Meal Consumption: A Systematic Review. Nutrients. 2021. 13:3520.
[31] Tan ML, Laraia B, Crawford P, Hecht K, Ritchie L. Effects of the Community Eligibility Provision on school breakfast and lunch, J Sch Health. 2020. 90:802-11.
[32] Hecht C, Zuercher M, Hecht K, Gosliner W, Ritchie L. Research Brief: School Meals for All in California: Benefits and Challenges During COVID and Beyond as Reported by School Food Services. University of California, Division of Agriculture and Natural Resources, Nutrition Policy Institute. August 2022. [Full text]
[33] Zuercher MD. P.c. 5/8/23
[34] Cohen JFW, Hecht AA, McLoughlin GM, Turner L, Schwartz MB. Universal School Meals and Associations with Student Participation, Attendance, Academic Performance, Diet Quality, Food Security, and Body Mass Index: A Systematic Review. Nutrients. 2021. 13:911.
[35] Liu J, Micha R, Li Y, Mozaffarian D. Trends in Food Sources and Diet Quality Among US Children and Adults, 2003-2018. JAMA Netw Open. 2021. 4:e215262.

Sincerely,

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