

CITIZEN PETITION

April 25, 2023

Division of Dockets Management
Food and Drug Administration
5630 Fishers Lane
Room 1061, HFA-305
Rockville, MD 20852

Submitted electronically via Docket No. FDA 2013-S-0610

Re: Citizen Petition Requesting That the U.S. Food and Drug Administration Develop Voluntary, Measurable Added Sugars Reduction Targets for Processed, Packaged, and Prepared Foods and Beverages

To Whom It May Concern:

The undersigned submit this petition pursuant to 21 U.S.C. § 371(h)(1)(A), 21 C.F.R. § 10.115(b), 21 C.F.R. § 184, and 10 C.F.R. § 10.30, requesting that the Commissioner of Food and Drugs issue guidance to industry for voluntary targets to lower added sugars across the food supply.

The 2020 Dietary Guidelines for Americans (DGA) recommend limiting added sugars and sodium, both of which are linked to increased risks of disease. However, average sodium and added sugars intakes in the U.S. population substantially exceed dietary recommendations. The U.S. food supply is dominated by products with excessive amounts of sodium and added sugars that contribute to overconsumption. Therefore, reduction of sodium and added sugars across the food supply is an important and necessary strategy for improving diets and advancing population health.

In 2021, the U.S. Food and Drug Administration (FDA) issued final guidance establishing short-term voluntary sodium reduction targets to encourage food manufacturers to remove excess sodium from processed, packaged, and prepared foods. In the Biden-Harris Administration's National Strategy on Hunger, Nutrition, and Health released in September 2022, the administration committed to issuing revised targets to continue lowering the amount of sodium beyond the short-term voluntary targets, as well as to exploring the potential for similar voluntary targets or other strategies for added sugars reduction.¹ To achieve voluntary added sugars reduction, we urge FDA to look to the National Salt and Sugar Reduction Initiative (NSSRI), developed by the New York City Department of Health and Mental Hygiene, which provides a relevant framework for developing targets to achieve gradual and meaningful sugar reduction in select categories of packaged foods and beverages.

The Center for Science in the Public Interest (CSPI) is "Your Food and Health Watchdog". CSPI is a non-profit consumer education and advocacy organization that has worked since 1971 to improve the public's health through better nutrition and safer food. The organization does not accept government or corporate grants and is supported by subscribers to its Nutrition Action

magazine, as well as grants from individuals and private foundations. CSPI has an extensive history of advocating for policies related to added sugars reduction through food labeling, menu labeling, restaurant nutrition standards, school meals and competitive foods nutrition standards, and in federal dietary guidance.

The New York City Department of Health and Mental Hygiene (NYC DOHMH) is one of the largest public health agencies in the world. NYC DOHMH is also one of the nation's oldest public health agencies, with more than 200 years of leadership in the field. NYC DOHMH works to protect and improve the health of more than 8 million New Yorkers. The agency works to prevent both chronic and infectious diseases, with a focus on addressing enduring inequities in health outcomes. NYC DOHMH has a history of tackling public health issues with innovative policies and programs, many of which have also influenced other local and national jurisdictions. These include policies and programs in the public health nutrition space such as banning trans-fat, calorie labeling, sodium warning labels, and voluntary sodium reduction targets via the NSSRI.

I. Actions Requested

The petitioners request that FDA take the following actions:

- 1) Issue guidance for the food and beverage industry that provides voluntary short-term (2.5-year), mid-term (5-year), and long-term (10-year) targets for added sugars content in commercially processed and packaged foods and beverages from categories that contribute most to overall added sugars intake. The long-term goal of the guidance should be to facilitate added sugars reduction in processed, packaged, and prepared foods* to lower average population intake of added sugars to less than 10 percent of total daily calories at the end of 10 years, as recommended by the DGA.² The guidance should include FDA's plan for monitoring the added sugars content of the food supply and evaluating the food industry's progress towards achieving the targets. The plan should also include an explanation of how the agency will identify data sources, collect and analyze data, and make adjustments should the targets not be met.
- 2) Create and maintain a public online database of all the products included in the targeted food categories at baseline and the 2.5-year, 5-year, 7.5-year, and 10-year marks, including each product's category, brand, nutrition information (including added sugars content), ingredient list, and additional relevant product-level details. The database should allow members of the public to easily download, search and sort information, identify products that exceed the voluntary targets, and allow for comparison of overall categories against the targets. The database should also include a mechanism for monitoring low- and no- calorie sweetener use over time among the products in target categories; increased use of these sweeteners may be an unintended consequence of

* FDA defined "commercially processed, packaged, and prepared foods" in the sodium reduction guidance as processed, multiple-ingredient foods that have been packaged for direct sale to consumers, for use in food establishments including, but not limited to, restaurants, or for resale to other members of the food industry, as well as foods that are prepared by food establishments for direct consumption.

efforts to reduce added sugars. Such a database will provide transparency and will incentivize companies to comply with the guidance.

- 3) Following publication of the guidance, provide interim progress reports to the public at the 2.5-year, 5-year, 7.5-year, and 10-year marks evaluating industry compliance with the targets across each food and beverage target category and to report any other significant change in other nutrients of concern (such as sodium or saturated fat).
- 4) FDA should extend the scope of this guidance to include voluntary targets for added sugars content in prepared food and beverage categories that contribute most to overall added sugars intake as soon as federal regulations are amended to require chain restaurants to declare added sugars nutrition information.

II. Statement of Grounds

A. Introduction

Current federal dietary guidance, as outlined in the 2020 DGA, provides “science-based advice on what to eat and drink to promote health, help reduce risk of chronic disease, and meet nutrient needs.”³ The DGA make it clear that “a healthy dietary pattern doesn’t have much room for extra added sugars ... or sodium.”⁴ The DGA recommend that people aged two years and older limit their intakes of added sugars, defined as sugars that are added when foods or beverages are processed or prepared,⁵ to less than 10 percent of daily calories and that people younger than two years old avoid added sugars altogether.⁶ The 2020 recommendations were retained from the 2015 DGA which recommended the same. In 2015, the Dietary Guidelines Advisory Committee (DGAC), concluded that “strong and consistent evidence demonstrates that dietary patterns associated with decreased risk of [cardiovascular disease (CVD)] are characterized by ... lower intakes of [...] sugar-sweetened foods and beverages relative to less healthy patterns.”⁷ However, average added sugars consumption among the U.S. population exceeds these recommendations.⁸ Excessive consumption of added sugars can be attributed, in part, to high levels of these nutrients in the food supply.⁹ Loss-adjusted food availability data for U.S. commodities show that from 1970–2021 the food supply provided approximately 20–27 teaspoons of caloric sweeteners per capita daily.¹⁰ In comparison, the recommended daily intake limit for added sugars in a 2,000 calorie daily diet is about 12 teaspoons. Recent dietary studies indicate that a limited number of food categories account for the majority of added sugars in the diet — sugar-sweetened beverages (SSBs), sweet bakery products, and candy.¹¹

FDA has previously pursued efforts to assist consumers in adhering to the DGA and limiting added sugars intake. In 2016, responding in part to two citizen’s petitions submitted by CSPI,¹² and in light of the evidence presented by the 2015 DGAC, FDA issued a final rule updating the Nutrition Facts label on packaged foods to include a declaration for added sugars and establishing a Daily Reference Value (DRV) for added sugars of 50 g for children and adults 4 years and older.¹³ FDA calculated the DRV for added sugars by multiplying the reference intake of 2,000 calories by 10 percent and converting calories to grams of carbohydrates.¹⁴ This action was important because it provided consumers with a means to distinguish between added sugars and naturally occurring sugars, which can be naturally present at high levels in foods that are part

of a healthy eating pattern, like milk and fruits. The establishment of a DRV for added sugars opened the door for FDA to take further action to support consumers in adhering to this DRV.

FDA has moved even further in measures to reduce sodium in the food supply. The agency first required disclosure of sodium content in grams and as a percent Daily Value (DV) as part of its initial Nutrition Facts rulemaking in 1993.¹⁵ In 2016, the agency went even further by issuing a draft guidance that provided voluntary short-term (2-year) and long-term (10-year) targets for sodium content in commercially processed, packaged, and prepared foods.¹⁶ And in 2021, as already noted above, FDA issued final guidance for industry that outlined measurable voluntary short-term (2.5-year) goals for sodium content in commercially processed, packaged, and prepared foods.¹⁷ FDA predicted that this reduction would “result in tens of thousands of fewer cases of heart disease and stroke and billions saved in healthcare costs.”¹⁸ Longer term sodium targets have yet to be finalized, although CSPI has recently filed a petition asking FDA to finalize the long-term targets.¹⁹

Most recently, the Biden-Harris administration publicly committed to further supporting sodium and added sugars reduction in the September 2022 National Strategy on Hunger, Nutrition, and Health.²⁰ In the National Strategy, the administration pledged that FDA would reduce sodium by issuing, “revised, voluntary sodium reduction targets to facilitate continually lowering the amount of sodium in the food supply beyond the 2021 targets.” For added sugars, the National Strategy pledged to, “begin assessing the evidence base for further strategies,” and “to hold a public meeting regarding future steps to reduce intake of added sugars, [...] such as developing targets for categories of foods, similar to the voluntary targets FDA developed for sodium.”

In this petition, we urge the agency to commit to adopting added sugars reduction targets modeled on the work of the National Salt Reduction Initiative (NSRI), now the NSSRI, and the FDA’s previous sodium reduction guidance, taking into account lessons learned from similar policies in other countries, such as Public Health England’s sugar reduction program.

The NSRI was a key initiative informing the development of the FDA’s sodium reduction voluntary draft guidance.²¹ It was launched in 2009, by the NYC DOHMH, as a partnership of approximately 100 health organizations and authorities from across the country who worked together to encourage the food industry to voluntarily lower the amount of sodium in packaged and restaurant foods. The NSRI developed sales-weighted mean (SWM) targets to guide companies in reducing the sodium levels in their food products. These targets were set for 62 packaged food categories²² and 25 categories of restaurant food,²³ ranging from breakfast cereal to burritos, that contributed the most to sodium consumption. The initiative included voluntary 2012 and 2014 targets for average sodium levels in each food category (packaged and restaurant food) and a maximum sodium amount per serving for all items served in restaurants. The targets were established after a yearlong series of technical meetings with food industry leaders. A total of 28 companies publicly committed to work towards meeting the NSRI targets in specific food categories.²⁴ An evaluation of branded U.S. food products in the top 80 percent of sales in each NSRI category measured packaged food industry progress towards the NSRI targets.²⁵ The evaluation included an average of 87 percent of branded top-selling products across the product categories from 2009 to 2018, excluding products with incomplete sales, sodium, or serving size

information. Researchers estimated that between 2009 and 2018, the SWM sodium density in packaged foods included in the NSRI categories decreased by 8.5 percent overall, demonstrating the feasibility of this model.²⁶

In 2018, the NSRI expanded to become the NSSRI. The NSSRI developed a strategy for reducing *total* sugars in the food supply based on the model it previously developed for sodium reduction (added sugars content was not yet available on the Nutrition Facts label when NSSRI targets were set) (Appendix A). Over the course of the following few years, NYC DOHMH led efforts to develop sugar reduction targets, including gathering feedback from the food industry. In 2021, NSSRI released sugar reduction targets for 15 categories of packaged foods and beverages that contribute the most added sugars to the diet and, once again, encouraged food companies to voluntarily meet these targets (Appendix B).

FDA should emulate its voluntary guidance on sodium reduction by releasing analogous targets for added sugars. The overall goal of the guidance for added sugars reduction should be to stimulate reformulation efforts by manufacturers and provide guidance for newly developed products to lower population intake of added sugars to less than 10 percent of total daily calories based on an average U.S. diet and to provide consumers with a wider array of healthier options. This would be done by providing voluntary short-term (2.5-year), mid-term (5-year), and long-term (10-year) targets for added sugars content in the commercially processed and packaged foods and beverages from categories that contribute most to overall added sugars intake. As with sodium, monitoring the food supply for the prevalence of added sugars will be a key strategy to support food industry progress in meeting the added sugars reduction targets and to track progress over time. FDA's monitoring strategy will require the creation of a public database containing nutrition information, including added sugars content, in products subject to the targets. The database should be accessible for members of the public to download, search, and sort information, and, at a minimum, should be updated at critical time points corresponding to the 2.5-, 5-, 7.5- and 10-year marks for added sugars reduction, to clearly identify products and/or categories that have failed to meet the voluntary targets.

As we demonstrate in later sections of this petition, added sugars are similar to sodium in being overconsumed in the American diet, with a limited number of food and beverage categories accounting for the majority of their intake. Given this, added sugars reduction targets represent a critical opportunity for FDA to take action to help Americans reduce average added sugars intake and to guide the food industry towards gradual added sugars reductions in foods and beverages over time.

B. Statement of Factual Grounds

i. Overconsumption of added sugars is a widespread problem in the United States

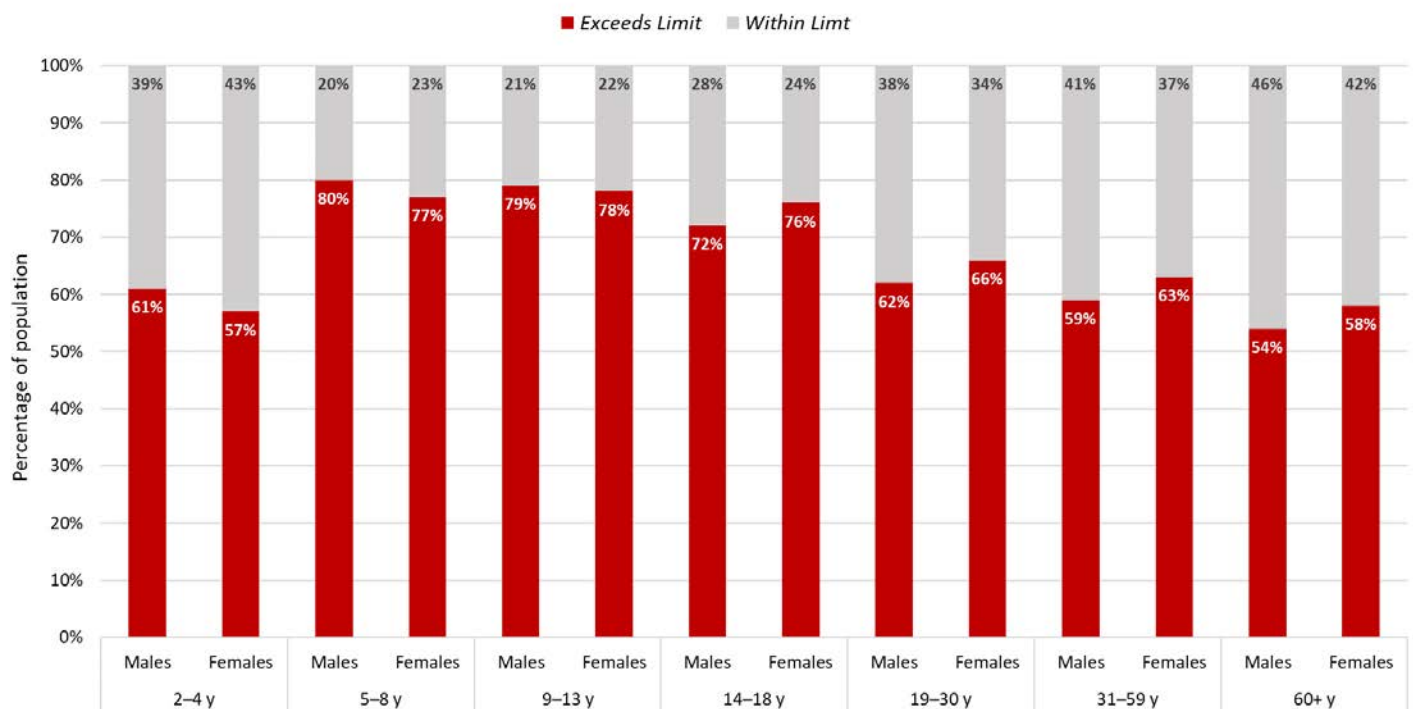
The 2020 DGA recommend that people across all life stages limit their intake of foods and beverages that are high in added sugars. Specifically, the 2020 DGA recommend that children younger than age two years avoid foods and beverages with added sugars entirely, and that, to achieve a healthy dietary pattern, people older than age two years consume less than 10 percent

of total daily calories from added sugars.²⁷ The 10 percent limit on daily calories from added sugars is based on the ability to “fit” non-essential calories into a healthy dietary pattern that still meets the other nutrient and food group recommendations. The 2020 DGA state that, “When added sugars in foods and beverages exceed 10 percent of calories, a healthy dietary pattern within calorie limits is very difficult to achieve. Most Americans have less than 8 percent of calories available for added sugars, including the added sugars inherent to a healthy dietary pattern.”^{28,†} The actions sought in this petition (to reduce average population intake of added sugars to less than 10 percent of daily calories) therefore correspond directly to the recommendations of the DGA.

Consistent with the adoption of an added sugars recommendation by the DGA, Healthy People 2030 has established a leading health indicator to reduce consumption of added sugars by people aged two years and over.²⁹ At baseline (2013–2016), people aged two years and older were consuming an average of 13.5 percent of calories from added sugars. Healthy People 2030 set a target for reduction by 2030 of 11.5 percent of calories from added sugars. However, population intake of added sugars has yet to improve from this baseline, and National Health and Nutrition Examination Survey (NHANES) 2017–2018 data shows that people aged two years or older are consuming an average of 14 percent of calories from added sugars each day,^{30,31} and across age and sex subgroups, overconsumption of added sugars is common. For example, between 54–80 percent of males, and 57–78 percent of females, ages 2 years and older exceed the DGA recommended daily limit for added sugars intake (Figure 1).³² Although added sugars intake may not have improved from the baseline of 2013–2016 to present, it has improved from 1999–2000 when added sugars accounted for an average of 18.1 percent of calories for U.S. children and adults.³³ This reduction appears to be driven primarily by reduced intake of SSBs,^{34,35} while the contribution from other sources of added sugars like sweet bakery products and candy has increased significantly.^{36,37} Thus, a solution that targets all major sources of added sugars intake in the diet is necessary to meet goals for reduced intake across the United States population.

[†] Notably, the 2020 DGAC estimated that the majority of people have six percent or less calories available for added sugars each day and advised that the recommendation be decreased from ten to six percent. The 2020 DGAC found the following in their analysis of food pattern modeling: “Assuming population-level proportional intakes of solid fats and added sugars, no alcohol consumption, and no consumption of nutrient-dense foods beyond recommended amounts, the percent of calories available for added sugars is 6 percent or less at nearly all calorie levels analyzed, with 3–5 percent of calories available for added sugars among the majority of the population, with the exception of the 3,000 kcal/day and 3,200 kcal/day levels of intake (7 and 8 percent, respectively).” The DGAC estimated that the amount of added sugars inherent to the nutrient-dense foods recommended in the Healthy U.S.-Style Pattern is small, and ranges from just 1.5 to 1.9 percent of total daily calories.

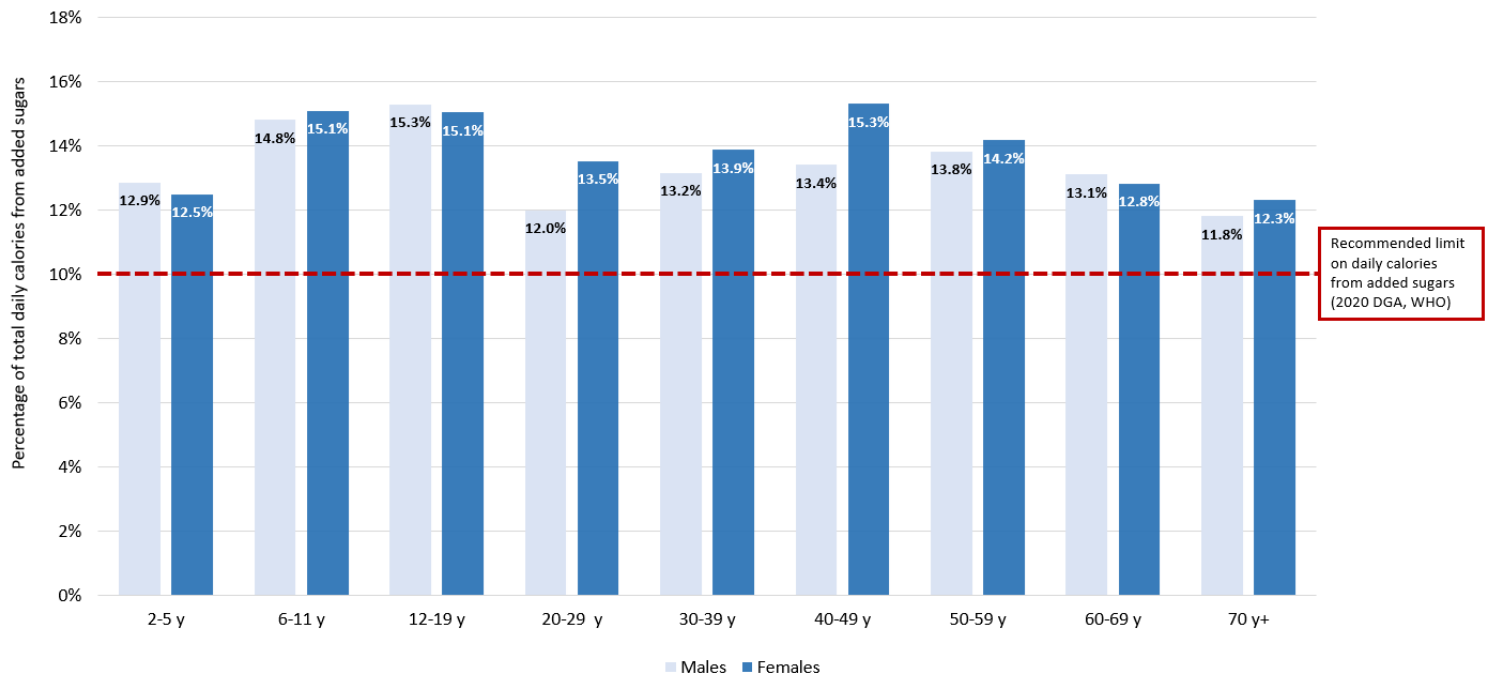
Figure 1. Percent of U.S. children and adults exceeding the 2020 DGA recommended daily limit of added sugars intake, by age group and sex (NHANES 2013–2016)



Note: Data source, National Health and Nutrition Examination Survey (NHANES), 2 Days of Dietary Intake Data, Weighted. Reproduced from figures in the 2020 DGA.

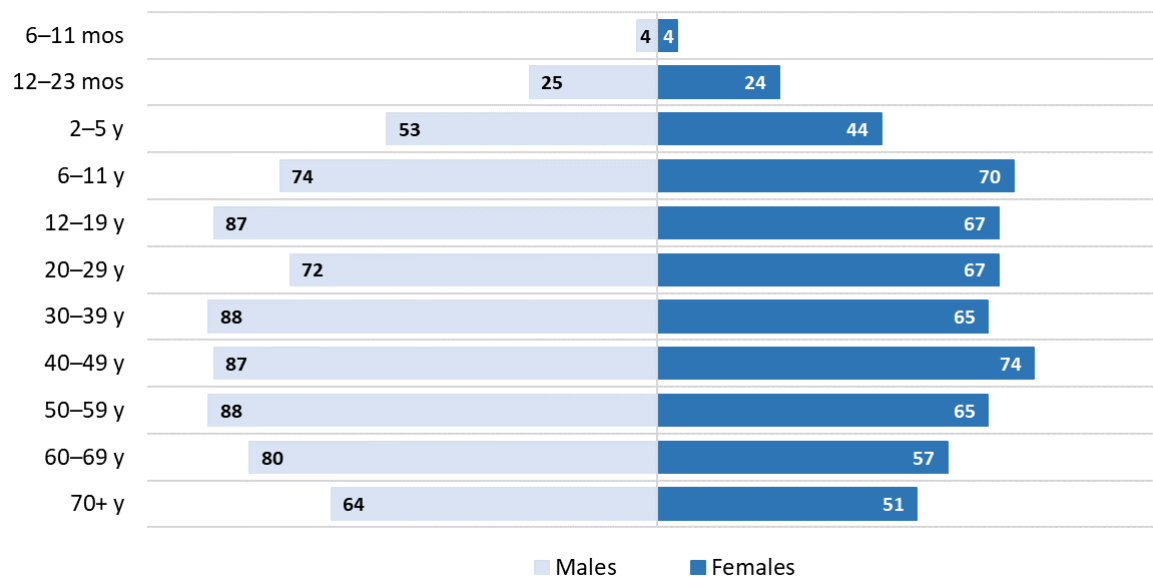
As a percentage of total daily calorie intake, added sugars intake ranges from 12 to 15 percent across age groups, compared to the DGA and World Health Organization (WHO)³⁸ recommendations of 10 percent (Figure 2).^{39,40}

Figure 2. Mean percentage of total daily calories from added sugars in the U.S. population, by age group and sex (NHANES 2017–2018)



In absolute terms, excluding those under 2 years of age, among females, average added sugars intake ranges from 44 g/day for females aged 2–5 years (compared to the recommended limit of 25–40 g/day) to 75 g/day for females 40–49 years. And among males, average added sugars intake peaks at 88 g/day for males aged 30–39 years and 50–59 years (compared to the recommended DV of 50 g/day) (Figure 3).^{41,42}

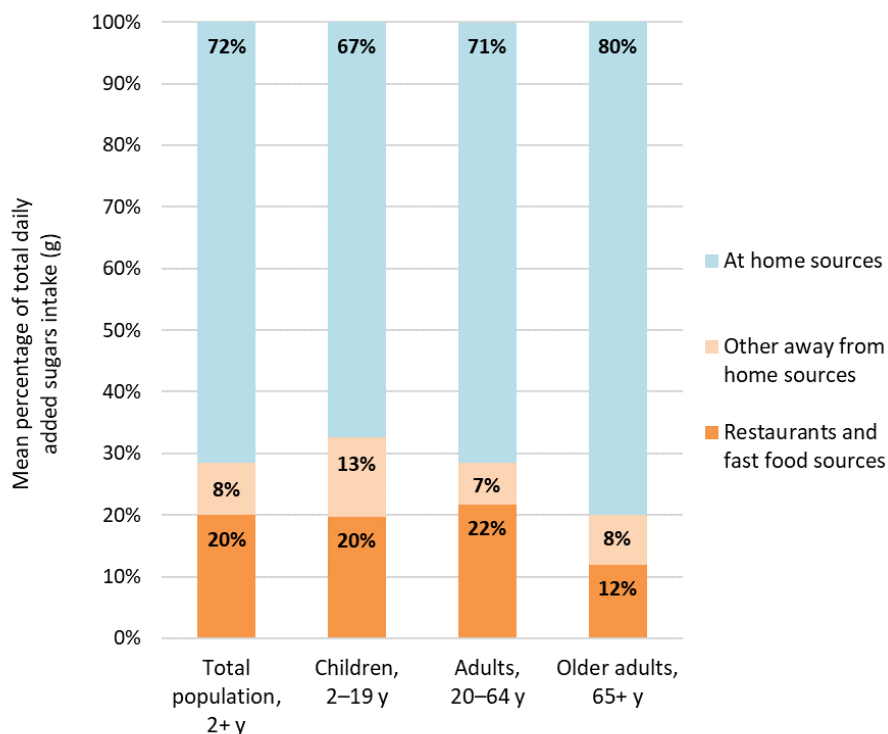
Figure 3. Mean daily added sugars intake (grams) in the U.S. population, by age group and sex (NHANES 2011–2016, 2017–2018)



Note: Intake estimates for 6–11 months, and 12–13 months were obtained from Herrick, et al. 2020 and based on NHANES 2011–2016 intake data. Intake estimates for all other age groups were obtained from U.S. Department of Agriculture’s What We Eat in America (WWEIA) data tables from 2017–2018. These estimates were converted from teaspoon equivalents to grams.

Americans consume about 72 percent of their average daily added sugars intake from foods obtained from a retail store (e.g., supermarket, grocery store, or convenience store) and consumed at home (Figure 4).⁴³ Restaurants are also a substantial source of added sugars in the United States. Foods and beverages consumed from restaurants account for 20 percent of the average daily added sugars intake for individuals two years and older (Figure 4).⁴⁴ Restaurants also commonly serve sugary fountain drinks which are a major source of added sugars in restaurant meals.^{45,46} To address the added sugars issue, therefore, requires a comprehensive solution that reaches across food categories and includes all sources of food.

Figure 4. Mean daily intake of added sugars in the U.S. population, by food source and age group (NHANES 2017–2018)



At home sources: food and beverage obtained from a retail store such as a supermarket, grocery store, or convenience store. *Other away from home sources:* food and beverage obtained from school cafeterias, daycare centers, summer camps, community food programs, street vendors, vending machines, etc. *Restaurants and fast food sources:* food and beverage obtained from full-service restaurants with wait staff, fast food restaurants with limited menus and no waitstaff, and carryout places.

ii. Excessive added sugars intake increases risk for poor health outcomes

High availability of added sugars in the food supply⁴⁷ and corresponding high added sugars intake contributes to the poor diet quality of Americans.⁴⁸ Excessive consumption of foods or beverages high in added sugars is linked to an increased risk of type 2 diabetes^{49,50,51} and CVD,^{52,53,54} in part by increasing the risk of weight gain,⁵⁵ and can contribute to dental decay,⁵⁶ according to several reviews and meta-analyses of observational and experimental studies (reviewed in subsequent paragraphs).

For example, in response to a request to determine a tolerable upper intake level for dietary sugars, the European Food Safety Authority conducted a 2022 review of randomized controlled trials (RCTs) on surrogate disease endpoints. These endpoints included blood pressure for hypertension and fasting glucose for type 2 diabetes mellitus. The European Food Safety Authority concluded that “there is evidence for a positive and causal relationship between the intake of added/free sugars and the risk of some chronic metabolic diseases: The level of certainty was deemed moderate for obesity and dyslipidaemia (> 50–75% probability), low for non-alcoholic fatty liver disease and type 2 diabetes (> 15–50% probability) and very low for hypertension (0–15% probability). . . . A level of sugars intake at which the risk of dental

caries/chronic metabolic diseases is not increased could not be identified over the range of observed intakes, and thus, a UL or a safe level of intake could not be set. Based on available data and related uncertainties, the intake of added and free sugars should be as low as possible in the context of a nutritionally adequate diet.”^{57,‡} While the analysis did not yield sufficient certainty to set an upper limit for added sugars, it did identify varying degrees of evidence of a causal relationship between sugar and risk of disease.

Much of the research on added sugars focuses on SSBs because they are a good vehicle for precisely controlling exposures to added sugars in RCTs, without potential confounding that could arise from nutrients in other foods. In addition, SSBs are easier to quantify as an exposure in prospective cohort studies. Until recently, it has been impractical to precisely quantify added sugars exposure in cohort studies due to the absence of added sugars labeling on most foods. Furthermore, SSBs are the major dietary source of added sugars,[§] accounting for 24–48 percent of the added sugars consumed by Americans ages two and older.⁵⁸ Here, we present evidence on SSBs and added sugars, where available.

Weight Gain. In a 2022 systematic review and meta-analysis of RCTs and prospective cohort studies of adults and children, where minimum follow-up was 6 months for prospective cohort studies and 2 weeks for RCTs, an increased intake of SSBs was positively associated with increases in body weight and BMI (Body Mass Index, kg/m²).⁵⁹ Among cohort studies of children, each 12-oz. serving/day greater consumption of SSBs was associated with a 0.07 kg/m² higher BMI (95% CI: 0.04–0.10 kg/m², $P < 0.01$, $I^2 = 82\%$) in prospective cohort studies. And in RCTs of children, reduced SSB intake resulted in less BMI gain than control (MD: -0.21 kg/m², 95% CI: -0.40– -0.01 kg/m², $P < 0.04$, $I^2 = 99\%$). In prospective cohort studies of adults, each 12-oz. serving/day increase in SSB consumption was associated with a 0.42-kg higher body weight (95% CI: 0.26–0.58 kg, $P < 0.01$, $I^2 = 90\%$). In RCTs of adults, increased SSB intake was associated with higher body weight gain Compared to control (MD: 0.83 kg, 95% CI: 0.47–1.19 kg, $P < 0.01$, $I^2 = 87\%$).

Type 2 diabetes. According to a 2019 review article summarizing the evidence from prospective cohort studies, people who frequently consume SSBs have a higher risk of developing type 2 diabetes (RR 1.18, 95% CI: 1.09–1.28, $I^2 = 89\%$).⁶⁰ In a recent umbrella review of meta-analyses of prospective cohort studies, each daily serving of these beverages was linked to a 26 percent higher risk of type 2 diabetes (SHR 1.26, 95% CI: 1.11–1.43) after a median follow-up of 3.4–21.1 years.⁶¹ In a study that followed roughly 190,000 people for 22 to 26 years, consuming one serving (8 oz.) of water, unsweetened coffee or tea, or reduced-fat milk instead of a SSB a day was linked to a 2–10 percent lower risk of type 2 diabetes over the subsequent four years.⁶²

‡ The parentheticals in this quote for percentage probability refer to the European Food Safety Authority’s (EFSA) determination for a “level of certainty” that expresses the probability that a positive and causal relationship exists between the exposure and the risk of disease. The level of certainty also considers the limitations in the body of evidence and in the methods used to address it. The Bradford Hill criteria are also applied to judge on causality. For more detail, refer to the EFSA report cited.

§ Sugar-sweetened beverages (SSBs) includes beverages with added sugars such as soda, juice drinks (excluding 100% fruit juice), sports drinks, flavored milk, and sweetened coffee and tea.

Cardiovascular disease. A 2022 Cochrane review of 21 clinical trials including 1,110 participants concluded that “evidence is uncertain whether low intake of added sugar has an effect on risk factors for CVD; the effect was small and the clinical relevance is, therefore, uncertain.”⁶³ The review found a minimal effect of low added sugars intake compared to high sugar intake on reduced blood pressure (diastolic: MD 1.52 mm Hg, 95% CI: 0.67–2.37; $P = 0\%$; systolic: MD 1.44 mm Hg, 95% CI: 0.08–2.80; $P = 27\%$) and blood lipids (total cholesterol: MD 0.11 mmol/L, 95% CI: 0.01–0.21; $P = 0\%$; triglycerides (MD 0.10 mmol/L, 95% CI: 0.03–0.17; $P = 3\%$) with a low certainty of evidence.

In a prospective cohort study of a nationally representative sample of U.S. adults, those who usually consumed between 10 and 25 percent of calories from added sugars had a 30 percent greater risk of CVD mortality (adjusted HR 1.30, 95% CI: 1.09–1.55, $P = 0.004$) in a 15-year follow-up period compared to those who consumed 0–10 percent of calories from added sugars.⁶⁴ When adults’ usual percentage of calories from added sugars increased to 25 percent or more, their risk of CVD mortality more than doubled (adjusted HR 2.75, 95% CI: 1.40–5.42, $P = 0.004$) compared to those with intakes of less than 10 percent of calories.

In a 2016 meta-analysis of nine prospective cohort studies, an increase of one serving per day of a SSB was associated with a 13 percent increased risk of stroke (RR 1.13, 95% CI: 1.02–1.24, $P = 0.02$) and a 22 percent increased risk of heart attack (RR 1.22, 95% CI: 1.14–1.30, $P < 0.001$) and an overall increased risk of 13 percent for a major CVD event (RR 1.13, 95% CI: 1.01–1.27, $P < 0.001$).⁶⁵ In a 2021 systematic review and meta-analysis of prospective cohort studies, including three additional studies published after the 2016 meta-analysis through the end of 2019, incremental SSB intake of one serving/day was associated with an 8 percent increased risk of CVD morbidity (RR 1.08, 95% CI: 1.02–1.14, $I^2 = 43.0\%$, $P = 0.07$) and mortality (RR 1.08, 95% CI: 1.04–1.13, $I^2 = 40.6\%$, $P = 0.13$).⁶⁶

Oral health. A meta-analysis of 38 cross-sectional studies on the effect of SSBs on oral health found that people who consume an 8 oz. sugary drink two to seven times per week have 57 percent increased odds of dental cavities than those who drink less than that (OR 1.57, 95% CI: 1.28–1.92, $P = 0.0001$).⁶⁷ Those who drink more than seven sugary drinks per week are two times more likely to have cavities (OR 1.95, 95% CI: 1.57–2.41, $P = 0.017$)—and are three times more likely to have dental erosion (OR 2.90, 95% CI: 1.32–6.4, $P = 0.0001$)—than those who drink sugary drinks less than twice a week.

iii. Health authorities recommend limiting added sugars intake to promote health and prevent disease

Population-level added sugars reduction is a top public health priority in the United States and internationally, as evidenced by the dietary recommendations developed by many United States and international health authorities (Table 1).

Table 1. Added sugars intake recommendations from U.S. and international health authorities

U.S. and International Health Authorities	Recommendations
American Academy of Pediatric Dentistry — 2022 Policy on Dietary Recommendations for Infants, Children, and Adolescents ⁶⁸	<ul style="list-style-type: none"> children limit added sugars consumption to less than 5% of total calorie intake to reduce their risk of weight gain and dental caries, children younger than 2 years should avoid added sugars in the diet and minimize exposure to sweet-tasting drinks and foods
American Diabetes Association — 2019 consensus report on nutrition therapy for adults with diabetes or prediabetes ⁶⁹	<ul style="list-style-type: none"> individuals “replace sugar-sweetened beverages with water as often as possible” and minimize added sugars intake
American Heart Association — 2021 Dietary Guidance to Improve Cardiovascular Health ⁷⁰	<ul style="list-style-type: none"> individuals minimize their intake of beverages and foods with added sugars to promote cardiometabolic health individuals limit their intake of added sugars to no more than 6% of calories per day⁷¹
National Heart, Lung, and Blood Institute — 2012 expert panel on integrated guidelines for cardiovascular health and risk reduction in children and adolescents ⁷²	<ul style="list-style-type: none"> infants 6–12 months consume no sweetened beverages from 12 months up to 21 years, recommends limiting or avoiding SSB intake altogether
Robert Wood Johnson Foundation, Healthy Eating Research — 2019 expert panel of representatives from the Academy of Nutrition and Dietetics, the American Academy of Pediatric Dentistry, American Academy of Pediatrics, and the American Heart Association ⁷³	<ul style="list-style-type: none"> all children under 5 years avoid drinking flavored milks, toddler milk, and SSBs as they may be major sources of added sugars in the diet and provide no unique nutritional value
U.S. Department of Agriculture and U.S. Department of Health and Human Services — 2020–2025 Dietary Guidelines for Americans ⁷⁴	<ul style="list-style-type: none"> foods and beverages high in calories from added sugars should be limited to help achieve healthy dietary patterns within calorie limits consume less than 10% of calories per day starting at age 2 avoid foods and beverages with added sugars for those younger than age 2
World Health Organization — 2015 guideline on sugars intake for adults and children ⁷⁵	<ul style="list-style-type: none"> reduced intake of free sugars throughout the life course, and for adults and children intake of free sugars should amount to less than 10% of total calorie intake free sugars should be further limited to less than 5% of total calorie intake to prevent the negative health effects of dental caries

iv. *A limited number of food and beverage categories account for the majority of added sugars intake, but added sugars are widespread*

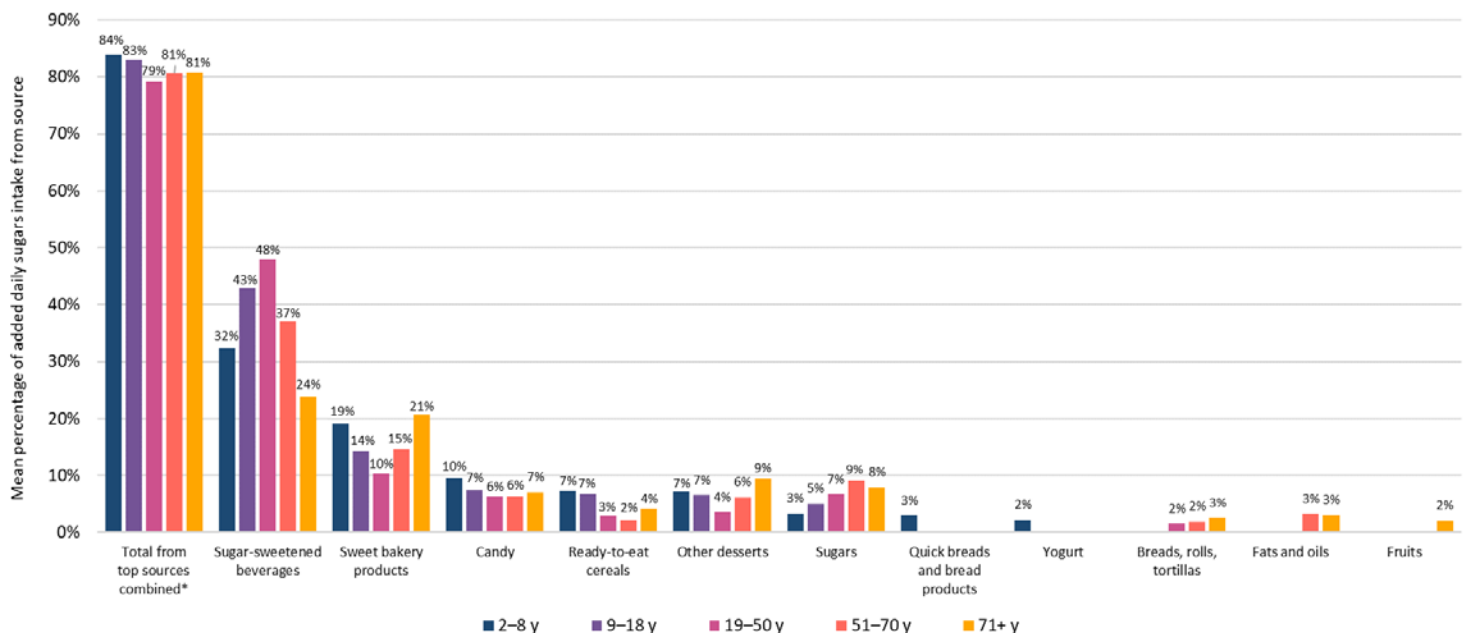
Foods and beverages with high concentrations of added sugars are common in the U.S. food supply. An analysis of over 70,000 U.S. packaged foods from 2017 to 2020 calculated the added

sugars density of foods and beverages across 13 different food categories.⁷⁶ The overall average added sugars density for all products was 11.3 g/100 g product. The categories with the highest mean concentration of added sugars were sugars, honey, and related products (e.g., syrup, caramel, etc.) (51.3 g/100 g), confectionery (50.3 g/100 g), bread and bakery items (17.4 g/100 g), special foods (e.g., protein and diet bars, baby foods, etc.) (14.4 g/100 g), dairy products (11.8 g/100 g), cereal products (10.1 g/100 g), nonalcoholic beverages (7.1 g/100 g), and sauces/dips/salad dressings (7.1 g/100 g). The remaining five categories of fruits/vegetables, snack foods, convenience foods, meat and meat alternatives, and seafood products all had an average of about 5 g added sugar/100 g or less. Separately, a comprehensive analysis of 1.2 million foods in the United States between 2000–2013 revealed that 68 percent of packaged foods and beverages available contain added caloric sweeteners, making added sugars hard to avoid.⁷⁷

The majority of added sugars intake in the United States is concentrated in a limited number of food and beverage categories with high levels of added sugars. In their analysis of current population added sugars intake, the 2020 DGAC found that approximately 70 percent of added sugars intake comes from five main food categories: sweetened beverages (i.e., soft drinks, fruit drinks, sports and energy drinks, including smoothie and grain drinks), desserts and sweet snacks, coffee and tea (with their additions), candy and sugars, and breakfast cereals and bars.⁷⁸

In a 2021 analysis of the sources of added sugars in the United States population, the top sources from NHANES 2011–2012 contributing at least 2 percent to total daily added sugars intake were compared to sources in NHANES 2017–2018.⁷⁹ What We Eat in America food categories were combined to create larger food groups. As shown in Figure 5, 11 food groups accounted for an average of 79–84 percent of daily added sugars calories for adults and children. SSBs, which included soda, fruit drinks, sports drinks, sweetened teas and coffees, sweetened waters, sweetened milk, energy drinks, and any other beverage with added sugars, were the leading source of added sugars across all age groups in the United States in 2017–2018 (Figure 5). Products in this category accounted for 32 percent of daily added sugars intake for children 2–8 years, 43 percent of intake for children 9–18 years, 48 percent of intake for adults 19–50 years, 37 percent of intake for adults 51–70 years, and 24 percent of intake for adults 71+ years.

Figure 5. Mean percentage of daily added sugars from top food and beverage sources among U.S. children and adults (NHANES 2017–2018)⁸⁰



Note: *Includes sources contributing at least 2% to total daily added sugars intake in 2011–2012. Other desserts include ice cream and frozen dairy desserts, pudding, gelatins, ices, and sorbets.

After sugary drinks, the next largest sources of added sugars in Americans' diets were sweet bakery products (including cakes, pies, cookies, brownies, doughnuts, sweet rolls, and pastries), candy, sugars and syrups, other desserts (including ice cream, frozen dairy desserts, pudding, gelatin, ices, sorbets), and sweetened ready-to-eat cereals (Figure 5).⁸¹ Consumption of these foods leaves little room in the diet for consumption of other nutrient-dense foods and food groups without exceeding recommended daily calorie limits. The foods that are highest in added sugars contribute excess calories to the diet with little nutritional benefit. Among U.S. adults, sweet foods (defined by the U.S. Department of Agriculture [USDA] as including snack/meal bars, sweet bakery products, candy, and other desserts and excluding fruit and all beverages) contributed an average of 16 percent of total calories and 36 percent of added sugars to the daily diet (NHANES 2015–2018).⁸² Adult consumers of sweet foods had significantly higher average daily calorie intake compared to their peers who did not eat sweet foods ($P < 0.001$), and their average daily calorie contribution from sweet foods ranged from 161 to 372 calories.⁸³ Similarly, for children in the United States who consumed sweet foods, these foods accounted for 18 percent of daily calories and 40 percent of daily added sugars (NHANES 2015–2018).⁸⁴ Children who reported eating sweet foods had average daily calorie contributions from sweet foods ranging from 161 to 348 calories; in addition, their total daily calorie intake was significantly higher than for their counterparts who did not eat sweet foods ($P < 0.001$).⁸⁵

v. Added sugars reduction is a key strategy to support population health

Reducing the amount of added sugars consumed requires action across multiple sectors, including the private sector, health organizations, government, and individuals. The private sector can reduce the amount of added sugars in foods and beverages via product reformulation and via new product development. It can improve the food supply by providing a greater proportion of lower added sugars items from which consumers can choose and it can selectively market healthier items, to make healthier choices the easier choices. Health organizations and government agencies can provide leadership by calling on the food industry to make voluntary changes to its products, raising awareness of the health benefits of lowering added sugars intake, and monitoring the food supply to hold manufacturers accountable. Individuals can monitor and reduce their intake, but their ability to do so may be limited by the choices offered.

Currently, FDA and the food industry have no common system to define and measure progress in added sugars reduction. Food and beverage manufacturers must comply with food labeling regulations for added sugars in their products and may be incentivized to reduce added sugars in order to appeal to health-conscious consumers. But the extent of any such effect is unclear and consumers are still confronted with products high in added sugars throughout the food environment. Further action from the FDA can boost efforts to reduce the current prevalence of added sugars in food and beverage products, spurring reformulation efforts to align with recommendations from the DGA to reduce added sugars in the diet.

The actions requested in this petition would stimulate industry action to reformulate and lower added sugars content across key categories of food and beverage products that contribute to high dietary added sugars intake in the United States. This approach would impact the overall food supply in the United States and thus be a population-wide intervention to decrease added sugars in the food supply, and consequently decrease intake of added sugars across all population subgroups. A major advantage of this population-based approach is that it targets an upstream factor in the food environment and does not rely solely upon individual-level behavior change to produce benefits. Further, an approach focused on reducing added sugars in packaged and processed foods would provide guidance to the industry responsible for introducing excess added sugars into the food supply and lessens the burden of action for individuals with limited access to the resources, including time and money, that are needed to successfully navigate the complex food environment. Finally, as discussed in previous subsections, high added sugars intake is a dietary risk factor for poor diet quality, weight gain, type 2 diabetes, and CVD.

A voluntary added sugars reduction guidance is designed to target the risk factor of high added sugars intake in a uniform manner across the population. However, some specific population groups with relatively higher intakes of added sugars may be more likely to benefit from this intervention.⁸⁶ A microsimulation study evaluated the effects of implementing the NSSRI SWM targets in the United States on cardiometabolic health outcomes and modeled the effects of the policy on added sugars intake across population subgroups.⁸⁷ The model assumed a 100 percent compliance scenario where industry fully met the 40 percent SWM sugar reduction targets for SSBs and the 20 percent SWM sugar reduction targets for all other categories by 2026. The study predicted a decrease in mean daily added sugars intake of 6.6 g per person per day over 10

years, and a decrease of 10 g per person per day over a lifetime.⁸⁸ Researchers calculated predicted health outcomes by race and ethnicity, income, and education based on added sugars intakes, deriving baseline risk factors and added sugars intakes from NHANES 2011–2016. The model predicted a greater absolute reduction in CVD events, CVD deaths, and diabetes cases for non-Hispanic Black and Hispanic adults compared to White adults (Table 2). In a comparison of the absolute differences in health outcomes by income, the low-income group was predicted to have greater absolute decreases in CVD events, CVD deaths, and diabetes cases compared to the high-income group. Similar differences in results were predicted for health outcomes between high- and low-education groups.

Table 2. Simulated effects of achieving the National Salt and Sugar Reduction Initiative voluntary sugar reduction targets on lifetime estimated health outcomes among U.S. adults by race/ethnicity, income, and education

	CVD events per million adults			CVD deaths per million adults			Diabetes cases per million adults		
	Base case	NSSRI policy	Cases averted	Base case	NSSRI policy	Cases averted	Base case	NSSRI policy	Cases averted
Race/ethnicity									
Non-Hispanic White	541,726	527,802	13,924	178,481	175,745	2,736	211,266	206,925	4,341
Non-Hispanic Black	611,883	591,109	20,774	189,620	185,829	3,791	281,590	275,041	6,549
Hispanic	611,157	592,155	19,002	189,833	186,255	3,578	280,143	274,242	5,901
Income[†]									
High	532,815	521,393	11,422	173,938	171,635	2,303	210,821	207,118	3,703
Low	625,163	601,258	23,905	199,961	195,638	4,323	273,616	266,862	6,754
Education[♦]									
High	493,295	486,396	6,899	160,829	159,459	1,370	190,468	187,874	2,594
Low	618,151	595,539	22,612	201,818	197,775	4,043	286,597	280,222	6,375

Table adapted from Table 3. in Shangguan S, et al. *Circulation*. 2021;144(17):1362-137. CVD: Cardiovascular disease, NSSRI: National Salt and Sugar Reduction Initiative.

[†] Based on the ratio of family income to poverty (low: poverty–income ratio ≤ 1.85 ; high: poverty–income ratio > 1.85).

[♦] Based on highest educational attainment (low: less than high school; high: college graduate or above).

Based on the results outlined above, and to the extent that the recommended policy reduces added sugars intake across groups, there may be additional benefit to some groups for select health outcomes. However, studies that have included more recent 2017–2018 NHANES data indicate potential changing trends in added sugars intake and SSB consumption by race and

ethnicity^{89,90,91} which could result in differences in how the targets impact health outcomes among these groups. It is also unclear whether this policy would reduce the significant inequities in cardiometabolic health outcomes across these groups,^{92,93,94,95,96} given that the differences in rates of these health outcomes by race, ethnicity, and income are driven by additional factors other than differences in added sugars consumption, such as the inequitable distribution of social, political, economic, and environmental resources^{97,98,99} and the policy targets the makeup of the food supply as opposed to addressing structural or social determinants of health inequities.

vi. FDA should urge companies to reduce added sugars without replacing them with other sweeteners

As with sodium, different types or groups of foods and beverages contain added sugars for different purposes. For example, sodium is used in foods for microbiological control, texture, and taste. Similarly, sugar is used for taste, texture, bulk, fermentation, browning, and more. Additionally, there are many foods that contain naturally occurring sugars, which are intrinsic to the food and not added during preparation or processing. These sugars do not present a public health concern and would be outside the scope of any guidance on added sugars reduction.

However, manufacturers are likely to replace added sugars with sweeteners and bulking agents to maintain the sweetness and texture of their products.¹⁰⁰ United States food manufacturers have access to a range of sugar substitutes, including low- or no-calorie sweeteners. Since a goal of the added sugars reduction guidance would be to lower added sugars concentration without increasing total calories in a food, manufacturers may look to low- or no-calorie sweeteners as replacements for added sugars in their products. However, FDA should encourage manufacturers to focus on reformulation efforts through the reduction of added sugars, without leaning on replacement sweeteners. A reliance on added sugars replacement with low- or no-calorie sweeteners could result in potentially undesirable substitution effects and unintended health consequences. One concern is the limited evidence for long-term safety of low- and no-calorie sweeteners in childhood.¹⁰¹ In setting sugar reduction targets, the NSSRI advised companies to consider existing and new scientific research and regulations to determine the appropriate use of low and no calorie sweeteners and recommend avoiding use of low- and no-calorie sweeteners in products marketed to or commonly consumed by children.

While low- and no-calorie sweeteners must be included in the ingredient list when present in a food, the amount of the sweetener in the product is not required to be declared on the Nutrition Facts panel. As such, an increase in the use of these sweeteners throughout the food supply would be difficult to trace. We encourage the FDA to develop a mechanism, such as a database, for monitoring low- and no-calorie sweetener use in the food supply over time. FDA should make the ingredient lists public in the database for target categories so that both the presence, quantities, and number of types of low- and no-calorie sweeteners can be monitored. This is particularly important for foods that are commonly consumed by children.

While low- and no-calorie sweeteners can maintain the sweet taste of foods and beverages with reduced sugar, they do not have the same functional properties of sugar in providing bulk, texture, binding, or fermenting.¹⁰² Thus, replacing sugar with sweeteners often requires the use

of bulking agents to compensate for changes in volume and texture in the final product. Some commonly used bulking agents are polyols and non-digestible carbohydrates (e.g., resistant starch, non-starch polysaccharides, polydextrose, and inulin).¹⁰³ The potential for unintended consequences in the widespread use of sweeteners may be two-fold, with knock-on effects from an increased use of bulking agents.

Forgoing reliance on low- or no-calorie sweeteners would lead to an overall reduction of sweetness in the food supply over time. A recent review of the literature on sugar reduction in processed foods concluded that, “gradual sugar reductions without replacement seem the best way forward to reduce sugar intake and shift consumer preferences.”¹⁰⁴ Their review of the experimental evidence found that sugar reductions of 6–11 percent were not perceived by consumers, and reductions of up to 20 percent of sugar did not lead to a major change in overall liking of foods by adults and children. The authors propose that one advantage of a gradual reduction in sugars over time, rather than a replacement in sugars with sweeteners, is that consumers may adapt to sugar-reduced products. And, over time, this reduction may lead to changed sweet preferences.

vii. NSSRI’s sugar reduction targets provide a model for FDA to follow

1. Overview of NSSRI

The NSSRI is a voluntary effort that encourages industry to lower sugar and sodium in its products by setting sugar and sodium reduction targets for specific food and beverage categories. The objective of the initiative is to promote gradual, achievable, and meaningful reductions in sodium content in packaged and restaurant foods, and sugar content in packaged foods and beverages. The goal of the sugar reduction targets is to reduce intake of added sugars because of the aforementioned associations with increased risk of excess weight, type 2 diabetes, hypertension, stroke, heart disease, and cavities (Appendix B). The NSSRI complements a suite of national and local strategies to improve Americans’ diets through consumer behavior change, including but not limited to education and policy approaches. The NSSRI has grown over time and is now a partnership of over 100 local, state and national health organizations convened by NYC DOHMH. The partnership agrees to help promote the initiative, stand behind a single, comprehensive set of targets, and encourage industry to meet the targets. This framework illustrates how multiple stakeholders can work together through a transparent public process to reduce the amount of salt and sugar in the food supply and the diet, preventing diet-related chronic disease and improving population health (Appendix C).

2. NSSRI framework

The NSSRI sugars targets come in two forms. First, there is a SWM for total sugars density (g of sugar per 100 g of food or 100 mL of liquid), assigned for each affected category. Industry can reduce a category’s SWM by reducing the density of added sugars in existing products, introducing products with lower amounts of added sugars, or discontinuing higher sugar products. Industry can also selectively promote either new or existing products with lower sugar density to influence sales. The intended result is to help all consumers reduce added sugars

intake, in addition to providing increased consumer choice so that those wanting to consume less sugar can do so more easily. NSSRI will evaluate industry progress towards SWM targets by using the proprietary NSSRI Packaged Food and Beverage Database to calculate the average sugar density for each category of products with a sugar target. The goal is for the SWM for each category to be at or below the target by the end of the target year.

Companies are also encouraged to meet NSSRI Guidance Maximums, which are suggested upper limits for sugar density of individual products in each category. These were set as an additional strategy for sugar reduction, with the expectation that outliers with the highest sugar densities would be targeted for reformulation or discontinuation. While the SWM targets apply to an entire category of products, the Guidance Maximums apply to individual products.

Through the NSSRI, NYC DOHMH set sugar reduction targets for fifteen food and beverage categories. The categories and targets were developed through an iterative process which included multiple public comment periods (Appendix B, D). The food and beverage industry was invited to share feedback related to the feasibility of meeting the targets and any functional or technical challenges. Comments were submitted by trade associations and manufacturers that spanned all NSSRI categories and helped to refine the category definitions.

As mentioned previously, added sugars content was not available on the Nutrition Facts label when NSSRI targets were set, and so NSSRI targets are based on total sugar (Appendix A, E). NYC DOHMH's approach at the time was consistent with the total sugars approach taken in the United Kingdom.¹⁰⁵ In most categories, the total sugar content is equivalent to the amount of added sugars because the vast majority of products do not contain naturally occurring sugars. In the United Kingdom, exceptions were made for products containing milk or dried fruit, which have some natural sugar. NYC DOHMH carefully reviewed products with natural sugars, primarily lactose from dairy milk and yogurt, and made specific allowances for them. However, now that added sugars are widely available on the Nutrition Facts label and given that FDA has set a DV for added sugars (derived from the DGA), any future efforts to set sugar reduction targets should be based instead on added sugars.

Targets were drafted with the expectation that companies will meet the proposed sugar targets without increasing saturated fat, calories, sodium or refined carbohydrates. NYC DOHMH plans to monitor changes in nutrient content over time after the target years of 2023 and 2026 via the NSSRI Packaged Food and Beverage Database.

3. Development of NSSRI categories, SWM targets, and guidance maximums

We describe the NSSRI's methods in some detail, as they provide a model for how FDA might structure its own voluntary guidelines. Packaged food and beverage categories were established by considering the foods and beverages that contribute most to added sugars intake in the diet, food categories commonly used by regulatory agencies and industry, similarities between products, opportunities and technical challenges for sugar reduction, and feedback from the food and beverage industry (Appendix D). Foods and beverages served at restaurants were not included. NYC DOHMH reviewed literature^{106,107,108,109,110} that used NHANES data to report on

the leading sources of added sugars in the United States diet to draft an initial set of categories. These categories were further refined by comparing them to other existing food categorizations. Using these draft categories, the NSSRI Packaged Food and Beverage Database was built using 2018 Universal Product Code- (UPC) specific nutrition information for packaged foods from Label Insight and manufacturer websites, and 2017 sales data from Nielsen. Only products with added sugars are included in the initiative so the database excludes products without added sugars, as determined by the Nutrition Facts label and the ingredients list (such as water, seltzer, plain yogurt, 100 percent juice, and products that contain only low- or no-calorie sweeteners).

After performing preliminary analyses of the data and undergoing two rounds of feedback from the food and beverage industry, fifteen categories of packaged foods and beverages were finalized and targets were set (Table 3). To set the targets, products within categories were ranked by their individual product sales by volume. The products within the top cumulative 80 percent of sales volume in each category were selected as a reasonable representative of the sugar content for the category. The bottom 20 percent were excluded from analyses due to a lack of readily available nutrition data for many of the low-selling products that fell into this group. The baseline SWM was then calculated by averaging the sugar densities of the products within each category weighted by sales volume so that those products with higher sales factored more heavily into the mean. The SWM targets were then set relative to the baseline SWM for each packaged food category using a fixed percent reduction. For most categories, the SWM targets are based on a 10 percent reduction (to be met by 2023) and a 20 percent reduction (to be met by 2026) from the category's baseline SWM sugar density (Figure 6). For sugary drinks, targets are based on a 10 percent (2023) and 40 percent (2026) reduction. This is because sugary drinks are the largest contributor to U.S. added sugars consumption and, almost uniquely in the food supply, contain no meaningful amounts of critical nutrients.

Table 3. NSSRI packaged food categories and SWM sugar reduction targets

Packaged Food Category	Category Description Excludes products with 0 g added sugar ^a	Sales-Weighted Mean Targets g sugar per 100 g or 100 mL		
		2018 Baseline SWM	2023 SWM (10% reduction)	2026 SWM (20% reduction)
Drinks				
1.1 Sugary drinks [*]	Soda, sports drinks, fruit drinks, energy drinks and tea. Excludes 100% juice and drinks with milk or milk substitute as a first or second ingredient.	8.9	8.0	5.4
1.2 Sweetened milk ^b	Drinks containing milk as a first or second ingredient.	6.0	5.4	4.8
1.3 Sweetened milk substitute ^b	Flavored drinks containing milk substitute as a first or second ingredient.	3.7	3.3	2.9

Grain-based desserts				
2.1 Breakfast pastries	Donuts, cinnamon rolls, coffee cakes, Danishes, streusel, muffins, pies and toaster pastries.	27.2	24.5	21.7
2.2 Cakes	Cakes, cupcakes, brownies and snack cakes.	39.9	35.9	31.9
2.3 Cookies	Filled and unfilled cookies, sandwich cookies and tea biscuits.	35.6	32.1	28.5
2.4 Dry mixes	Dry mixes for cake, cookies, brownies and muffins.	49.4	44.5	39.6
2.5 Granola and Snack Bars	Granola bars, cereal bars, breakfast bars, yogurt bars and protein bars.	27.1	24.4	21.7
Refrigerated and frozen desserts				
3.1 Refrigerated and frozen desserts	Ice cream, frozen yogurt, gelato, ice pops, sherbet, sorbet, and pre-made pudding and gelatin. Excludes pudding and gelatin dry mixes.	20.7	18.7	16.6
Candies				
4.1 Sweet candies	Chewy, gummy, and hard candies. Includes caramels, nut rolls and seasonal sweet candies.	59.2	53.3	47.4
4.2 Chocolate candies	Chocolate bars, chocolate candies, filled bars and seasonal chocolate.	53.6	48.2	42.9
Breakfast cereals				
5.1 Breakfast cereals	Ready-to-eat cereal, granola and hot cereal.	27.4	24.7	22.0
Condiments and toppings				
6.1 Condiments	Ketchup, barbecue sauce, salad dressing, steak sauce, and Asian sauces.	21.8	19.7	17.5
6.2 Dessert syrups and toppings	Chocolate and caramel syrups, fruit syrups and spreads, chocolate and hazelnut spreads, marshmallow topping, pancake syrup and frosting. Excludes 100% maple syrup.	54.3	48.9	43.4
Yogurt				
7.1 Yogurt ^c	Dairy and non-dairy yogurt and yogurt drinks.	6.5	9.3	7.3

^a Definition of added sugar is consistent with the definition used by the U.S. Food and Drug Administration (FDA).

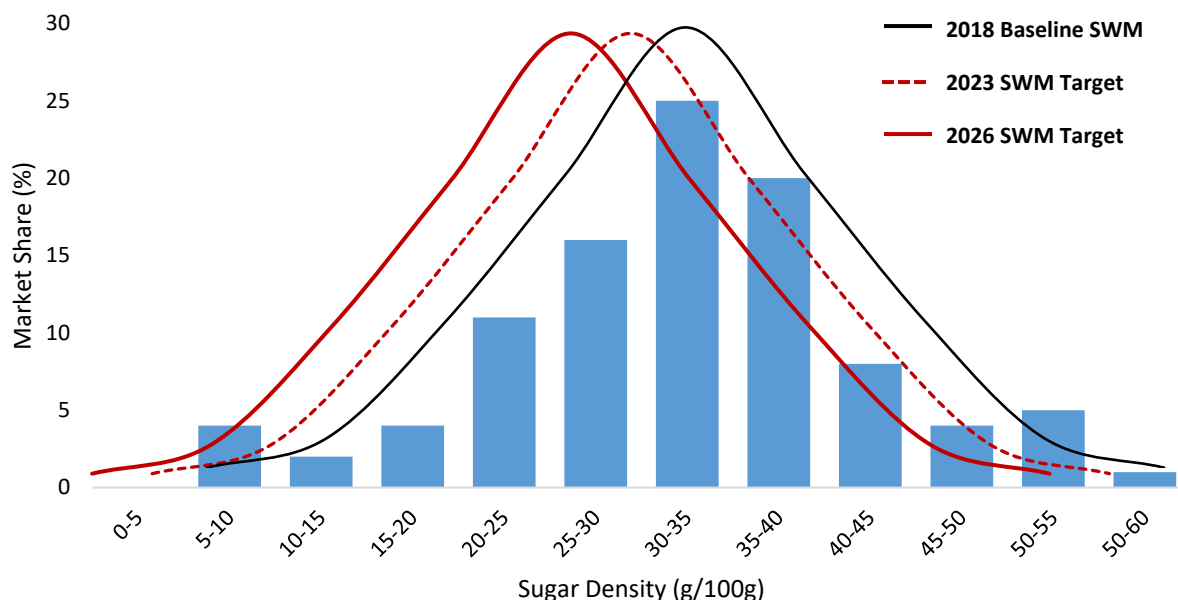
^b Powdered drink mixes and syrups are included using nutrition information as prepared to the manufacturer's instructions.

*2026 SWM reduction for 1.1 Sugary Drinks is 40%

^c Includes the following sugar allowances: 4 g sugar per 100 mL for dairy products in which milk is the first ingredient; 2 g sugar per 100 mL for products in which milk is the second ingredient; 2 g sugar per 100 mL for

plant-based milk substitutes; 4 g sugar per 100 g for dairy yogurt; and 2 g sugar per 100 g for plant-based yogurt substitutes.

Figure 6. Example illustration of NSSRI SWM targets on sugar density distribution by market share (percent of total category sales volume)



Because targets are set using a SWM metric, they are focused on reducing sugar density, not portion size. Changing the portion size will not have an impact on the SWM, even though changes in portion size may have an impact on total exposure to added sugars. The SWM encourages companies to reduce the overall sugar density of the products within a category, with greater emphasis on products that contribute the most to population sugar intake. The use of an SWM target also provides companies with flexibility in how they address the proposed targets. Some of their products can be above the SWM and some can be below (Appendix A). Targets were evaluated for feasibility; in each category there were products sold at the time of target development that were below the SWM targets.

As noted above, Guidance Maximums were set as an additional strategy for sugar reduction. For most categories, the Guidance Maximum targets are set at the 80th (2023) and 60th (2026) percentile of the sales-weighted sugar density distribution of the category at baseline (Figure 7). For sugary drinks, the Guidance Maximums are set at the 80th (2023) and 40th (2026) percentiles. Companies are encouraged to utilize the guidance values for individual products as they introduce or reformulate products (Table 4).

Figure 7. Example illustration of NSSRI Guidance Maximums on sugary density distribution by market share (percent of total category sales volume)

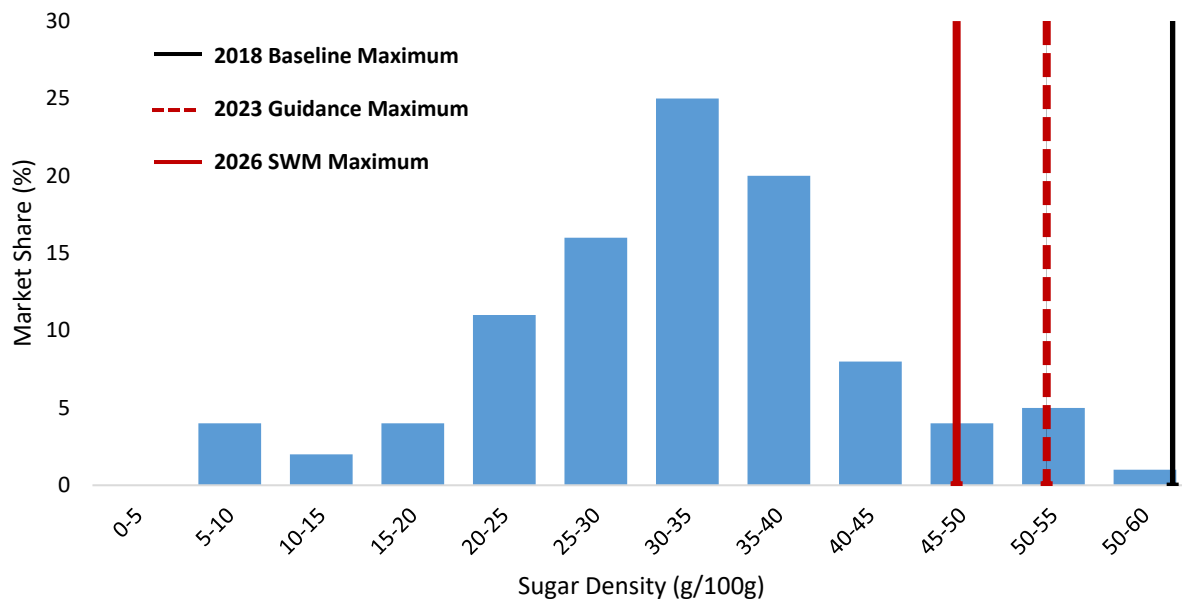


Table 4. Guidance maximums for NSSRI packaged food categories

Packaged Food Category	Category Maximum g sugar per 100 g or 100 mL	
	2023 Guidance Maximum	2026 Guidance Maximum
Drinks ^a		
1.1 Sugary drinks	11.5	8.0
1.2 Sweetened milk ^b	8.7	6.5
1.3 Sweetened milk substitute ^b	4.8	4.2
Grain-based desserts and snack bars		
2.1 Breakfast pastries	32.7	29.9
2.2 Cakes	43.7	42.2
2.3 Cookies	41.2	37.1
2.4 Dry mixes	58.2	50.8
2.5 Granola and Snack Bars	32.1	29.1
Refrigerated and frozen desserts		
3.1 Refrigerated and frozen desserts	23.9	21.5
Candies		
4.1 Sweet candies	71.8	63.8

4.2 Chocolate candies	59.4	53.7
Breakfast cereals		
5.1 Breakfast cereals	34.5	31.2
Condiments and toppings		
6.1 Condiments	35.8	23.5
6.2 Dessert syrups and toppings	59.8	55.9
Yogurt		
7.1 Yogurt ^b	9.3	7.3

^a Powdered drink mixes and syrups are included using nutrition information as prepared to the manufacturer's instructions. ^b Includes the following sugar allowances: 4 g sugar per 100 mL for dairy products in which milk is the first ingredient; 2 g sugar per 100 mL for products in which milk is the second ingredient; 2 g sugar per 100 mL for plant-based milk substitutes; 4 g sugar per 100 g for dairy yogurt; and 2 g sugar per 100 g for plant-based yogurt substitutes. Source: NSSRI Packaged Food Database.

4. Predicted impact of NSSRI

The microsimulation study described previously also assessed the predicted national health impacts and the cost-effectiveness of achieving the NSSRI targets.¹¹¹ The study estimated that achieving the sugar reduction targets nationally could prevent 2.48 million CVD events, 0.49 million CVD deaths, and 0.75 million diabetes cases, and save \$160.88 billion in lifetime (mean simulated follow-up 28.3 years) societal net costs. Modeled health care savings for the government were estimated at \$9.44 billion by year 10 and \$48.80 billion over a lifetime. Further, by the end of year six, the policy was predicted to be cost-effective, and cost-saving by the end of year nine, from both a health care perspective and a societal perspective.

Another study estimated the potential reductions in added sugars intake among children and youth if the NSSRI targets were met nationally (n= 23,348 children aged 2–19 years from NHANES).¹¹² If the 2023 targets were met, mean daily added sugars intake would decrease by 7 percent for children ages 2–5 years (49 g/day to 45.5 g/day), 7 percent for children 6–11 years (74.2 g/day to 69.2 g/day), and 7 percent for children 12–19 years (78.7 g/day to 73.1 g/day). If food companies were to meet the 2026 targets, mean daily added sugars intake would drop by 19 percent for 2–5 y (49 g/day to 39.7 g/day), 20 percent for 6–11 y (74.2 g/day to 59.6 g/day), and 23 percent for 12–19 y (78.7 g/day to 60.3 g/day).

viii. Public Health England's sugar reduction program provides another useful model

1. Overview of Public Health England's sugar reduction program

FDA should also look to lessons learned from Public Health England's (PHE) sugar reduction program. In 2016, the U.K. government released its plan¹¹³ to significantly reduce childhood obesity, noting that in England, "nearly a third of children aged 2 to 15 are overweight or obese, and younger generations are becoming obese at earlier ages and staying obese for longer." The plan directed PHE to lead a broad sugar reduction program to challenge all sectors of the food and beverage industry (including the eating out of the home sector which encompasses restaurants, cafes, pubs, etc.) to reduce added sugars in their products by at least 20 percent by

2020, with a 5 percent reduction in the first year. This recommendation was based, in part, on then-recent dietary surveys in the U.K. that reported that the average sugar intake among children and adolescents was three times higher than the recommended limit of 5 percent of total daily calories (14.7 to 15.6 percent of calories), and two times higher among adults (12.1 percent of calories).¹¹⁴ The agency was directed to advise the government on setting sugar reduction targets per 100 g of product and calorie maximums for specific single serve products, an approach similar to NSSRI's and that is sought in this petition.

2. Development of program categories, SWM sugar guidelines, and calorie and portion size guidelines

PHE's first technical assistance report, published in 2017,¹¹⁵ advises that a 20 percent reduction in sugar could be achieved through several mechanisms, and even specifies which mechanisms are most relevant to each target category. Industry can meet the reduction goals by 1) reformulating products to reduce the amount of sugars, 2) reducing calories and/or portion size of products that are likely to be eaten at one time, and 3) working to shift consumer purchasing towards lower- or no-sugar-added products. Thus, PHE's program emphasizes sugar reduction targets for the food and beverage industry and includes calorie or portion size guidelines for products that are likely to be consumed by an individual in one eating occasion.

To accomplish this, PHE first assessed the SWM and distribution of calories (or weight in grams) for the products most likely to be consumed at one time. Then the size of those products was compared to the typical amounts that people reported consuming in the National Diet and Nutrition Survey. PHE also took into account its Scientific Advisory Committee on Nutrition's recommendations on amounts of calories that should be consumed at different eating occasions. Ultimately, a mix of SWM and maximum calorie or portion size guidelines were introduced based on which mechanism was thought to be most effective for reducing consumption in the category.

The government initially targeted food and beverage products that contributed the greatest amount to children's total sugar intakes: biscuits [cookies], breakfast cereals, cakes, confectionery, ice cream, lollies [popsicles] and sorbets, morning goods (pastries, buns, and waffles), puddings (including pies and tarts), sweet confectionery, sweet spreads and sauces, and yogurt and fromage frais.¹¹⁶ PHE estimated that the program categories (Table 5) covered 50 percent or more of the sugar in children's diets, and that both soft drinks and food categories accounted for 58 percent of all sugar in foods sold for consumption at home.¹¹⁷

Table 5. Public Health England (PHE) initial sugar reduction categories and guidelines

PHE program category and description	Baseline 2015 SWM for total sugar (g sugar per 100 g)	Year 1, 5% SWM reduction guideline (g sugar per 100 g)	Year 5, 20% SWM reduction guideline (g sugar per 100 g)
Biscuits Includes all types of sweet biscuits including cereal bars and toaster pastries (Pop Tarts); gluten free biscuits; two-finger Kit Kats (but all other sizes are excluded)	32.8	31.2	26.2
Breakfast cereals Includes all breakfast cereals, e.g., ready to eat cereals, granola, muesli, porridge oats (Note: An allowance has been made for the amount of sugar coming from dried fruit in breakfast cereals of 10g per 100g)	15.3	14.6	12.3
Cakes Includes all types of cakes, ambient and chilled, including cake bars and slices, American muffins, flapjacks, Swiss rolls.	34.9	33.1	27.9
Chocolate confectionery Includes chocolate bars, filled bars, assortments, carob, diabetic, low calorie and seasonal chocolate	54.6	51.9	43.7
Ice creams, lollies and sorbets Includes all types of ice cream, dairy and non-dairy, choc ices, ice cream desserts e.g., Arctic roll, lollies and sorbets.	23.2	22.1	18.6
Morning goods Includes morning goods such as croissants, crumpets, English muffins, pancakes, buns, teacakes, scones, waffles, Danish pastries, fruit loaves, bagels.	12.5	11.9	10.0
Puddings Includes all types of ambient (including canned), chilled and frozen puddings	18.8	17.9	15.1
Sweet confectionery Includes all sweets. Excludes sugar free sweets and chewing gum.	60.6	57.5	48.4
Sweet spreads and sauces (sub-categories: chocolate spread, peanut butter, dessert toppings/sauces, fruit spreads) Includes chocolate spread, peanut butter, ice cream and dessert sauces/toppings and compotes, jam type spreads that are out of scope of the legislation	Chocolate spread: 54.8	52.0	43.8
	Peanut butter: 4.9	4.7	3.9
	Dessert toppings/sauces: 48.3	45.9	38.7
	Fruit spreads: 43.2	41.1	34.6

Yogurts and fromage frais			
Includes all sweetened dairy yogurt, fromage frais products including non-dairy alternatives (such as soya, goat, sheep products), sugar-sweetened fermented yogurt drinks (Note: An allowance has been made for the amount of naturally occurring sugar in yoghurt and fromage frais of 3.8g lactose per 100g)	12.8	12.3	11.0

The sugar reduction program focused on reducing the levels of total sugars in food and beverage products as added sugars which were not easy to quantify at the time because they were not declared on food labels. However, the main goals of the program were to reduce levels of added sugars and maintain current levels of whole fruit and vegetables in products. Following feedback from stakeholders, PHE updated the framework to include allowances for naturally occurring sugar in yogurt, for dried fruit in breakfast cereals (sugar coated or treated fruit is excluded), and for lactose in milk-based drinks. In 2018, the program expanded to cover two additional categories of milk- and juice-based drinks that were not covered in the soft drinks levy (Table 6).¹¹⁸ The final structure of PHE's program consists of 12 categories of foods and beverages.

Table 6. Public Health England (PHE) additional sugar reduction categories and guidelines

PHE program category and description	Baseline 2017 SWM for total sugar (g sugar per 100 g)	Year 1, 10% SWM reduction guideline (g sugar per 100 mL)	Year 3, 20% SWM reduction guideline (g sugar per 100 mL)
Milk based drinks			
Sub-categories include: cold milk based pre-packaged drinks, coffee and tea powders/syrups/pods, hot chocolate and malt drink powders, pre-packaged flavoured milk substitute drinks, out of home hot milk based drinks)			
	cold milk based pre-packaged drinks: 9.7	9.2	8.8
	coffee and tea powders/syrups/pods: 3.7	3.5	3.3
	hot chocolate and malt drink powders: 6.4	6	5.6
	pre-packaged flavoured milk substitute drink: 7.1	6.6	6.1
	out of home hot milk based drinks: 6.2	6	5.7
Juice based drinks except mono-juice			
Includes blended juice and juice with water combination drinks but excludes juice with added sugar which are included in the soft drinks levy	9.3	8.9 *	–

SWM: Sales-weighted Mean, *The year 1 reduction guideline for juice based drinks except mono-juice is a 5% SWM reduction (g sugar per 100 mL).

Notably, PHE's program does not explicitly include soft drinks, because, although they were identified as the major source of sugar in the diet, the government separately introduced the Soft Drinks Industry Levy aimed at the producers and importers of these products. The levy requires soft drink manufacturers and importers to either reformulate their products or pay a tax based on sugar density (g sugar per 100 mL).¹¹⁹ Drinks that are liable^{**} may be reformulated to contain less than 5 g sugar per 100 mL or otherwise be taxed £0.18 per liter for drinks with total sugars of 5–7.9 g per 100 mL, or £0.24 per liter for drinks with total sugars of ≥ 8 g per 100 mL.^{††} This initiative is related to the sugar reduction program but managed separately by His Majesty's Treasury.¹²⁰ Although sugary drinks were not accounted for in the main sugar reduction program, these products are the top source of added sugars in Americans' diets¹²¹ and would be included in the added sugars reduction guidance proposed here.

3. Impact of the program

The PHE program has been predicted to have significant public health impact if sugar reduction and calorie or portion size targets are achieved. One study found that if the sugar reduction targets were achieved and resulted in the projected decline in sugar consumption across the population, average sugar calories consumed per day would decrease by 7 percent for children 4–10 years, 6 percent for children 11–18 years, and 5 percent for adults.¹²² The modeled effects on BMI predicted decreases in rates of obesity among boys 4–10 years from 10.9 to 9.7 percent, among boys 11–18 years from 13.6 to 13.0 percent, among men 19–80 years from 18.4 to 17.3 percent, and among women 19–80 years from 17.3 to 15.4 percent, with no predicted decline among girls 2–10 or 11–18 years. Of the disease outcomes modeled in the study, the greatest impact was on the predicted incidence of type 2 diabetes, with a reduction of approximately 155,000 cases diagnosed over 10 years. Finally, the analysis found substantial healthcare cost savings of approximately £285.8 million (\$374.4 million where £1 = \$1.31 at the time of the study in 2019) over the 10-year period.

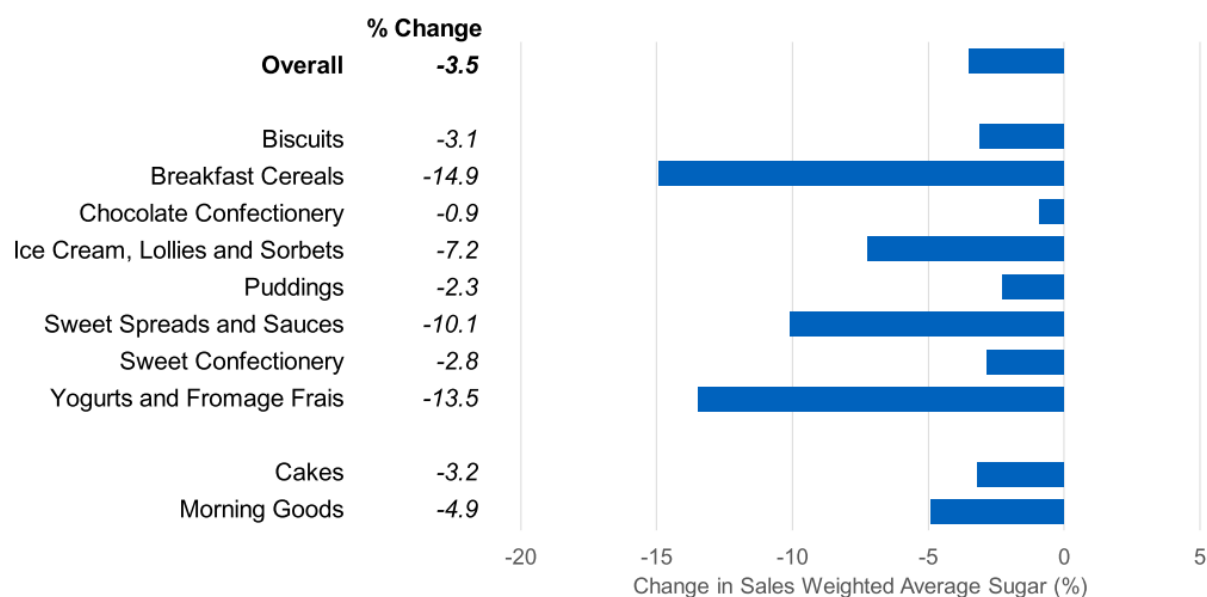
Since this program began, PHE has provided three progress reports that detail the food industry's progress with sugar reduction and the final report from the Office for Health Improvement and Disparities was recently published.¹²³ The report documented a 3.5 percent reduction in the SWM total sugar of retailer- and manufacturer-branded products sold between baseline and year 4 (Figure 8), lower than the estimated 20 percent reduction in the aforementioned modeling study.¹²⁴ Further, the SWM for total sugars decreased in each product category. However, greater progress was achieved in specific product categories, with reductions in percent SWM of 14.9 percent in breakfast cereals, 13.5 percent in yogurts and fromage frais, 10.1 percent in sweet spreads and sauces, 7.2 percent for ice creams, lollies, and sorbets, and 4.9 percent for morning goods compared with their 2015 baselines.¹²⁵ Lower reductions were found in SWM for biscuits

^{**} A drink will be liable for the tax if it meets all of the following criteria: has sugar added during production or anything other than fruit juice, vegetable juice and milk that contains sugar (i.e., honey), contains at least 5 g sugar per 100 mL in its ready to drink or diluted form, is ready to drink or must be diluted with water or mixed with crushed ice or processed to make crushed ice or mixed with carbon dioxide or a combination of these, is packaged so it's ready to drink or be diluted, and has a content of 1.2% alcohol by volume or less.

^{††} Based on a conversion rate of £1 to \$1.21 on January 11, 2023, £0.18 and £0.24 are equivalent to \$0.22 and \$0.29, respectively.

(3.1 percent), cakes (baseline 2017, 3.2 percent), chocolate confectionery (0.9 percent), puddings (2.3 percent), and sweet confectionery (2.8 percent).

Figure 8. Percentage change in sales weighted average total sugar (g/100g) by category between baseline (2015) and year 4 (2020) for U.K. retailers and manufacturer branded products

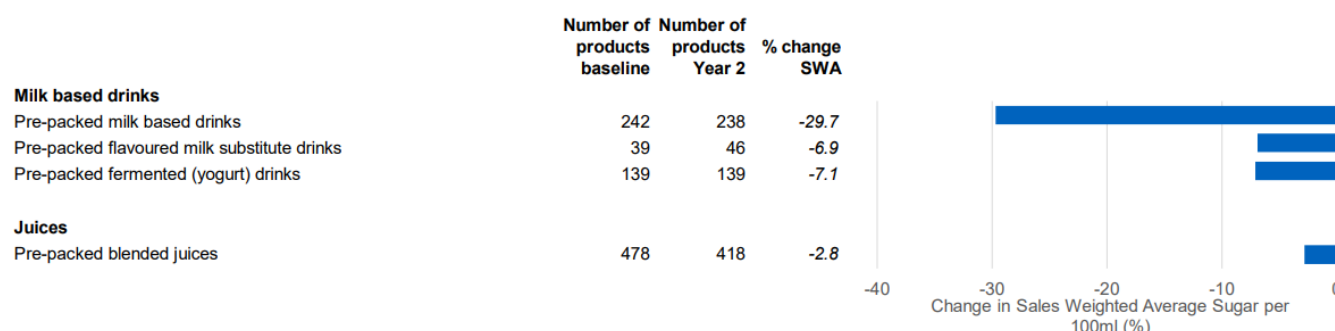


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Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

Progress was also observed in the SWM for sugars in the retailer- and manufacturer-branded products in milk-based drinks sub-categories and in pre-packaged juice products sold from baseline (2017) to year two (2020) (Figure 9).¹²⁶ The greatest SWM reduction was observed in pre-packed milk-based drinks (29.7 percent) followed by pre-packed fermented yogurt drinks (7.1 percent), pre-packed flavoured milk substitute drinks (6.9 percent), and pre-packed blended juices (2.8 percent).

Figure 9. Percentage change in sales weighted average total sugar (g/100g) by juice and milk based drinks category between baseline (2017) and year 2 (2020) for U.K. retailers and manufacturer branded products



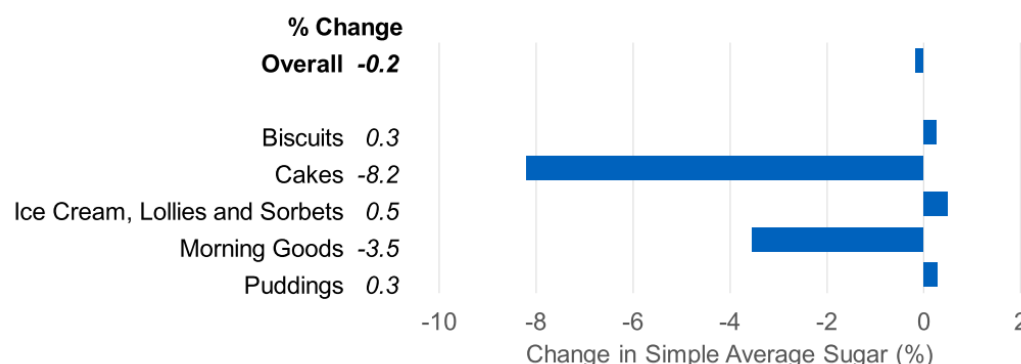
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 Note: The percentage change is based on added sugar rather than total sugar for the milk-based drink categories, meaning the sugar allowance values are removed from both the baseline and Year 2 total sugar values before the percentage change is calculated.

The report found an overall 7.1 percent increase (not accounting for changes in population size) in the tons of sugar sold from all retailer- and manufacturer-branded product categories and an 8.1 percent increase in total sales volume in the retailer- and manufacturer-branded product categories from baseline to year four (2015–2020).¹²⁷ Tons of sugar sold increased by 26.9 percent for chocolate confectionery and 24.5 percent for sweet spreads and sauces, whereas tons of sugar sold decreased by 18.4 percent for yogurt and fromage frais, 11 percent for breakfast cereals, and 7.5 percent for puddings. The report explained that the overall increase in sugar and total volume sales was partly attributable to food system disruptions in the beginning of the COVID-19 pandemic that resulted in increased purchasing of food and beverages for consumption at home.

In the out of home sector products, there was a smaller overall 0.2 percent reduction in average sugar^{††} per 100 g from 2017 to 2020 (Figure 10).¹²⁸ In this sector, average sugar concentration decreased by 8.2 percent in cakes and 3.5 percent in morning goods categories, and increased by 0.3 percent, 0.3 percent, and 0.5 percent in biscuits; puddings; and ice creams, lollies and sorbets categories, respectively. The changes from baseline for breakfast cereals, chocolate confectionery, sweet confectionery, and yogurt and fromage frais categories could not be calculated due to the lack of comparable data from different years in this sector.

^{††} According to the report, simple averages were used for the eating out of home sector as the available data did not match purchases with nutrition information at a product level.

Figure 10. Simple average total sugar (g per 100 g) by category for year 1 (2017) and year 4 (2020) for products in the eating out of home sector



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 Note: Data for breakfast cereals, chocolate confectionery, sweet confectionery and yogurts and fromage frais has been excluded as the number of products collected for 2020 was too small to provide robust analysis and comparisons with 2017.

While these results across all sectors may seem modest, the Office for Health Improvement and Disparities concluded that the program demonstrates, “that a voluntary sugar reduction and product reformulation programme can deliver progress, change and innovation.”¹²⁹ The program report also cites a prior increasing trend in the sales of some higher sugar products that continued during the COVID-19 pandemic. Top-selling products in these categories influenced the overall SWM for the category. Notably, the results in the United Kingdom were obtained over just five years, and the guidance proposed here would facilitate added sugars reduction over ten years, allowing even more time for industry reformulations to reach set targets.

In 2021, the WHO Regional Office for Europe announced it would launch the Sugar and Calorie Reduction Network for the European region’s member states to facilitate the implementation and evaluation of similar sugar and calorie reduction programs and encourage product reformulation.¹³⁰ The effort was set to launch in Spring 2022, but has yet to be released, and the WHO has chosen the United Kingdom to lead the network due to its expertise in domestic sugar and calorie reduction.¹³¹

ix. Recommendations for FDA

1. FDA should develop voluntary added sugars reduction guidance for the food and beverage industry

a. Recommended framework

Added sugars reduction targets would be an appropriate means to address the need for added sugars reduction in key categories within the United States food system. FDA has demonstrated that the development of nutrient-reduction targets in the food supply is appropriate and feasible for another nutrient of concern, sodium. The purpose of FDA’s 2.5-year guidance for industry on

sodium reduction is, “to help Americans reduce average sodium intake to 3,000 mg/day by encouraging food manufacturers, restaurants, and food service operations to gradually reduce sodium in foods over time,”¹³² a rationale that applies equally for added sugars. The guidance is essential for defining and measuring progress towards sodium reduction across the food supply. We therefore urge FDA to develop a parallel voluntary added sugars reduction guidance for the food industry.

As with FDA’s guidance on sodium reduction, a gradual approach to reducing added sugars in the food supply will provide flexibility for food and beverage manufacturers. FDA should develop 2.5-year, 5-year, and 10-year targets for added sugars reduction and release comprehensive guidance that outlines these targets in full. The goal of this guidance is to facilitate added sugars reduction across the food supply to lower average population intake of added sugars to the DGA-recommended level of less than 10 percent of daily calories over 10 years. The purpose of multi-year guidance is to encourage reformulation efforts over time, enhance accountability, and facilitate acceptance by the food and beverage industry.

Notably, we request a 5-year target because the interval between the proposed 2.5- and 10-year targets in FDA’s proposed sodium guidance was too long and irregularly spaced to maintain momentum. The guidance should address processed, packaged, and prepared foods and beverages to ensure comprehensive added sugars reduction across these sectors of the food industry. Further, it is critical that multi-year guidance is introduced from the beginning, so that manufacturers can plan product development and reformulation efforts to achieve meaningful and sustainable long-term reductions in added sugars.

The approach to added sugars reduction outlined below shares some similarities with the NSSRI and U.K. policies discussed in previous sections of this petition (Table 7). The proposed added sugars reduction guidance is most similar to FDA’s voluntary sodium reduction guidance as it includes the same framework of SWM and upper bound targets, and targets are set for categories individually rather than applying a flat percentage reduction. However, the NSSRI, which addresses total sugar content may also inform the development of food and beverage target categories for added sugars reduction. Further, the U.K. sugar reduction program provides a model for transparency in monitoring progress over time and demonstrates that voluntary guidance can result in meaningful reduction in sugar content in targeted food and beverage categories.

Table 7. Comparison of select nutrient-reduction policies

	U.K. sugar reduction program (2015)	National Salt and Sugar Reduction Initiative (2021)	FDA's voluntary sodium reduction guidance (2021)	Proposed added sugars reduction guidance (2023)
Overall reduction goal	Challenge all sectors of food industry to reduce added sugars in food and beverages by 20% in 5 years	Promote gradual, achievable and meaningful reductions in sugar content in packaged foods and beverages by 10% in 2023 and 20% in 2026*	Facilitate sodium reduction across the food supply to lower average population intake of sodium to 3,000 mg/day over 2.5 years (and to <2,300 mg/day over 10 years)	Facilitate added sugars reduction across the food supply to lower average population intake of added sugars to <10% calories over 10 years
Target years	2015–2020	2021–2026	2021–2031	2023–2033
Voluntary or mandatory?	Voluntary	Voluntary	Voluntary	Voluntary
Targeted sectors	Food and beverage retailers, manufacturers, and eating out of home sector	Processed and packaged food and beverage industry	Processed, packaged, and prepared food and beverage industry	Processed and packaged food and beverage industry. Include prepared foods when regulations for declaring added sugars information in restaurants are established.
Goal framework	Sales-weighted mean reduction targets (e.g., g/100 g or g/ 100 mL), calorie or portion size guidelines, and calorie maximums for single serve portion guidelines for each category	Sales-weighted mean reduction targets and guidance maximum concentrations (e.g., g/100 g or g/ 100 mL) for each category	Sales-weighted mean reduction targets and upper bound concentrations (e.g., g/100 g or g/ 100 mL) for each category	Sales-weighted mean reduction targets and upper bound concentrations (e.g., g/100 g or g/ 100 mL) for each category
Coverage of target categories	Food and beverage categories contributing to 50% or more of sugar in children's diets	Food and beverage categories accounting for 70% of U.S. child and youth added sugars intake**	Food and beverage categories contributing to 90% of population sodium intake	Food and beverage categories contributing to 90% of population added sugars intake
Includes sugary drinks?	Only some included, reformulation is encouraged	Included, sugary drinks have a greater percentage reduction target	Not included, not relevant to the sodium guidance	Included

	primarily via the Soft Drinks Levy for manufacturers and importers of sugary drinks	compared to other categories (40% reduction in 2026)		
Monitoring progress	Four progress reports of in-depth analysis of sugar levels in products across food sectors published from 2017–2022	Progress towards 2023 and 2026 targets to be tracked	Stated intention to monitor progress, but no clear plan released	Develop a public database of products at baseline and update it at 2.5-, 5-, 7.5-, and 10-year marks; evaluate industry progress every 2.5 years in public reports

* For sugary drinks, targets are based on a 40 percent reduction in 2026.

**See Vercammen KA, et al. *J Acad Nutr Diet.* 2022;122(8):1455-1464.e5

b. Recommendations for development of target categories

The process that FDA used to create food categories for specific sodium reduction goals should also be applied to the development of food and beverage categories for added sugars reduction goals. In the case of sodium, FDA reviewed relevant food categorization systems used in the United States and other countries such as the United Kingdom and Canada and, using NHANES, identified significant food sources of sodium in the United States.¹³³ After FDA developed an initial category structure, it mapped the categories to the USDA’s Food and Nutrient Database for Dietary Studies (FNDDS) which provides the nutrient profiles for every food and beverage reported in the NHANES dietary intake study What We Eat in America (WWEIA).¹³⁴ The agency then organized food categories based on their contributions to population intake in NHANES. Specifically, FDA analyzed mean sodium intake from each category and the percentage contribution of the categories to total sodium intake. The categories were then ranked in descending order by their percent contribution to sodium intake. FDA selected the categories that comprised the top 90 percent of sodium contribution (155 categories) and designated the categories in the bottom 10 percent of sodium contribution (80 categories) as non-target categories. FDA justified this approach by reasoning that non-target categories did not contribute meaningfully to overall sodium intake because they were consumed rarely across the population or accounted for little dietary sodium relative to the other food categories.

This process should also be applied to determine target and non-target categories for added sugars reduction. Targets should be imposed on only those top categories that together comprise 90 percent of added sugars exposure. However, as discussed earlier in the petition, approximately 80 percent of the population’s added sugars intake may be attributed to just 10 major food categories; the top 10 food sources of sodium account for only 40 percent of population sodium intake.¹³⁵ Therefore, since dietary sources of added sugars are concentrated in a relatively smaller number of food categories than sodium and so equivalent reductions can be accomplished by including a smaller fraction of products, FDA should consider whether

coverage should increase to the top categories that comprise 95 percent of added sugars exposure.

FDA also considered other factors in the development of food categories for sodium reduction including the functions of sodium-containing ingredients, similar sodium concentrations between products in a category, technical potential for reduction in sodium content, compatibility with existing industry and regulatory categories, availability of alternatives, and feedback based on public comments to the draft guidance. The same considerations are relevant for developing food and beverage categories for added sugars reduction. FDA should also review the structure of the NSSRI categories which may be particularly useful as NYC DOHMH conducted a related analysis of the top food and beverage sources of added sugars intake in the United States. Finally, FDA should strongly consider the compatibility of the final target categories with the WWEIA Food Categories and provide a crosswalk of target categories with WWEIA Food Categories to facilitate monitoring and evaluation of progress in added sugars reduction in each category compared to population intake.

c. Baseline evaluation and development of target SWM and upper bound added sugars concentrations

Once the structure of target categories is finalized, FDA should follow the same process used in its sodium guidance for calculating baseline SWM for added sugars density across the target categories. The SWM is a measurement of added sugars content calculated by weighting individual products by volume sales given as the average added sugars content in grams per 100 grams, or grams per 100 milliliters. A SWM gives more weight to products that sell more within a category, and is a reference value for a category, not individual products. To determine the baseline, FDA calculated the SWM sodium concentration for all products in the top 80 percent of sales within a category, excluding those in the bottom 20 percent of sales from analysis. FDA reported that in many product categories, 10 percent or less of the total number of products comprised the top 80 percent of sales in the category, and that the products in the bottom 20 percent of sales in each category comprised many low-selling products, often with missing nutrition label data. The baseline values will allow FDA and the public to evaluate changes in added sugars density over time.

After calculating the baseline SWM sodium concentrations for the categories, FDA assigned each a SWM sodium concentration target and an upper bound concentration. FDA should replicate this process and set both SWM and upper bound concentration targets for the short-, mid- and long-term goals.

While FDA considered other approaches to setting sodium concentration goals, such as an unweighted target mean concentration and a fixed percent reduction, the issues highlighted in the draft sodium guidance (e.g., an unweighted target mean may not accurately reflect changes in consumer consumption patterns; a fixed percentage reduction assumes similar potential for reduction in all products in a category regardless of baseline concentration or technical feasibility, etc.)¹³⁶ for those alternatives also generally apply to added sugars reduction goals.

Thus, the combination approach of setting both SWM and upper bound concentration targets is appropriate to replicate in the development of added sugars reduction targets.

In developing the long-term (10-year) SWM concentration targets for sodium, FDA started by modeling the effects of a 40 percent reduction of sodium intake from target categories on population level sodium intake. The goal was to assess whether a 40 percent reduction would be sufficient to lower average population intake of sodium (approximately 3,460 mg/day at the time) to less than 2,300 mg/day (the Chronic Disease Risk Reduction [CDRR] level for adult intake). The modeled scenario assumed that all members of the food industry would voluntarily adopt long-term SWM targets and that the SWM for all target categories would be reduced from baseline by 40 percent by 10 years. The agency found that the modeled 40 percent reduction of sodium intake from target categories would result in a 33.5 percent decrease in mean population sodium intake (to about 2,300 mg/day). FDA determined that 40 percent could be a good starting point for assigning long-term reduction targets for each category and developed the draft long-term targets in the context of a 30–40 percent reduction of population sodium intake.¹³⁷

Following the preliminary modeling, FDA made category-specific adjustments to the initial targets to account for factors such as technical feasibility, safety, regulatory requirements, and equity. In the draft guidance, FDA estimated that short-term (2-year) targets may result in a 15 percent reduction of population sodium intake and would not require major technical innovations or raise safety, functionality, or taste concerns.

Following this same logic, the goal should be to set short-, mid-, and long-term SWM targets that facilitate reduction of population level added sugars intake to align with federal dietary guidance. Currently, added sugars account for an average of about 14 percent of total calories per day in the U.S. population aged two and older.^{138,139} As the 2020 DGA recommend individuals consume no more than 10 percent of total calories per day from added sugars, FDA should conduct exploratory modeling studies to determine what percentage reduction of added sugars intake from the target categories would be sufficient to lower average population intake of added sugars to less than 10 percent daily calories by the time of the final target. If population added sugars intake is lowered from 14 percent to 9–10 percent of calories from added sugars per day at 10 years, this would correspond to a decrease of approximately 29–36 percent reduction of added sugars intake from target categories. Therefore, FDA should consider starting with modeled reductions of about 29–36 percent reduction of added sugars intake from target categories. The result of this modeling could inform or define the short-, mid-, or long-term SWM targets for added sugars concentrations.

The overall percentage reduction of added sugars intake from target categories (29–36 percent) needed to meet DGA recommended intake levels is comparable to the overall percentage reduction of sodium intake from target categories (34 percent) that was needed to meet the CDRR level for adult intake. However, as added sugars are not intrinsic to foods and beverages, and their functions in foods may be less essential than the functions of added sodium, there may be even greater opportunity for the food and beverage industry to meet added sugars reduction targets due to enhanced technical feasibility to reduce the amount of added sugars in their products over time.

2. FDA should create and maintain a public online database of all products included in the targeted food categories

FDA should closely monitor changes in the food supply over time with reference to the target means and upper bounds for each category. At baseline and the 2.5-, 5-, 7.5- and 10-year marks, the agency should identify and publish a database of products within the subset of categories that represent the largest contributors to added sugars intake and that together account for the top 80 percent of sales within each food and beverage target category. FDA does not currently maintain such a public database to facilitate monitoring and evaluation of industry progress towards the voluntary sodium reduction targets (but should, as CSPI petitioned recently¹⁴⁰). And while NSSRI does maintain a product-specific database for evaluation, it is not public. Thus, the inclusion of the public database for monitoring industry progress towards added sugars reduction targets would be a novel addition to this program. The database would sort product information by target category, and provide information on each product's brand, name, package size, serving size, ingredient list, along with its Nutrition Facts label content and other relevant product-level details. The database should be publicly accessible on the agency's website and in a format that would allow members of the public to easily download, search and sort information, identify products that exceed the voluntary targets, and allow for comparison of overall categories against the targets. The database will serve to motivate companies to reformulate and to thus appear favorable in comparison to their competitors within a category. It will increase the transparency of monitoring and evaluation efforts and will provide additional metrics for measuring progress over time.

As noted above, there is potential for undesirable substitutions with low- and no-calorie sweeteners and certain bulking agents. FDA should therefore monitor their prevalence within each category and evaluate related trends over time.

3. FDA should provide interim progress reports to the public evaluating industry compliance with the targets

The agency should evaluate progress throughout the implementation period and publish progress reports through its website at the 2.5-, 5-, 7.5-, and 10-year marks. The progress reports should evaluate progress towards the SWM targets and the extent to which products within the top 80 percent of sales in all target categories meet or exceed the upper bound added sugars concentration for the category. The results of the evaluation will demonstrate which food and beverage target categories are on track for meeting the reduction goals. In addition to the technical progress reports, FDA should also develop and publish corresponding summary reports that are written for a general audience. For an example of such a report, FDA can refer to PHE's "layman's summary" for sugar reduction and wider reformulation, which combines infographics and a narrative summary on the progress of sugar reduction.¹⁴¹

FDA should also monitor products in non-target categories for their relative contribution to population added sugars intake and overall concentration of added sugars, as their contributions may increase over time and warrant inclusion in the reduction guidance.

4. FDA's added sugars reduction guidance should also include prepared foods

Ideally, FDA's added sugars reduction guidance would also include reduction targets for those prepared foods and beverages that contribute most to overall added sugars intake, in addition to processed and packaged foods and beverages. In the voluntary sodium reduction guidance, FDA evaluated baseline concentrations of sodium in restaurant foods across the target categories from the largest national and regional restaurant chains. FDA captured only menu items with added sodium and used total sales of each chain as a proxy value to calculate SWM sodium concentrations for each category.¹⁴² In the final guidance, FDA released SWM and upper bound sodium targets for both packaged and restaurant food categories. Similar added sugars reduction guidance that addresses the categories of restaurant foods and beverages that contribute most to overall added sugars intake would ensure a comprehensive approach to encouraging added sugars reduction across the food supply.

However, added sugars are not required to be reported by restaurants at this time, although CSPI has separately requested that FDA update its rules to require such information to be disclosed by restaurants.^{143, 144} This makes development of restaurant standards for added sugars impossible at present. In the meantime, one action the FDA can consider is evaluating the baseline total sugars content across restaurant food categories and developing total sugars reduction targets for restaurant foods and beverages that are highest in added sugars. FDA should consider updating and utilizing total sugars information from the MenuStat database, which is comprised of nutrition information from the largest 100 restaurant chains in the U.S., as ranked by Nation's Restaurant News.¹⁴⁵

C. Statement of Legal Grounds

i. FDA has the legal authority to set voluntary added sugars targets and maintain a public database

The FDA may issue voluntary guidance pursuant to its general statutory authority to develop guidance documents.¹⁴⁶ This was the authority FDA relied on in October 2021, when the agency issued a final guidance for industry outlining voluntary sodium reduction goals.¹⁴⁷ FDA can create similar voluntary reduction goals concerning added sugars.

With regard to the public database, the agency can rely on existing food labeling data available via USDA's FoodData Central. Information in these databases is not confidential and can be collected and reported under the FDA's general authority to conduct and publish the results of its investigations.¹⁴⁸ And, if needed, FDA can purchase additional food labeling data from private firms such as Nielsen. The agency can pursue agreements with companies providing sales data to ensure protection of confidential commercial information, if necessary. For example, such agreements could allow private firms to report SWM data without disclosing the underlying sales data.

III. Conclusion

FDA should build on the momentum of the voluntary sodium reduction targets and provide similar guidance on added sugars reduction targets to create a healthier food supply and reduce the burden of diet-related chronic disease in the United States. Added sugars reduction is warranted given that the United States food supply is dominated by foods and beverages that are high in added sugars and contribute to excessive population intake of added sugars. Development of such guidance is feasible given the success of similar sugar-reduction efforts like the NSSRI and those in other countries. The Biden-Harris Administration's National Strategy on Hunger, Nutrition, and Health FDA acknowledged voluntary targets as a potential approach to reducing added sugars in the food supply; this petition is consistent with that proposal.

IV. Environmental Impact

Under 21 C.F.R. § 10.30(3), petitioners must provide an environmental impact assessment or claim a categorical exclusion from such a requirement. The action requested herein is subject to a categorical exclusion under 21 C.F.R. §§ 25.30(h) (categorical exclusion for issuance of guidance documents), and therefore does not require the preparation of an environmental assessment. Further, the undersigned believe that the action requested in this petition would have no significant environmental impact.

V. Economic Impact

Under 21 C.F.R. § 10.30(3), upon request of the Commissioner following review of the petition, petitioners must submit “a statement of the effect of requested action on (1) Cost (and price) increases to industry, government, and consumers; (2) productivity of wage earners, businesses, or government; (3) competition; (4) supplies of important materials, products, or services; (5) employment; and (6) energy supply or demand.”

The Commissioner has not requested a statement of the economic impact of the requested action in this instance (nor are such requests customary following submission of Citizen's Petitions). However, the petitioners are providing below a brief analysis because we believe that, while this petition will result in some cost increases to industry, government, and consumers, one of the factors identified in 21 C.F.R. § 10.30(3), the benefits will outweigh the costs.

While industry will incur reformulation costs, studies modeling the effects of previous food labeling and reformulation efforts have found that the benefits outweighed the costs. A microsimulation study modeling costs and benefits of implementing the NSSRI Voluntary Sugar Reduction Targets nationally found that, although industry reformulation would cost \$23 billion, formal health care cost savings would be \$27.3 billion in 10 years and \$141.1 billion over a lifetime.¹⁴⁹ The findings therefore suggest that the cost savings produced by establishing voluntary added sugars targets would likely outweigh the costs. The system of progressively restrictive targets provides built-in “warnings” for companies about the timeline for adherence.

Referring to its short-term sodium targets, FDA noted that they are “intended to be feasible using existing technologies and are within the range of currently available top-selling commercial

products.”¹⁵⁰ Developing the short-term added sugars reduction targets based on existing technology and the range of currently available top-selling products will similarly ease the burden on industry.

The costs of relabeling to reflect any reformulations will be mitigated because this action does not require additional data collection by industry. Companies already know the amount of added sugars in their products and have established methods for calculating added sugars on the Nutrition Facts label to comply with existing labeling requirements. Major food producers frequently redesign their labels, often employing outside services,¹⁵¹ and are therefore unlikely to be heavily burdened by adding or removing such a label and would therefore be unlikely to significantly affect price, employment, or the other factors identified in the economic impact statement.

VI. Certification

The undersigned certify, that, to their best knowledge and belief, this petition includes all information and views on which the petition relies, and that it includes representative data and information known to the petitioners that are unfavorable to the petition. Correspondence related to the petition should be directed to Alla Hill at ahill@cspinet.org.

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VII. Appendices

- A. National Salt and Sugar Reduction Initiative, Questions & Answers Based on Public Comment
- B. National Salt and Sugar Reduction Initiative, Target Overview
- C. National Salt and Sugar Reduction Initiative, Partnership List
- D. National Salt and Sugar Reduction Initiative, Summary of Key Industry Comments and Responses Regarding the NSSRI Preliminary Sugar Reduction Targets
- E. National Salt and Sugar Reduction Initiative, Glossary

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NATIONAL SALT AND SUGAR REDUCTION INITIATIVE (NSSRI)

Questions & Answers Based on Public Comment

Updated February 24, 2021

NSSRI Framework

1. Is this a New York City initiative or a national one?

This is a national initiative. The National Salt and Sugar Reduction Initiative (NSSRI) is a partnership of over 100 state and local health authorities and national health organizations from across the country, convened by the New York City Department of Health and Mental Hygiene (NYC Health Department) to encourage voluntary corporate commitments to sugar and salt reduction targets.

2. Is the initiative focused on salt, sugar or both?

The initiative focuses on both salt and sugar reduction. When the initiative launched in 2009, it was the National Salt Reduction Initiative (NSRI) and the partners focused on setting and calling for the food industry to meet sodium reduction targets. The Food and Drug Administration (FDA) is finalizing sodium guidance that was informed by the partnership's work on sodium reduction. Companies that committed to meeting the sodium targets are already well positioned to meet FDA guidance. In 2018, the partnership was updated to include a new goal of reducing sugar in the packaged food and beverage supply.

3. How will reducing sugar in packaged foods affect other ingredients?

Reducing sugar in packaged foods will not necessarily affect other ingredients. The NSSRI encourages food companies to reduce sugar in food without replacing it with other unhealthy ingredients such as saturated fat, sodium or refined carbohydrates. During the salt reduction phase of the initiative, reductions in calories and sodium occurred in tandem, suggesting that manufacturers reformulated for more than one health goal at the same time. In addition to monitoring salt and sugar reduction over time, the NSSRI will monitor other nutrients, such as fat and calories, over time.

4. How will companies be recognized for their work?

Companies may commit to meeting the sales-weighted mean (SWM) target by 2023 and/or 2026 in a category. The SWM is the average sugar density within a category, weighted by product sales. Companies meet the target by demonstrating that the SWM sugar density of all products in a specific category is at or below the target by the end of the target year. For companies that commit to meeting at least one SWM target, the NSSRI will also recognize past sugar reduction efforts or complementary sugar reduction strategies (such as switching consumers to unsweetened products or portion size reduction).

Voluntary Sugar Reduction Targets

1. Why is it important to reduce added sugar intake?

Added sugars contribute calories but few essential nutrients. Research shows that consuming added sugars is associated with increased risk of excess weight, type 2 diabetes, hypertension, stroke, heart disease and cavities. In children, research shows a link between consumption of added sugars in sugary drinks and higher body mass index (BMI). Most of the added sugar in the U.S. diet is not added by individuals at home. Sugar is widespread in the national food supply. Currently, 68% of packaged foods and beverages purchased in the U.S. contain added sugars, making it difficult for individuals to reduce their sugar consumption.

The current public health landscape demonstrates that diet remains critical, even during a public health emergency like COVID-19. Diet-related health conditions such as diabetes and heart disease,

which can increase the risk of severe illness from COVID-19, are important to address right now. To improve public health, we must change manufacturing practices and the broader food environment to create a food supply with fewer added sugars.

2. How does the NSSRI set its sugar reduction targets?

First, we defined the categories of food and beverages that contribute to sugar intake in the U.S. population. For those categories, we merged Nielsen sales data with nutrition information from Label Insight and manufacturer websites by Universal Product Code to create the NSSRI Packaged Food Database. For each category, we calculated the SWM and distribution in grams (g) of sugar per 100 g of food or 100 milliliters of beverage for the products that are in the top 80% of sales volume. We set preliminary reduction targets based on a percentage reduction from the SWM. For most categories, 2023 targets were set at a 10% reduction from baseline SWM and 2026 targets were set at a 20% reduction. The food and beverage industry was invited to provide two rounds of feedback on the preliminary categories and targets to help refine the category definitions and to help the NSSRI set gradual, achievable and meaningful targets for each category.

3. Are the targets voluntary?

Yes, the targets are voluntary. When companies make a voluntary commitment to a target, they help create a healthier food supply, improving the public's health. The public health authorities and organizations that make up the NSSRI partnership are joining together to put forth a single set of transparent targets to guide the food and beverage industry, as well as to measure and recognize the industry's progress toward meaningful, achievable goals.

4. Are the targets for total sugars or added sugars?

Targets are based on total sugar, consistent with the approach taken in the United Kingdom. In most categories the total sugar content is equivalent to the amount of added sugars because the products do not contain naturally occurring sugars. The exception is for products containing milk, fruit, nuts or legumes, which also contain some natural sugars. We have carefully reviewed products with these ingredients and developed an allowance for natural sugar in products containing milk. We will monitor added sugar content, by product and by category, when available on all Nutrition Facts Labels (2021).

5. Will reducing sugar affect the taste of foods?

Companies are experts in reformulating products, and many consumers are unaware of stealth changes. Targets were set at levels already met by similar products on the market, demonstrating feasibility.

6. Why are the food and beverage categories so broad?

The 15 food and beverage categories are broad to provide industry with flexibility. The broad categories allow industry to take the approach to sugar reduction that works best with their portfolio of products within a category. This could include reformulation, removal or higher sugar products, introducing new lower sugar products, or shifting sales of existing products which will influence the SWM.

7. How do the allowances for natural sugar work?

The allowances account for naturally occurring sugars, primarily lactose, in dairy milk and yogurt. A smaller allowance has been made for sugars in plant-based milk substitutes and yogurts. To develop the allowances, we reviewed peer-reviewed literature, analyzed data in the NSSRI Packaged Food Database, reviewed the USDA Food Composition Database, and spoke with content experts.

Category	Product Type	Sugar Allowance
1.2 Sweetened milk	Dairy milk is the first ingredient	4 g/100 mL
	Dairy milk is the second ingredient	2 g/100 mL
1.3 Sweetened milk substitute	Plant-based milk substitute	2 g/100 mL
7.1 Yogurt	Dairy yogurt	4 g/100 g
	Plant-based yogurt	2 g/100 g

The allowance is subtracted from the total sugar density of each product. For example, in the sweetened milk category, a chocolate milk (where milk is the first ingredient) with a total sugar density of 7.6 g/100 mL has an adjusted sugar density of 3.6 g/100 mL ($7.6-4=3.6$); a sweetened coffee beverage (where milk is the second ingredient) with a total sugar density of 5.9 g/100 mL has an adjusted sugar density of 3.9 g/100 mL ($5.9-2=3.9$). The adjusted values were used to calculate the baseline SWM and targets in these three categories.

Packaged Food Category	Category Description Excludes products with 0g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 mL or 100 g	Sales-Weighted Mean Targets g sugar per 100 mL or 100 g	
			2023	2026
1.2 Sweetened milk	Drinks containing milk as a first or second ingredient.	6.0	5.4	4.8
1.3 Sweetened milk substitute	Flavored drinks containing milk substitute as a first or second ingredient.	3.6	3.3	2.9
7.1 Yogurt	Dairy and non-dairy yogurt and yogurt drinks.	6.5	5.9	5.2

8. How do companies meet the sales-weighted mean target?

Companies can shift their SWM within a category by promoting sales of certain products, reformulating or introducing new, less sugar dense products. The SWM target is the average sugar density within a packaged food category, weighted by product sales. The purpose of the SWM target is to encourage companies to reduce the overall sugar density of the products within a category, with greater emphasis on products that contribute the most to population sugar intake. The use of a SWM target provides companies with flexibility in how they meet proposed targets. Some of their products can be above the SWM and some can be below.

9. Are there other things companies can do to work toward the goal of sugar reduction?

Companies are encouraged to employ complementary strategies to reduce availability of added sugar in the food supply and reduce added sugar consumption. This may include:

- Encouraging consumers to switch to plain versions of products, or unsweetened alternative products, that do not contain low and no calorie sweeteners. Examples include plain yogurt, seltzer, and unsweetened cereals.
- Decreasing portion sizes for single-serving products.
- Meeting the Guidance Maximums, which are suggested upper limits for sugar density of products.

The database will be used to track progress against the 2023 and 2026 SWM targets as well as the strategies listed above.

10. How do the Guidance Maximums work?

Guidance Maximums are the suggested upper limits for sugar density of products in each category. Companies do not need to commit to meeting the maximums, but they are encouraged to use the

guidance values in assessing their overall product portfolio, including for new product development and product reformulation.

11. Is there evidence that the NSSRI will work to reduce sugar intake?

There is evidence that suggests this model works. Based on a successful model on sodium in the United Kingdom, the NSSRI worked with the food industry to set voluntary sodium reduction targets for 62 packaged food and 25 restaurant food categories for 2012 and 2014. Using national nutrition and sales data, a 6.8% reduction in sodium levels in top-selling packaged foods between 2009 and 2014 was observed. Further, the FDA subsequently adopted this voluntary target-setting approach for sodium. The UK recently extended this framework to sugar. They released [results for the first three years](#) of their program, in which they observed an overall 3% decrease in sugar, with larger decreases (13%) in the yogurt and breakfast cereals categories.

12. How will you know if the initiative succeeds?

The NYC Health Department created the NSSRI Packaged Food Database to monitor nutrient and ingredient content of packaged foods over time, as well as to inform target setting and to assess overall and individual company progress toward the NSSRI targets. The database will be updated to track progress against the 2023 and 2026 SWM targets and Guidance Maximums, in addition to some of the complementary strategies industry may employ. Progress can be assessed at the company level, category level, or across all 15 categories. Companies have the option of publicly committing to sugar reduction targets through a pledge coordinated by the NYC Health Department, or alternatively may opt to use the targets to inform internal processes and decision making.

13. How will this initiative affect consumer choice?

Many factors shape health outcomes including a history of racist and discriminatory policies and practices that have resulted in high concentrations of poverty, inequitable distribution of resources, and disinvestment in things like transportation options, recreational space, and access to healthy foods. These factors all present challenges to consumers when trying to eat healthier. Ubiquitous marketing and hyper-availability of unhealthy foods can be found in communities across the US, making it challenging for individuals to make healthy choices.

In this context, the goal of the initiative is to work towards a healthier food supply that, in turn, increases consumer choice when it comes to packaged foods and beverages. Consumers may not realize how much sugar is in many packaged foods; some products that appear healthy may contain just as much sugar as dessert. If the industry works toward meeting the targets, those wanting to consume less sugar can do so more easily. Consumers can add more sugar to products but they cannot remove what was added during processing.

14. Can companies use non-nutritive or low and no calorie sweeteners?

Industry is advised to consider existing and new scientific research and regulations to determine the appropriate use of low and no calorie sweeteners in their products. The NSSRI recommends limiting use of low and no calorie sweeteners in products marketed to and commonly consumed by children.

15. How is the NSSRI different from company announcements about salt or sugar reduction?

The NSSRI targets represent an objective, universal, and measurable standard developed with a broad range of industry data and input. NSSRI targets provide a level playing field for companies.

For additional information, visit nyc.gov/health/nssri or email sugar@health.nyc.gov.

Sugar Reduction Targets from the National Salt and Sugar Reduction Initiative

Please contact sugar@health.nyc.gov with any questions.

1. Background and Objective

The National Salt and Sugar Reduction Initiative (NSSRI) is a partnership of local, state and national health organizations convened by the New York City Department of Health and Mental Hygiene. Building on an established framework that addressed a reduction of sodium in processed foods, the NSSRI is releasing sugar reduction targets. Industry was invited to share feedback to help inform category and target development.

The objective of the NSSRI is to promote gradual, achievable and meaningful reductions in sugar content in packaged foods and beverages. This is because intake of added sugars is associated with increased risk of excess weight, type 2 diabetes, hypertension, stroke, heart disease and cavities. Today's public health landscape demonstrates that addressing diet-related disease remains critical, even during a public health emergency like COVID-19. Diet-related health conditions, such as diabetes and heart disease, can increase the risk of severe illness from COVID-19, emphasizing the importance of working to create a healthier food supply.

A food supply lower in added sugar will make it easier for consumers to make healthy choices. Due to their lower calorie requirements and higher relative intake of added sugars, children could benefit the most from a reduction of sugar in food and beverages.

Simultaneous with this effort to shift the food supply, we will continue to encourage Americans to reduce consumption of added sugar. This includes avoiding sugary drinks. The NSSRI complements a suite of national and local strategies to improve Americans' diets through consumer behavior change, including but not limited to education and policy approaches.

2. Category and Target Development

Targets for sugar reduction are included below for fifteen food and beverage categories. The categories and targets were developed through an iterative process. This included consideration of the foods and beverages that contribute most to added sugar intake in the diet, commonly used food categories, similarity between products, opportunities and technical challenges for sugar reduction, and feedback from the food and beverage industry.

Key aspects of the methodology:

- 2017 Nielsen sales data was merged with nutrition information from Label Insight and manufacturer websites by Universal Product Code to build the NSSRI Packaged Food and Beverage Database.
- For each category, the sales-weighted mean (SWM) and distribution of sugar density were calculated in grams (g) of sugar per 100 g of food (or 100 milliliters [mL] of liquid) for the top 80% of sales volume; the data were weighted by sales to reflect population intake.
- Targets were evaluated for feasibility; in each category there are products currently sold that are below the targets.
- Preliminary targets were shared with the food and beverage industry in fall 2018, and feedback was collected via two comment periods. Comments were considered and informed updates to the targets, which are included in the tables below.

Sales-Weighted Mean Targets

SWM targets (see section 4) use the metric of sugar density (grams of sugar per 100 g of food or per 100 mL of beverages).

- SWM targets apply to the sales-weighted average of all products in the category.
- For most categories, the SWM targets are based on a 10% (2023) and 20% (2026) reduction from the category's baseline SWM sugar density. For sugary drinks, targets are based on a 10% (2023) and 40% (2026) reduction.

3. Next Steps

Company Participation

Companies have the option to publicly commit to meeting the SWM target in any category by 2023 and/or 2026 and be publicly recognized for their commitment. Alternatively, companies may also consider using the targets to inform internal processes and decision making as it relates to marketing, reformulation, and research and development of new and existing products. Companies meet the target by demonstrating that the SWM sugar density of all products in a specific category is at or below the target by the end of the target year.

Targets were drafted with the expectation that companies will meet the proposed targets without increasing saturated fat, calories, sodium or refined carbohydrates as part of the reformulation to reduce sugar. We advise companies to consider existing and new scientific research and regulations to determine the appropriate use of low and no calorie sweeteners and recommend avoiding use of low and no calorie sweeteners in products marketed to or commonly consumed by children.

Additional Strategies for Sugar Reduction

Companies are encouraged to employ complementary strategies to reduce availability of added sugar in the food supply and reduce consumption. This may include:

- Encouraging consumers to switch to unsweetened versions of products (e.g. unsweetened yogurt), or unsweetened alternative products (e.g. seltzer), that do not contain low and no calorie sweeteners.
- Decreasing portion sizes for single-serving products.
- Meeting Guidance Maximums, which are suggested upper limits for sugar density of products in each category (see section 4).
 - For most categories, the Guidance Maximums are set at the 80th (2023) and 60th (2026) percentile of the sales-weighted sugar density distribution of the category. For sugary drinks, the Guidance Maximums are set at the 80th (2023) and 40th (2026) percentile.
 - Companies do not need to commit to meeting the maximums, but they are encouraged to utilize the guidance values for new product development and product reformulation.

Monitoring Progress

The NSSRI Packaged Food and Beverage Database will be updated to monitor nutrient and ingredient content of packaged foods and beverages over time. The database will be used to track progress against the 2023 and 2026 SWM targets and Guidance Maximums, in addition to complementary strategies, such as switching consumers to unsweetened products and decreasing portion sizes. Using the database, progress can be assessed at the company level, category level, or across all 15 categories.

For additional information, please refer to the question and answer document, glossary, comment and response document or visit nyc.gov/health/nssri. Questions can be addressed via email or meeting. Please contact sugar@health.nyc.gov.

4. Sales-Weighted Mean Targets

Main Packaged Food Category 1: Drinks¹

Packaged Food Category	Category Description Excludes products with 0 g added sugar. ²	Baseline 2018 Sales-Weighted Mean g sugar per 100 mL	Sales-Weighted Mean Targets g sugar per 100 mL	
			2023	2026
1.1 Sugary drinks	Soda, sports drinks, fruit drinks, energy drinks, tea. Excludes 100% juice and drinks with milk or milk substitute as a first or second ingredient.	8.9	8.0	5.4
1.2 Sweetened milk ³	Drinks containing milk as a first or second ingredient.	6.0	5.4	4.8
1.3 Sweetened milk substitute ⁴	Flavored drinks containing milk substitute as a first or second ingredient.	3.7	3.3	2.9

¹Powdered drink mixes and syrups are included using nutrition information as prepared to the manufacturer's instructions.

²Definition of added sugar is consistent with the definition used by the U.S. Food and Drug Administration (FDA)

³Includes a sugar allowance of 4 g sugar per 100 mL for dairy products in which milk is the first ingredient and 2 g sugar per 100 mL for products in which milk is the second ingredient.

⁴Includes a sugar allowance of 2 g sugar per 100 mL for plant-based milk substitutes.

Main Packaged Food Category 2: Grain-Based Desserts and Snack Bars

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
2.1 Breakfast pastries	Donuts, cinnamon rolls, coffee cakes, Danishes, streusel, muffins, pies, and toaster pastries.	27.2	24.5	21.7
2.2 Cakes	Cakes, cupcakes, brownies and snack cakes.	39.9	35.9	31.9
2.3 Cookies	Filled and unfilled cookies, sandwich cookies and tea biscuits.	35.6	32.1	28.5
2.4 Dry mixes	Dry mixes for cake, cookies, brownies and muffins.	49.4	44.5	39.6
2.5 Granola and Snack bars	Granola bars, cereal bars, breakfast bars, yogurt bars and protein bars.	27.1	24.4	21.7

Main Packaged Food Category 3: Refrigerated and Frozen Desserts

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
3.1 Refrigerated and frozen desserts	Ice cream, frozen yogurt, gelato, ice pops, sherbet, sorbet, and pre-made pudding and gelatin. Excludes pudding and gelatin dry mixes.	20.7	18.7	16.6

Main Packaged Food Category 4: Candies

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
4.1 Sweet candies	Chewy, gummy, and hard candies. Includes caramels, nut rolls and seasonal sweet candies.	59.2	53.3	47.4
4.2 Chocolate candies	Chocolate bars, chocolate candies, filled bars and seasonal chocolate.	53.6	48.2	42.9

Main Packaged Food Category 5: Breakfast Cereals

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
5.1 Breakfast cereals	Ready-to-eat cereal, granola and hot cereal.	27.4	24.7	22.0

Main Packaged Food Category 6: Condiments and Toppings

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
6.1 Condiments	Ketchup, barbecue sauce, salad dressing, steak sauce and Asian sauces.	21.8	19.7	17.5
6.2 Dessert syrups and toppings	Chocolate and caramel syrups, fruit syrups and spreads, chocolate and hazelnut spreads, marshmallow topping, pancake syrup and frosting. Excludes 100% maple syrup.	54.3	48.9	43.4

Main Packaged Food Category 7: Yogurt

Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Baseline 2018 Sales-Weighted Mean g sugar per 100 g	Sales-Weighted Mean Targets g sugar per 100 g	
			2023	2026
7.1 Yogurt ⁵	Dairy and non-dairy yogurt and yogurt drinks.	6.5	5.9	5.2

⁵Includes a sugar allowance of 4 g sugar per 100 g for dairy yogurt and 2 g sugar per 100 g for non-dairy yogurt substitutes.

Guidance Maximums

Main Packaged Food Category	Packaged Food Category	Category Description Excludes products with 0 g added sugar.	Category Maximum g sugar per 100 g or 100 mL	
			2023	2026
1: Drinks ⁶	1.1 Sugary drinks	Soda, sports drinks, fruit drinks, energy drinks and tea. Excludes 100% juice and drinks with milk or milk substitute as a first or second ingredient.	11.5	8.0
	1.2 Sweetened milk ⁷	Drinks containing milk as a first or second ingredient.	8.7	6.5
	1.3 Sweetened milk substitute ⁷	Flavored drinks containing milk substitute as a first or second ingredient.	4.8	4.2
2: Grain-Based desserts and snack bars	2.1 Breakfast pastries	Donuts, cinnamon rolls, coffee cakes, Danishes, streusel, muffins, pies and toaster pastries.	32.7	29.9
	2.2 Cakes	Cakes, cupcakes, brownies and snack cakes.	43.7	42.2
	2.3 Cookies	Filled and unfilled cookies, sandwich cookies and tea biscuits.	41.2	37.1
	2.4 Dry mixes	Dry mixes for cake, cookies, brownies and muffins.	58.2	50.8
	2.5 Granola and Snack Bars	Granola bars, cereal bars, breakfast bars, yogurt bars and protein bars.	32.1	29.1
3: Refrigerated and frozen desserts	3.1 Refrigerated and frozen desserts	Ice cream, frozen yogurt, gelato, ice pops, sherbet, sorbet, and pre-made pudding and gelatin. Excludes pudding and gelatin dry mixes.	23.9	21.5
4: Candies	4.1 Sweet candies	Chewy, gummy, and hard candies. Includes caramels, nut rolls and seasonal sweet candies.	71.8	63.8
	4.2 Chocolate candies	Chocolate bars, chocolate candies, filled bars and seasonal chocolate.	59.4	53.7
5: Breakfast cereals	5.1 Breakfast cereals	Ready-to-eat cereal, granola and hot cereal.	34.5	31.2
6: Condiments and toppings	6.1 Condiments	Ketchup, barbecue sauce, salad dressing, steak sauce, and Asian sauces.	35.8	23.5
	6.2 Dessert syrups and toppings	Chocolate and caramel syrups, fruit syrups and spreads, chocolate and hazelnut spreads, marshmallow topping, pancake syrup and frosting. Excludes 100% maple syrup.	59.8	55.9
7: Yogurt	7.1 Yogurt ⁷	Dairy and non-dairy yogurt and yogurt drinks.	9.3	7.3

⁶Powdered drink mixes and syrups are included using nutrition information as prepared to the manufacturer's instructions.

⁷Includes the following sugar allowances: 4 g sugar per 100 mL for dairy products in which milk is the first ingredient; 2 g sugar per 100 mL for products in which milk is the second ingredient; 2 g sugar per 100 mL for plant-based milk substitutes; 4 g sugar per 100 g for dairy yogurt; and 2 g sugar per 100 g for plant-based yogurt substitutes.

NATIONAL SALT AND SUGAR REDUCTION INITIATIVE (NSSRI)

The National Salt and Sugar Reduction Initiative (NSSRI) is a partnership of over 100 local, state and national health organizations convened by the New York City Health Department. The Health Department launched the initial phase of this effort, the National Salt Reduction Initiative (NSRI), in 2009 and set targets for reduced sodium levels in packaged and restaurant foods. The partnership joined together to encourage major food companies to make voluntary commitments to specific food category targets for sodium reduction and monitored sodium levels to track this progress. Between 2009 and 2015, there was a 6.8 percent reduction in sodium levels in the food supply, demonstrating the feasibility of this model.

In 2018, NSRI became The National Salt *and Sugar* Reduction Initiative (NSSRI), and in 2021, set targets for sugar reduction. The initiative will monitor sugar levels in packaged foods and beverages that contribute the majority of added sugar to the diet over time. Once again, the partnership is encouraging food companies to voluntarily meet these targets.

Sugar has become widespread in the national food supply; currently, 68 percent of packaged foods and beverages purchased in the U.S. contain caloric sweeteners. Research shows that intake of added sugars is associated with increased risk of excess weight, type 2 diabetes, hypertension, stroke, heart disease and cavities.

Reducing the amount of salt and sugar consumed requires action by individuals, governments and the private sector. Individuals can monitor and reduce their intake. Health organizations, including government agencies, can provide leadership and raise awareness of the health benefits of lowering salt and sugar intake. The private sector can reduce the amount of salt and sugar in processed foods by reformulating its products and expanding the range of lower sugar items for consumers to choose from. There is an opportunity to work together through a transparent public process to reduce the amount of salt and sugar in the food supply and the diet, preventing diet-related chronic disease and improving population health.

National Salt and Sugar Reduction Initiative Partnership

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|---|--|--|
| » Academy of Nutrition and Dietetics | » Big Cities Health Coalition | » Connecticut Department of Public Health |
| » Alaska Department of Health and Social Services | » Boston Public Health Commission | » Consumer Reports |
| » American College of Epidemiology | » Brazos County Health Department, Texas | » Cook County Department of Public Health, Illinois |
| » American Cancer Society Inc. | » Broome County Health Department, New York | » Corpus Christi - Nueces County Public Health District, Texas |
| » American Heart Association | » California Conference of Local Health Officers | » Council of State and Territorial Epidemiologists |
| » American Medical Association | » California Department of Public Health | » County of San Diego Health and Human Services Agency, California |
| » American Public Health Association | » Cambridge Public Health Department | » County of Santa Clara Public Health Department, California |
| » Arizona Department of Health Services | » Center for Science in the Public Interest | » Delaware Department of Health and Social Services |
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- » Los Angeles County Department of Public Health, California
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- » Mississippi Task Force on Heart Disease and Stroke Prevention
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- » National Black Leadership Commission on Health
- » National Forum for Heart Disease and Stroke Prevention
- » National Kidney Foundation
- » National Network of Public Health Institutes
- » National WIC Association
- » New Hampshire Department of Health and Human Services, Division of Public Health
- » New Jersey Department of Health
- » New Mexico Department of Health
- » New York Academy of Medicine
- » New York City Department of Health and Mental Hygiene
- » New York State Chapter, American College of Cardiology
- » New York State Department of Health
- » North Dakota Department of Health
- » Northern Illinois Public Health Consortium
- » Northwest Kidney Centers
- » Ohio Department of Health
- » Oklahoma City-County Health Department, Oklahoma
- » Oregon Health Authority, Public Health Division
- » Pennsylvania Department of Health
- » Philadelphia Department of Public Health
- » Preventive Cardiovascular Nurses Association
- » Public Health Institute
- » Public Health Law Center at Mitchell Hamline School of Law
- » Resnick Program for Food Law and Policy at UCLA
- » Rhode Island Department of Health
- » Rudd Center for Food Policy and Obesity at UConn
- » Salt Lake County Health Department, Utah
- » Schenectady County Public Health Services, New York
- » Seattle and King County Public Health Department, Washington
- » Shasta County Health and Human Services Agency - Public Health, California
- » Society for Nutrition Education and Behavior
- » Society for the Analysis of African-American Public Health Issues
- » South Carolina Institute of Medicine & Public Health
- » South Dakota Department of Health
- » Southern Nevada Health District
- » St. Louis City Department of Health
- » Steuben County Public Health, New York
- » Summit County Health Department, Utah
- » Tarrant County Public Health, Texas
- » Texas Medical Association
- » Texas Association of City and County Health Officials
- » Texas Cardiovascular Disease and Stroke Partnership
- » The Food Trust
- » Washington State Department of Health
- » Wisconsin Heart Disease and Stroke Alliance
- » World Food Policy Center at Duke University
- » World Hypertension League

Last Updated February 2022

Questions? Email sugar@health.nyc.gov



NATIONAL SALT AND SUGAR REDUCTION INITIATIVE (NSSRI)

Summary of Key Industry Comments and Responses Regarding the NSSRI Preliminary Sugar Reduction Targets *Updated February 24, 2021*

I. Purpose

This document summarizes major themes that were identified in two rounds of food and beverage industry comments on the NSSRI Preliminary Sugar Reduction Targets and provides a response, noting changes made as a result of industry feedback.

II. Background

The NSSRI is a partnership of over 100 local, state, and national health organizations convened by the New York City Department of Health and Mental Hygiene (NYC Health Department). Building on an established framework that addresses sodium, the NSSRI is releasing sugar reduction targets.

Preliminary categories and targets were released in October 2018. The food and beverage industry was invited to share feedback related to the feasibility of meeting the targets and any functional or technical challenges via two comment periods in 2018 and 2019. Comments were submitted by trade associations and manufacturers that span all categories of food and drink. This document addresses key themes from comments.

Additional information can be found at www.nyc.gov/health/nssri.

III. Response to Comments

A. Theme: Targets Are Challenging for Food and Beverage Companies to Meet

Comment Summary: It is challenging for a company to meet the Maximum Target for every product; some products high in sugar are designed to be “treats” and are eaten infrequently.

Response: In response to industry comments, the proposed Maximum Targets have been revised. They are now recommended guidelines, referred to as guidance maximums, intended to be used as a suggested upper limit for sugar density in individual products. Companies are encouraged to lower the sugar density of every product to be at or below the guidance maximum by the target year. In contrast, companies will be invited to commit to the sales-weighted mean (SWM) Sugar Reduction Targets.

Comment Summary: It is challenging to reduce the amount of sugar in a product because sugar has many functions within a product beyond providing a sweet taste.

Response: We acknowledge that sugar plays many functions within products: taste, moisture control, bulk, browning, texture, viscosity, shelf life, and freezing point. Through past efforts, industry has demonstrated its ability to be innovative, flexible, and capable of making changes to create a healthier food supply. In fact, many companies have taken steps to reformulate products or introduce new products with lower sugar content. Proposed sugar reduction targets are set at levels of similar products in the market.

Comment Summary: Targets are not achievable within the given time frame.

Response: In response to industry comments, both of the target years were extended by one year to provide the food and beverage industry with additional time to work toward meeting the targets. The initial draft interim target year was 2022 and is now 2023. The 2025 target was also extended to 2026. We will release a progress report based on 2023 targets and revisit the feasibility of the 2026 targets at that time.

B. Theme: Allow the use of Non-Nutritive or Low and No Calorie Sweeteners

Comment Summary: Targets are not achievable without the use of non-nutritive or low and no calorie sweeteners.

Response: In response to comments, materials have been updated. Companies should consider existing and new scientific research and regulations to determine the appropriate use of low and no calorie sweeteners, and it is recommended that companies avoid use of low and no calorie sweeteners in products marketed to and commonly consumed by children. Low and no calorie sweeteners are increasingly present in our food supply but are not always clearly labeled.

C. Theme: Set Targets for Added Sugar instead of Total Sugar

Comment Summary: Total sugar targets put products that contain natural sugars at a disadvantage.

Response: In most categories the total sugar content is equivalent to the amount of added sugars. The exception is for products containing milk, fruit, nuts, or legumes, which also contain some natural sugars. In response to comments, the NSSRI now includes allowances for naturally occurring sugars in the milk and yogurt categories (see item E below for details). Targets for added sugar specifically were not set because added sugar content was not required to be disclosed on the Nutrition Facts Label at the time of data collection for the target setting process. However, we will monitor changes in added sugar content, by product and by category, after it becomes available on the Nutrition Facts Label of all products in 2021.

D. Theme: Split Dairy and Non-Dairy Categories

Comment Summary: Dairy and plant-based alternatives are not comparable and should be in different categories.

Response: In considering this comment, we analyzed the market share of plant-based alternatives. We split milk and milk substitutes into two separate categories because of the differences in natural sugar content and the large market share of non-dairy milks. In the yogurt and frozen dessert categories, due to the small market share of non-dairy products and similarities in SWM sugar density, dairy and non-dairy products remain grouped together. We will continue to monitor changes in sales of plant-based alternatives over time.

E. Theme: Adjust for Naturally Occurring Sugars

Comment Summary: Targets should account for naturally occurring sugars present in products in some categories.

Response: In response to comments and after review of peer-reviewed literature and consultation with experts, the NSSRI has created an allowance for naturally occurring sugars in products in three categories. The table below describes these allowances; the NSSRI baseline sales-weighted means and targets for these categories now reflect these allowances.

Category	Product Type	Sugar Allowance
1.2 Sweetened milk	Dairy milk is the first ingredient	4g/100 mL
	Dairy milk is the second ingredient	2g/100 mL
1.3 Sweetened milk substitute	Plant-based milk substitute	2g/100 mL
7.1 Yogurt	Dairy yogurt	4g/100 g
	Plant-based yogurt	2g/100 g

The allowance is subtracted from the total sugar density of each product. For example, in the sweetened milk category, a chocolate milk (where milk is the first ingredient) with a total sugar density of 7.6 g/100 mL has an adjusted sugar density of 3.6 g/100 mL ($7.6 - 4 = 3.6$); a sweetened coffee beverage (where milk is the second ingredient) with a total sugar density of 5.9 g/100 mL has an adjusted sugar density of 3.9 g/100 mL ($5.9 - 2 = 3.9$). The adjusted values were used to calculate the baseline sales-weighted mean (SWM) and targets in these three categories.

Comment Summary: Sugar allowances should be created for all categories that contain natural sugars, including products that contain juice.

Response: 100% juice is excluded from the NSSRI category 1.1: Sugary Drinks. Only juice drinks that contain added sugar are included in this category. While there are juice drinks that contain some amount of natural sugar, it is not possible at this time, using current NSSRI data, to differentiate between the amount of natural versus added sugars in juice drinks, which would be necessary for creating a universal allowance for natural sugar. There is significant variability across the category in terms of both the natural sugar content of different types of juice and the percentage of juice within a product. In addition, the specific quantities or ratios of blended juice products are usually not stated on product labels.

F. Theme: Include Walmart Data

Comment Summary: Walmart is the largest grocer and should be captured in sales data used for SWM.

Response: In response to industry comments, we acquired and analyzed data inclusive of Walmart sales in three NSSRI categories (yogurt, cookies, and sugary drinks). For these categories, the SWM and targets calculated using data inclusive of Walmart sales were not appreciably different from the proposed targets. Thus, the revised targets were set using the original database. This is consistent with research by Drs. Smith Taillie, Ng, and Popkin (Am J Prev Med 2016) which found that in 2013 nutritional profiles from packaged food products from Walmart were similar to those from other food retail chains.

G. Theme: Recommend Other Approaches and Complementary Strategies for Added Sugar Reduction

Comment Summary: Other approaches are preferable for reducing sugar consumption.

Response: NSSRI partners are working across the country to reduce diet-related chronic disease through policies and programs that include education, policy approaches, and efforts to increase access to healthy foods. The NSSRI is unique because it aims to work with the food industry to achieve voluntary reductions of added sugar in the food supply. The target setting framework complements other ongoing initiatives already taking place throughout the nation.

Comment Summary: This work is better suited to be a federal initiative.

Response: The NSSRI partnership recognizes the opportunity of local jurisdictions and other public health partners to join together to address the food supply. Added sugar in our food supply is a pressing public health issue that deserves immediate attention.

Comment Summary: Products with 0g of added sugar (plain, unsweetened and non-nutritive sweeteners only) should be included in the NSSRI categories so that companies are incentivized to switch consumers to these products.

Response: Inclusion of products with no added sugar in the existing NSSRI categories would bring down the baseline SWM for each category making a 20% reduction from the baseline SWM more challenging to achieve. Therefore, these products are not included in the NSSRI categories.

However, we recognize that encouraging consumers to switch from products with added sugar to plain products is one strategy to reduce added sugar consumption. Companies will be provided with an opportunity to commit to additional sugar reduction goals, such as a goal to increase sales of plain and/or unsweetened products that do not contain low and no calorie sweeteners, during the commitment process. These efforts will be recognized alongside commitment to the NSSRI targets.

Comment Summary: Decreasing portion size should be included as a way to meet the NSSRI targets.

Response: Companies are encouraged to employ complementary strategies to reduce availability of added sugar in the food supply and reduce consumption. This may include a strategy to decrease portion sizes for single-serving products. For companies that commit to meeting at least one SWM target, the NSSRI will also recognize past sugar reduction efforts or complementary sugar reduction strategies, including portion size reduction.

H. Theme: Develop a Plan for Company Acknowledgement

Comment Summary: Companies should be recognized for past efforts.

Response: In response to industry comments, the NSSRI will recognize past sugar reduction efforts for companies that commit to further action. When companies commit to sugar reduction in one or more NSSRI category, they can submit information on their past sugar reduction efforts.

I. Theme: Additional Detail Requested on NSSRI Database

Comment Summary: The process for developing the NSSRI Database is unclear, as is how baseline numbers were determined and how the database will be used for monitoring.

Response: Similar to the process for the National Salt Reduction Initiative (which is described in detail in Appendix G of the [Institute of Medicine's "Strategies to Reduce Sodium Intake in the United States"](#)), a comprehensive database (the NSSRI Packaged Food and Beverage Database) was built as part of the target setting process and will be updated to monitor progress over time. To build the database, the NYC Health Department merged proprietary Nielsen sales data (from 2017) with nutrition information from Label Insight and manufacturer websites by Universal Product Code. We defined the categories of food and beverages that contribute to sugar intake in the U.S. population. For each category, the baseline sales-weighted mean (SWM) and distribution of sugar density were calculated in grams (g) of sugar per 100 g of food (or 100 mL of liquid) for the top 80% of sales volume; the data were weighted by sales to reflect population intake. SWM targets were set as a reduction from baseline: 10% reduction by 2023, and a 20% reduction by 2026; 40% reduction by 2026 for sugary drinks.

The NSSRI Packaged Food and Beverage Database will be updated to monitor nutrient and ingredient content of packaged foods and beverages over time. The database will be used to track progress against the 2023 and 2026 SWM targets and Guidance Maximums, in addition to complementary strategies, such as switching consumers to plain/unsweetened products and decreasing portion sizes. With the database, there is opportunity to assess progress at the company level, category level, or across all 15 categories.

NATIONAL SALT AND SUGAR REDUCTION INITIATIVE (NSSRI)

Glossary of Terms

Released February 24, 2021

Added Sugars: Per the Food and Drug Administration (FDA), added sugars include sugars (free, mono- and disaccharides); sugars from syrups and honey; and sugars from concentrated fruit or vegetable juices that are in excess of what would be expected from the same volume of 100 percent fruit or vegetable juice of the same type. They are added to foods and beverages by manufacturers during processing. These sugars add calories to the diet, but little or no nutritional value. Research shows that intake of added sugars is associated with increased risk of excess weight, Type 2 diabetes, hypertension, stroke, heart disease and cavities.

Baseline: The first year of data that will be used for future comparison to assess the impact of the initiative. The baseline data for the sugar targets consists of sales data from 2017 merged with nutrition data collected in 2018.

Food/Beverage Category: The NSSRI team at the New York City Department of Health and Mental Hygiene developed food and beverage categories through an iterative process that included review of the food products that contribute most to added sugar intake in the diet, commonly used food categories, similarity between products, and opportunities and technical challenges for sugar reduction.

Guidance Maximum: Intended to be used by companies on an individual product basis as a suggested upper limit for sugar density. Companies do not need to commit to meeting the maximums, but are encouraged to lower the sugar density of every product to be at or below the guidance maximum.

Low and No Calorie Sweeteners: Commonly used as sugar substitutes or sugar alternatives because they are many times sweeter than sugar but contribute a few to no calories when added to foods or beverages. Other names may include non-nutritive sweeteners, artificial sweeteners, sugar substitutes, or high-intensity sweeteners.

Natural Sugars: Some foods contain sugar naturally, such as fruit and milk. Natural sugar is usually found in products that deliver essential nutrients, such as vitamins and fiber, as part of a healthy diet. Added sugars make up the sugar content of the vast majority of products in the NSSRI categories.

Sales-Weighted Mean (SWM): The average sugar density within a category, weighted by product sales. Using a SWM to calculate the baseline sugar density for each category and set targets ensures that the products sold in the highest volume in the U.S. factor more heavily into the mean.

Sugar Density: For this initiative, sugar density is defined as grams of sugar per 100 grams of product for food and grams of sugar per 100 milliliters of liquid for beverages. Using sugar density ensures that sugar in products with different serving sizes can be compared.

Target: Sugar density levels developed by the NSSRI to guide companies in reducing the amount of sugar in food and beverage products. Companies meet the SWM target for a given category by demonstrating that the SWM sugar density of their products within a category are at or below the target by the end of the target year.

Total Sugars: Sum of added sugars and natural sugars. NSSRI targets are set for the total sugar content of products because added sugar content was not available on the Nutrition Facts Label of all products when targets were developed. In most categories, the total sugar content is equivalent to the amount of added sugars.