



October 7, 2024

Sarah Booth, PhD
 Chair, 2025 Dietary Guidelines Advisory Committee
 Members of the 2025 Dietary Guidelines Advisory Committee

c/o Janet M. de Jesus, MS, RD,
 Office of Disease Prevention and Health Promotion
 Office of the Assistant Secretary for Health
 Department of Health and Human Services
 1101 Wootton Parkway, Suite 420
 Rockville, MD 20852

**Re: Comments in response to Federal Register Docket HHS-OASH-2022-0021
 2025 Dietary Guidelines Advisory Committee Proceedings**

Dear Dr. Booth and Members of the 2025 Dietary Guidelines Advisory Committee,

We appreciate this opportunity to submit these comments as you develop your scientific report to the Departments of Health and Human Services and Agriculture to aid their development of the 2025-2030 Dietary Guidelines for Americans and associated consumer-facing materials. We appreciate the mammoth undertaking by all of you and by the staff for the Dietary Guidelines Advisory Committee (DGAC) to review the evidence in accordance with the protocols set for this DGAC.

This letter comes to you from a wide network of individuals and organizations -- researchers, clinicians, public health professionals, public health advocates and organizations and industry

stakeholders -- **who believe in the importance of promoting and enabling consumption of water as a critical part of the strategy to reduce consumption of sugary drinks.**

Drinking plain water in place of sugar-sweetened beverages (SSBs) is a simple, low-cost, feasible behavior modification that can have a major impact on intake of calories and added sugars by the U.S. population. Discussion during DGAC Meeting 6 included the good news that some obesity rates are now declining, as is consumption of sugary drinks – but also highlighted that sugary drinks remain the top source of added sugars in the American diet and contribute too many excess calories (particularly for teens). Dr. Tobias also brought up a concern about whether people are replacing sugary drinks with a healthy alternative. Water is the best answer to this concern.

Recommendations for the 2025 DGAC Report

Accordingly, we urge the DGAC to include two overarching recommendations in your forthcoming report to enable and encourage consumption of water in place of SSBs. We offer one additional recommendation to inform the work of the next DGAC. A summary of supportive details for our recommendations is in Appendix 1.

1. **Identify clear and actionable information that can be included in the 2025-2030 DGAs on ways to make plain water a beverage of choice, by recommending feasible strategies to provide effective access to safe and appealing water, especially tap water, and to promote and educate about the merits of healthy beverages.** An example is Alaska Department of Health and Social Services' extensive "Play Every Day" public health messaging which includes beverage advice that says, "Drink This, Not That" with clear images specifically promoting water and milk in place of SSBs, and clear information on what constitutes an SSB.¹ Other examples are found in the 2015 Dietary Guidelines Advisory Committee Report that included recommendations for policy, system and environmental change strategies,² and the 2010 DGAs that included information on the importance of beverage choice to dental health.³
2. **Recommend that USDA take the necessary steps to add a symbol for drinking water to the MyPlate graphic** and intensify water promotion messaging in all consumer-facing materials. MyPlate is ubiquitous as a foundation for nutrition education in clinics, schools, WIC, SNAP-Ed, EFNEP, and other public health programs. Inclusion of water on the graphic could raise awareness of the benefits of drinking water among those segments of the population that are most vulnerable to over-consumption of SSBs, including young people to whom SSBs are heavily

¹ State of Alaska Department of Health and Social Services. *Play Every Day*. At, <http://dhss.alaska.gov/dph/PlayEveryDay/Pages/Sugary-Drink-Resources.aspx>.

² Dietary Guidelines Advisory Committee. 2015. *Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. See: <http://www.health.gov/dietaryguidelines/2015-scientific-report/06-chapter-1/d1-3.asp>; <http://health.gov/dietaryguidelines/2015-scientific-report/04-integration.asp>; <http://www.health.gov/dietaryguidelines/2015-scientific-report/06-chapter-1/d1-3.asp>; <http://health.gov/dietaryguidelines/2015-scientific-report/04-integration.asp>.

³ U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2010*; Chapter Five. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.

marketed.^{4,5} Adding a symbol for water to the MyPlate graphic would support other strategies designed to decrease SSB consumption.⁶ This recommendation has been widely endorsed, including by leading public health professionals and organizations in letters on this issue submitted to the Dietary Guidelines Advisory Committees of 2014⁷ and 2020⁸ and to USDA and HHS in 2020⁹ and to the White House Conference on Hunger, Nutrition, and Health in 2022.^{10,11} Sixty-nine members of Congress sent a letter to USDA and HHS making this request in 2019.¹² The current Congress recently submitted letters to USDA and HHS requesting the agencies take the needed steps to add a symbol for water to the MyPlate graphic.¹³ We wish to emphasize that this recommendation is not meant to make any statement about the dairy icon on MyPlate.

- 3. Provide your learnings about gaps in the research and methodology, and about possible adjustments to the pre-set topics and questions, to inform the 2030 DGAC undertaking.** In DGAC Meeting 6 you discussed what it would take to move the “moderate” grade for beverage evidence to “strong.” We hope your report will include both an explanation of the weak points that you identified, in order to guide future science, as well as the solutions put forth including increased funding for dietary research. Please also recommend that the protocol for the 2030 DGAC’s review of the evidence includes more detailed questions about drinking water and other SSB-replacement beverages and about other health outcomes of beverage choices, for example cardiometabolic health and dental health. Please see Appendix 2 for some suggestions that were previously submitted.

Notably, many of our recommendations were also in the National Clinical Care Commission (NCCC) Report to Congress in December 2021, “Leveraging Federal Programs to Prevent and Control Diabetes and Its Complications.”¹⁴ Please see Appendix 3 for the NCCC recommendations.

⁴ UConn Rudd Center. 2020. *Sugary Drink FACTS 2020. Sugary drink advertising to youth: Continued barrier to public health progress.* At, https://www.sugarydrinkfacts.org/resources/Sugary%20Drink%20FACTS%202020/Sugary_Drink_FACTS_Full%20Report_final.pdf.

⁵ Robert Wood Johnson Foundation. 2012. *Food and Beverage Marketing to Children and Adolescents: Limited Progress by 2012, Recommendations for the Future.* At, http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf404379.

⁶ The CDC Guide to Strategies for Reducing the Consumption of Sugar-Sweetened Beverages. Centers for Disease Control and Prevention; 2010. Available at: <https://stacks.cdc.gov/view/cdc/51532>

⁷ Ritchie LD et al. 2014. *Letter to Chairwoman Millen and Members of the Dietary Guidelines Advisory Committee.* At, <https://npi.ucanr.edu/files/207504.pdf>

⁸ National Drinking Water Alliance. 2020. *Letter to Chairwoman Schneeman and Members of the 2020 Dietary Guidelines Advisory Committee.* At, <https://ucanr.edu/sites/NewNutritionPolicyInstitute/files/318141.pdf>

⁹ National Drinking Water Alliance. 2020. *Letter to USDA and HHS.* At <https://ucanr.edu/sites/NewNutritionPolicyInstitute/files/332232.pdf>

¹⁰ Healthy Eating Research, a program of the Robert Wood Johnson Foundation. 2022. *Comments to inform the White House Conference on Hunger, Nutrition, and Health.* At, <https://healthyeatingresearch.org/2022/07/her-recommendations-for-the-white-house-conference-on-hunger-nutrition-and-health/>

¹¹ Sugar-Sweetened Beverage Reduction Workgroup. 2022. At, https://assets.nationbuilder.com/healthyfoodamerica/pages/35/attachments/original/1660141187/WHC_bev_recs_SSB_Reduction_group_recommendations_FINAL_UPDATEDJULY19_JK_AUGUST03.pdf?1660141187

¹² Members of Congress. 2019. *Letter to Secretaries Azar and Purdue.* Available at, https://docs.wixstatic.com/ugd/9c073b_2d7590f8a6924a9b82f261075c4da7fc.pdf

¹³ Members of Congress. 2024. *Letter to Secretaries Becerra and Vilsack.* At <https://crockett.house.gov/sites/evo-subsites/crockett.house.gov/files/evo-media-document/Add%20Water%20Graphic%20To%20MyPlate%20Letter.pdf>

¹⁴ National Clinical Care Commission. 2021. *Report to Congress on Leveraging Federal Programs to Prevent and Control Diabetes and Its Complications.* At, <https://health.gov/about-odphp/committees-workgroups/national-clinical-care-commission/report-congress>, pages 38-41.

Furthermore, we firmly believe it is past time for the U.S. to join the dozens of countries around the world that feature “water” in their graphic nutrition guidance.

Thank you for this opportunity to provide input and for your consideration of these recommendations. Please contact Christina Hecht at ceahecht@ucanr.edu if we can provide further information.

Sincerely,

The undersigned organizations and individuals:

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American Academy of Pediatric Dentistry

American College of Lifestyle Medicine

American Heart Association

Berkeley Media Studies Group

California Water Association

Center for Science in the Public Interest

Common Threads

Cultiva la Salud

The diaTribe Foundation

International Bottled Water Association

Laurie M. Tisch Center for Food, Education and Policy at Columbia University

March of Dimes

National Drinking Water Alliance

Notah Begay III Foundation

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Appendix 1

Enabling drinking water

It is not enough to encourage reduction of SSB consumption. People need alternate, and healthier, sources of hydration. Drinking plain water in place of sugary drinks is a simple, low-cost, and feasible means of reducing intake of added sugars among both children and adults, and can mitigate risks of chronic diseases.^{15,16,17,18,19} Research shows that implementing policies, systems changes, and altering environments to support increased availability of safe and enticing drinking water along with educational initiatives to encourage drinking water instead of sugary drinks can foster healthier hydration habits and significantly impact health.^{20,21,22,23,24,25,26,27}

Many in the general public are unaware of the high level of added sugars and calories they consume each day while quenching their thirst with SSBs.²⁸ In addition, many are unfamiliar with the importance of water and lack an understanding of the factors mediating the amount of water required by an individual on any given day.²⁹ According to the U.S. Centers for Disease Control and Prevention (CDC), plain water intake is significantly lower in younger children, as well as children of ethnic minorities, older

¹⁵ Pan A, Malik VS, Schulze MB, Manson JE, Willett WC, Hu FB. Plain-water intake and risk of type 2 diabetes in young and middle-aged women. *Am J Clin Nutr*. 2012; 95(6): 1454-1460.

¹⁶ Pan A, Malik VS, Hao T, Willett WC, Mozaffarian D, Hu FB. Changes in water and beverage intake and long-term weight changes: results from three prospective cohort studies. *Int J Obes (Lond)*. 2013; 37(10): 1378-1385.

¹⁷ Tate DF, Turner-McGrievy G, Lyons E, Stevens J, Erickson K, Polzien K, Diamond M, Wang X, Popkin B. Replacing caloric beverages with water or diet beverages for weight loss in adults: main results of the Choose Healthy Options Consciously Everyday (CHOICE) randomized clinical trial. *Am J Clin Nutr*. 2012; 95(3): 555-563.

¹⁸ Wang YC, Ludwig DS, Sonnevile K, Gortmaker SL. Impact of change in sweetened caloric beverage consumption on energy intake among children and adolescents. *Arch Pediatr Adolesc Med*. 2009; 163(4): 336-343.

¹⁹ Guido JA, Martinez Mier EA, Soto A, Eggertsson H, Sanders BJ, Jones JE, Weddell JA, Cruz IV, Concha JLA. Caries prevalence and its association with brushing habits, water availability, and the intake of sugared beverages. *Int J Paediatr Dent*. 2011; 21(6): 432-440.

²⁰ Muckelbauer R, Libuda L, Clausen K, Toschke AM, Reinehr T, Kersting M. Promotion and provision of drinking water in schools for overweight prevention: randomized, controlled cluster trial. *Pediatrics*. 2009;123(4):e661-7.

²¹ Kenney EL, Gortmaker SL, Carter JE et al. Grab a cup, fill it up! an intervention to promote the convenience of drinking water and increase student water consumption during school lunch. *Am J Public Health*. 2015;105, 1777–1783.

²² Patel AI, Schmidt LA, McCulloch CE, Blacker LS, Cabana MD, Brindis CD, Ritchie LD. Effectiveness of a School Drinking Water Promotion and Access Program for Overweight Prevention. *Pediatrics*. 2023 Sep 1;152(3):e2022060021.

²³ Patel AI, Hecht K, Hampton KE, Grumbach JM, Braff-Guajardo E, Brindis CD. 2014. Tapping into water: key considerations for achieving excellence in school drinking water access. *Am J Public Health* 104:1314-9

²⁴ Kahn CB, John B, Shin SS, Whitman R, Yazzie AS, Goldtooth-Halwood R, Hecht K, Hecht C, Vollmer L, Egge M, Nelson N, Bitah K, George C. Teacher and Caregiver Perspectives on Water Is K'é: An Early Child Education Program to Promote Healthy Beverages among Navajo Children. *International Journal of Environmental Research and Public Health*, 20(17):6696, 31 August 2023.

²⁵ Wilking CL. 2017. *Developing State Policy Recommendations for Safe Drinking Water Procurement in Child Care Centers and Schools*. Public Health Advocacy Institute. Available at https://www.phaionline.org/wp-content/uploads/2018/01/Key-Findings-revised-1_9.pdf

²⁶ Hecht AA, Buck S, Patel AI. 2016. *Water First: A Toolkit to Promoting Water Intake in Community Settings*. Retrieved from: <https://cfpa.net/Water/WaterToolkits/WaterFirstToolkit/Water%20First%20Toolkit.pdf>

²⁷ Epel ES, Hartman A, Jacobs LM, Leung C, Cohn MA, Jensen L, Ishkanian L, Wojcicki J, Mason AE, Lustig RH, Stanhope KL, Schmidt LA. Association of a Workplace Sales Ban on Sugar-Sweetened Beverages With Employee Consumption of Sugar-Sweetened Beverages and Health. *JAMA Intern Med*. 2020 Jan 1;180(1):9-16.

²⁸ Park S, Onufrak S, Sherry B, Blanck HM. 2014. The relationship between health-related knowledge and sugar-sweetened beverages intake among U.S. adults. *J Acad Nutr Diet*; 114(7): 1059-1066.

²⁹ Popkin BM, D'Anci KE, Rosenberg IH. 2010. Water, hydration, and health. *Nutr Rev*; 68(8): 439-458.

adults, non-Hispanic Black adults, and in households with lower income and lower education.³⁰ Seniors drink significantly fewer fluid ounces – about two fewer cups per day – than individuals below the age of 59.³¹ The National Center for Health Statistics noted that older Americans are more susceptible to dehydration due primarily to a decrease in thirst as well as an increased prevalence of chronic diseases and the use of multiple medications.³² Dehydration in older Americans has been shown to be associated with increased mortality and poorer health outcomes and to be an independent or contributing factor for higher health care expenditures including hospital readmissions, increased use of long-term care facilities, and longer stays in rehabilitation settings.^{33,34} Thus, there is a major need for nutrition education to make people aware of their water deficit; the DGAs, with long reach across many constituencies, including the most needy populations, should be the foundational source.

Sugar-sweetened beverages and their harms

The average American consumes 17 teaspoons of added sugars per day (13% of total daily calories),^{35,36} which is over 30% more added sugars than recommended by the Dietary Guidelines for Americans for a healthy diet.³⁷ SSBs are the largest single source of added sugars in the American diet; they are also among the top source of calories for US children and youth.^{38,39,40} Not only are these typically “empty” calories, but they also often displace more nutritious items.⁴¹

³⁰ CDC. *Get the Facts: Data and Research on Water Consumption*. 2022. At, <https://www.cdc.gov/nutrition/data-statistics/plain-water-the-healthier-choice.html>

³¹ U.S. Department of Health and Human Services and U.S. Department of Agriculture, *2020 – 2025 Dietary Guidelines for Americans*, December 2020, https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf.

³² Rosinger A, Herrick KA. *Daily Water Intake Among US Men and Women: 2009-2012*. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, 2016.

³³ Frangeskou M, Lopez-Valcarcel B, Serra-Majem L. Dehydration in the elderly: a review focused on economic burden. *The Journal of Nutrition, Health & Aging* 19 (2015): 619-627.

³⁴ Edmonds CJ., Foglia E, Booth P, Fu CHY, Gardner M. Dehydration in older people: A systematic review of the effects of dehydration on health outcomes, healthcare costs and cognitive performance. *Archives of Gerontology and Geriatrics* 95 (2021): 104380.

³⁵ U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). *Nutrient Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, What We Eat in America, NHANES 2017-March 2020 Prepandemic*. 2022. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/1720/Table_1_NIN_GEN_1720.pdf.

³⁶ U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). *Nutrient Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, What We Eat in America, NHANES 2017-March 2020 Prepandemic*. 2022. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/1720/Table_1_NIN_GEN_1720.pdf.

³⁷ U.S. Department of Agriculture (USDA) and U.S. Department of Health and Human Services (USDHHS). *Dietary Guidelines for Americans, 2020-2025*. December 2020. https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf.

³⁸ Reedy J, Krebs-Smith SM. Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. *J Am Diet Assoc*. 2010 Oct;110(10):1477-84.

³⁹ Ricciuto L, Fulgoni VL, Gaine PC, Scott MO, DiFrancesco L. 2021. Sources of Added Sugars Intake Among the U.S. Population: Analysis by Selected Sociodemographic Factors Using the National Health and Nutrition Examination Survey 2011–18. *Frontiers in Nutrition* 8.

⁴⁰ Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

⁴¹ Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

Researchers at UC San Francisco estimated that cutting less than one average cola drink a day (a net reduction of 166 kcal/day) would have enabled young adults (aged 20-39) to meet the Healthy People 2020 obesity objective.⁴²

Extensive science shows that excess consumption of added sugars is a risk factor for many diet-related chronic diseases, and further that, independent of calories, added sugars, and particularly liquid added sugars, have detrimental metabolic effects that are not due to weight gain and occur even in the absence of weight gain.^{43,44} This is because they affect energy utilization within the liver, leading to metabolic disorders such as fatty liver, hyperlipidemia and insulin resistance.^{45,46} Diet-related chronic conditions, including dental caries, affect the majority of the U.S. population, both adults and young people,⁴⁷ with marked racial and ethnic disparities^{48,49, 50,51,52,53} and can exacerbate economic inequities in the U.S.⁵⁴

Chronic diseases for which SSBs are a risk factor include but are not limited to:

⁴² Basu S, Seligman H, Winkleby M. 2014. A metabolic-epidemiological microsimulation model to estimate the changes in energy intake and physical activity necessary to meet the Healthy People 2020 obesity objective. *Am J Public Health* 104(7):1209-16.

⁴³ Stanhope KL Goran MI, Bosity-Westphal A, King JC, Schmidt LA, et al. Pathways and mechanisms linking dietary components to cardiometabolic disease: thinking beyond calories. *Obes Rev*. 2018. **19**(9):1205-1235.

⁴⁴ Lustig R, Schmidt LA & Brindis C. "The Toxic Truth About Sugar." *Nature*, 2012. 482: 27-9.

⁴⁵ Stanhope KL Goran MI, Bosity-Westphal A, King JC, Schmidt LA, et al. Pathways and mechanisms linking dietary components to cardiometabolic disease: thinking beyond calories. *Obesity Review*. 2018. **19**(9):1205-1235.

⁴⁶ Hieronimus B, et al., Synergistic effects of fructose and glucose on lipoprotein risk factors for cardiovascular disease in young adults. *Metabolism*, 2020. **112**: p. 154356.

⁴⁷ Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC

At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

⁴⁸ Hales CM, Carroll MD, Fryar CD & Ogden CL. (2017, October). *Prevalence of obesity among adults and youth, United States, 2015-2016 (Data Brief No. 288)*. Retrieved from National Center for Health Statistics website:

<https://www.cdc.gov/nchs/data/databriefs/db288.pdf>

⁴⁹ Taveras EM, Gillman MW, Kleinman KP, Rich-Edwards JW, Rifas-Shiman SL. Reducing Racial/Ethnic Disparities in Childhood Obesity: The Role of Early Life Risk Factors. *JAMA Pediatr*. 2013. **167**(8):731–738.

⁵⁰ Centers for Disease Control and Prevention. (2018). *Diabetes report card 2017*. Retrieved from <https://www.cdc.gov/diabetes/pdfs/library/diabetesreportcard2017-508.pdf>.

⁵¹ Centers for Disease Control and Prevention. *Health, United States, 2015: With Special Feature on Racial and Ethnic Health Disparities*. Hyattsville, MD; 2015.

⁵² Muth ND, Dietz WH, Magge SN, et al. AAP American Academy of Pediatrics, AAP Section on Obesity, AAP Committee on Nutrition, AAP American Heart Association. Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents. *Pediatrics*. 2019. **143**(4):e20190282.

⁵³ Dietary Guidelines Advisory Committee. 2020. *Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC

At https://www.dietaryguidelines.gov/sites/default/files/2020-07/ScientificReport_of_the_2020DietaryGuidelinesAdvisoryCommittee_first-print.pdf

⁵⁴ NASEM (National Academies of Sciences, Engineering, Medicine). 2017. *Communities in Action: Pathways to Health Equity*. Washington, DC: The National Academies Press. At, <https://www.nap.edu/catalog/24624/communities-in-action-pathways-to-health-equity>

- Metabolic diseases including type 2 diabetes and non-alcoholic fatty liver disease^{55,56,57,58, 59,60, 61}
 - Type 2 diabetes and non-alcoholic fatty liver disease are afflicting more, and younger, people^{62, 63, 64,65}
- Cardiovascular diseases (hypertension, dyslipidemia, stroke, coronary disease and events)^{66,67,68,69,70,71,72}
 - Even children can develop dyslipidemia and hypertension.⁷³
- Dental decay^{74,75,76}

⁵⁵ Imamura F, O'Connor L, Ye Z, Mursu J, Hayashino Y, Bhupathiraju SN, Forouhi NG. Consumption of sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of type 2 diabetes: Systematic review, meta-analysis, and estimation of population attributable fraction. *BMJ*. 2015;351:h3576.

⁵⁶ Neuenschwander M, Ballon A, Weber KS, Norat T, Aune D, Schwingshackl L, Schlesinger S. Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies. *BMJ*. 2019. 366:l2368.

⁵⁷ Drouin-Chartier JP, et al. Changes in consumption of sugary beverages and artificially sweetened beverages and subsequent risk of type 2 diabetes: Results from three large prospective U.S. cohorts of women and men. *Diabetes Care*. 2019;42(12):2181-2189.

⁵⁸ Stern D, Mazariegos M, Ortiz-Panozo E, Campos H, Malik VS, Lajous M, López-Ridaura R. 2019. Sugar-Sweetened Soda Consumption Increases Diabetes Risk Among Mexican Women. *J Nutr*. 149(5):795-803.

⁵⁹ Gardener H, Moon YP, Rundek T, Elkind MSV, Sacco RL. 2018. Diet Soda and Sugar-Sweetened Soda Consumption in Relation to Incident Diabetes in the Northern Manhattan Study. *Curr Dev Nutr*. 2(5):nzy008.

⁶⁰ Greenwood DC, Threapleton DE, Evans CE, et al. 2014. Association between sugar-sweetened and artificially sweetened soft drinks and type 2 diabetes: systematic review and dose-response meta-analysis of prospective studies. *The British Journal of Nutrition* 112(5):725-734.

⁶¹ Chen H, Wang J, Li Z, Lam CWK, Xiao Y, et al. 2019. Consumption of Sugar-Sweetened Beverages Has a Dose-Dependent Effect on the Risk of Non-Alcoholic Fatty Liver Disease: An Updated Systematic Review and Dose-Response Meta-Analysis. *Int J Environ Res Public Health* 2019 Jun 21;16(12). pii: E2192.

⁶² Menke A, Casagrande S, Cowie CC. 2016. Prevalence of Diabetes in Adolescents Aged 12 to 19 Years in the United States, 2005-2014. *JAMA*. 316(3):344-345.

⁶³ Centers for Disease Control and Prevention. 2018. *Diabetes Report Card 2017*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services.

⁶⁴ Mosca A, Della Corte C, Sartorelli MR, Ferretti F, Nicita F, Vania A4, Nobili V. 2016. Beverage consumption and paediatric NAFLD. *Eat Weight Disord*. 21(4):581-588.

⁶⁵ Uppal V, Mansoor S, Furuya KN. Pediatric Non-alcoholic Fatty Liver Disease. *Curr Gastroenterol Rep*. 2016. 18(5):24.

⁶⁶ Yang Q, Zhang Z, Gregg EW, Flanders WD, Merritt R, Hu FB. Added sugar intake and cardiovascular diseases mortality among US adults. *JAMA Intern Med*. 2014. 174(4):516-24.

⁶⁷ Narain A, Kwok CS, Mamas MA. Soft drinks and sweetened beverages and the risk of cardiovascular disease and mortality: A systematic review and meta-analysis. *Int J Clin Pract*. 2016;70(10):791-805.

⁶⁸ Bergwall S, Johansson A, Sonestedt E, Acosta S. High versus low-added sugar consumption for the primary prevention of cardiovascular disease. *Cochrane Database Syst Rev*. 2022;1(1):CD013320.

⁶⁹ Eny KM, Jeyakumar N, Dai DWH, Maguire JL et al. 2020. Sugar-containing beverage consumption and cardiometabolic risk in preschool children. *Preventive Medicine Reports* 17:101054.

⁷⁰ Huang C, Huang J, Tian Y, Yang X, Gu D. 2014. Sugar sweetened beverages consumption and risk of coronary heart disease: a meta-analysis of prospective studies. *Atherosclerosis* 234(1):11- 16.

⁷¹ Jayalath VH, de Souza RJ, Ha V, et al. 2015. Sugar-sweetened beverage consumption and incident hypertension: a systematic review and meta-analysis of prospective cohorts. *Am J Clin Nutr* 102(4):914-921.

⁷² Stanhope KL, Medici V, Bremer AA, et al. 2015. A dose-response study of consuming high-fructose corn syrup-sweetened beverages on lipid/lipoprotein risk factors for cardiovascular disease in young adults. *Am J Clin Nutr* 101(6):1144-1154.

⁷³ Vos MB, Kaar JL, Welsh JA et al. Added sugars and cardiovascular disease risk in children: A scientific statement from the American Heart Association. *Circulation*. 2017. 135: e1017-e1034.

⁷⁴ Valenzuela MJ, Waterhouse B, Aggarwal VR, Bloor K, Doran T. Effect of sugar-sweetened beverages on oral health: A systematic review and meta-analysis. *Eur J Public Health*. 2020;31(1):122-129.

⁷⁵ Bleich S, Vercammen K. The negative impact of sugar-sweetened beverages on children's health: an update of the literature. *BMC Obes* 2018; 5:6.

⁷⁶ Park S, Lin M, Onufrak S, Li R. 2015. Association of Sugar-Sweetened Beverage Intake during Infancy with Dental Caries in 6-year-olds. *Clinical Nutrition Research* 4(1):9-17.

- Tooth decay is one of the most common chronic diseases of children and adolescents⁷⁷
- Obesity^{78,79,80, 81, 82, 83, 84}
 - The 2015 Dietary Guidelines Advisory Committee stated, “Strong and consistent evidence shows that intake of added sugars from food and/or sugar-sweetened beverages are associated with excess body weight in children and adults. The reduction of added sugars and sugar-sweetened beverages in the diet reduces body mass index (BMI) in both children and adults.”⁸⁵
- While additional research is warranted, recent studies suggest SSB consumption may be linked to additional health impacts including increased risk of mortality,⁸⁶ risk of asthma,^{87, 88} and the risk of certain cancers.⁸⁹

Reducing consumption of added sugars is a critical strategy with both health and economic benefits.⁹⁰ As another benefit, water has a small environmental footprint relative to other beverages.⁹¹

⁷⁷ National Institutes of Health. *Oral Health in America: Advances and Challenges*. Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2021. At, <https://www.nidcr.nih.gov/sites/default/files/2021-12/Oral-Health-in-America-Advances-and-Challenges.pdf>

⁷⁸ Malik VS, Popkin BM, Bray GA, Després J-P, Hu FB Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. *Circulation*. 2010. 121:1356–1364

⁷⁹ Nguyen M, Jarvis SE, Tinajero MG, Yu J, Chiavaroli L, Mejia SB, Khan TA, Tobias DK, Willett WC, Hu FB, Hanley AJ. Sugar-sweetened beverage consumption and weight gain in children and adults: A systematic review and meta-analysis of prospective cohort studies and randomized controlled trials. *Am J Clin Nutr*. 2023;117(1):160-174.

⁸⁰ de Ruyter JC, et al. 2012. A Trial of Sugar-Free or Sugar-Sweetened Beverages and Body Weight in Children. *N Engl J Med*. 367(15):1397–406.

⁸¹ Luger M, Lafontan M, Bes-Rastrollo M, Winzer E, Yumuk V, Farpour-Lambert N. 2017. Sugar-sweetened beverages and weight gain in children and adults: a systematic review from 2013 to 2015 and a comparison with previous studies. *Obes Facts*. 10(6):674–693.

⁸² Bleich SN, Vercammen KA 2018. The negative impact of sugar-sweetened beverages on children’s health: an update of the literature. *BMC Obes* 5, 6.

⁸³ Lewis KH, Skelton J, Hsu FC, Ezouah P, Taveras EM, Block JP. 2019. Use of Electronic Health Record Data to Study the Association of Sugary Drink Consumption with Child Weight Status. *Acad Pediatr*. pii: S1876-2859(19)30451-6.

⁸⁴ Quah P, Kleijweg J, Chang Y, Toh J, Lim H, Sugianto R, Chong, M. 2019. Association of sugar-sweetened beverage intake at 18 months and 5 years of age with adiposity outcomes at 6 years of age: The Singapore GUSTO mother–offspring cohort. *British Journal of Nutrition*, 122(11), 1303-1312.

⁸⁵ Dietary Guidelines Advisory Committee. 2015. *Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture*. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.

⁸⁶ Malik VS, Li Y, Pan A, et al. 2019. Long-Term Consumption of Sugar-Sweetened and Artificially Sweetened Beverages and Risk of Mortality in US Adults. *Circulation*. 2(5), nzy008.

⁸⁷ Varraso R, Camargo CA Jr. 2019. Novel dietary risk factors for asthma. *Expert Rev Respir Med*. 13(8):695-698..

⁸⁸ Al-Zalabani AH, Noor Elahi I, Katib A, Alamri AG, Stewart KFJ et al. 2019. Association between soft drinks consumption and asthma: a systematic review and meta-analysis. *BMJ Open*. 9(10):e029046.

⁸⁹ Chazelas E, Srour B, Desmetz E, Kesse-Guyot E, Julia C, Deschamps V et al. 2019. Sugary drink consumption and risk of cancer: results from NutriNet-Santé prospective cohort. *BMJ*; 366:l2408

⁹⁰ Vreman RA, Goodell AJ, Rodriguez LA, Porco TC, Lustig RH, Kahn JG. Health and economic benefits of reducing sugar intake in the USA, including effects via non-alcoholic fatty liver disease: a microsimulation model. *British Medical Journal Open*. 2017;7(8):e013543. Published 2017 Aug 3. doi:10.1136/bmjopen-2016-013543.

⁹¹ Meisterling K et al. 2022. Healthy beverage initiatives: A case study of scenarios for optimizing their environmental benefits on a university campus, *Cleaner and Responsible Consumption*, 4:100049.

Appendix 2

Suggested questions submitted via 2022 public comment to Docket No. HHS-OASH-2022-0005⁹² are summarized here,

- Include research into the risk of other metabolic disease, cardiovascular disease, and impacts on oral health, and specifically dental decay when investigating the relationship between beverage consumption and body growth and composition, and risk of type 2 diabetes.
- How effective is the MyPlate graphic in reducing sugary drink intake, and in increasing intake of water and other non-sweet and zero calorie beverages in lieu of sugary drinks? Does the messaging work for the preponderance of U.S. sub-populations?
- Add questions to tease out inequities and disparities.

Appendix 3

Recommendations related to beverage choice in the National Clinical Care Commission Report to Congress in December 2021, “Leveraging Federal Programs to Prevent and Control Diabetes and Its Complications,”⁹³

“Recommendation 4.4: The National Clinical Care Commission recommends that all relevant federal agencies promote the consumption of water and reduce the consumption of sugar-sweetened beverages in the U.S. population, and that they employ all the necessary tools to achieve these goals, including education, communication, accessibility, water infrastructure, and sugar-sweetened beverage taxation.

“4.4a. USDA should add a symbol for drinking water to the MyPlate graphic and increase water promotion messaging in all consumer-facing materials issued by its Center for Nutrition Policy Promotion. Water is not currently depicted on the USDA MyPlate.

“4.4b. Child nutrition programs should be a conduit for education to promote consumption of water and reduce consumption of sugar-sweetened beverages. USDA should encourage hydrating with water instead of sugar-sweetened beverages and provide safe water education in WIC nutrition education and in childcare settings. Congress should harness the Child Nutrition Reauthorization Act to strengthen existing water provisions for school nutrition programs.

“4.4f. All federal agencies should promote drinking water and reduce sugar-sweetened beverage consumption within their own organizations and through the grants and programs they fund or administer. All agencies should increase access to free, clean, and appealing sources of drinking

⁹² Hecht C. 2022. *Comments to the US Department of Health and Human Services and US Department of Agriculture regarding scientific questions related to sugar-sweetened beverages and drinking water to be examined to support the development of the Dietary Guidelines for Americans 2025-2030.* At, <https://ucanr.edu/sites/NewNutritionPolicyInstitute/files/367626.pdf>

⁹³ National Clinical Care Commission. 2021. *Report to Congress on Leveraging Federal Programs to Prevent and Control Diabetes and Its Complications.* At, <https://health.gov/about-odphp/committees-workgroups/national-clinical-care-commission/report-congress>, pages 38-41.

water for their employees and visitors and develop procurement and other policies that curb the availability and sale of sugar-sweetened beverages to their employees and visitors.

“4.4g. HHS should serve as a federal model by (a) ensuring onsite access to safe, clean, and appealing drinking water; (b) restricting the sale of sugar-sweetened beverages in HHS-owned or HHS-leased offices, workplaces, and health care facilities; and (c) measuring the impact of these interventions on employee behavior and diabetes-related outcomes through voluntary participation in an evaluation of the model.”