January 15, 2020



Barbara Schneeman, PhD
Chair, 2020 Dietary Guidelines Advisory Committee
Dietary Guidelines Advisory Committee
c/o USDA Food and Nutrition Service
Center for Nutrition Policy and Promotion
3101 Park Center Drive, Room 1034; Alexandria, VA 22302

Re: Comments in response to Federal Register No. 2019-04543- Docket ID FNS-2019-0001, 2020 Dietary Guidelines Advisory Committee Proceedings

Dear Dr. Schneeman and Members of the 2020 Dietary Guidelines Advisory Committee,

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. We, the undersigned -- researchers, scientists, nutritionists, clinicians, public health professionals and public health advocates -- encourage the Dietary Guidelines Advisory Committee (DGAC) to provide strong recommendations in your report that urge USDA and HHS to state explicitly and unequivocally, in the new 2020 Dietary Guidelines for Americans, that water should be first for thirst and should be consumed in place of SSBs. Your recommendations should request the agencies to take the needed steps to add a symbol for water to the MyPlate graphic. Further, we recommend that your report provide clear, actionable information on ways to make plain water a beverage of choice, for example by recommending strategies to provide effective access to safe and appealing water, especially tap water, and to promote and educate about healthy beverages. 1, 2, 3, 4, 5, 6, 7, 8 These recommendations will help reduce SSB consumption by supporting and enabling the healthy alternative, drinking water. (We wish to emphasize that we do not recommend discouraging dairy consumption or removing the dairy icon on MyPlate.)

Health impacts of sugar-sweetened beverages

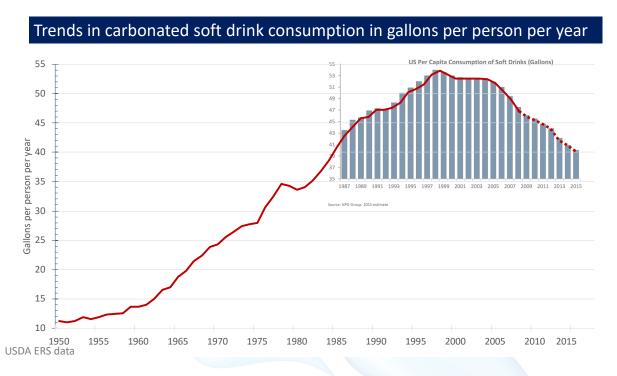
Since a "Best of Science" letter was submitted to the previous DGAC in 2014 (attached), studies continue to confirm that SSBs are a leading contributor to the rates of obesity, ^{9, 10, 11, 12, 13, 14} type 2 diabetes^{15, 16, 17, 18, 19} and other metabolic dysfunction (fatty liver disease, insulin resistance), ^{20, 21, 22} heart disease (hypertension, dyslipidemia, stroke, coronary and cardiovascular disease) ^{23, 24, 25, 26, 27, 28} and tooth decay. ^{29, 30} Sources of liquid sugars, such as SSBs, may be uniquely harmful to health. ³¹ Recent studies suggest SSB consumption may be linked to additional health impacts including increased risk of mortality, ³² risk of asthma, ^{33, 34} and the risk of certain cancers; further research is warranted. ³⁵



An ever more obese nation

Prevalence of overweight and obesity in the U.S. is at an all-time high.^{36, 37} A recent report predicts that our nation's obesity crisis will continue to grow: that within just ten years (i.e., by 2030) nearly one-half of U.S. adults will have obesity; one-quarter will have severe obesity.³⁸ Overweight is the primary disqualifier for fitness for U.S. military service.³⁹ Type 2 diabetes and non-alcoholic fatty liver disease are afflicting more, and younger, people.^{40, 41, 42}

SSBs remain heavily consumed



Graph courtesy of Kristine Madsen, MD, University of California, Berkeley

In recent years, public health efforts to promote a reduction in the consumption of SSBs have intensified.^{43, 44, 45, 46} Despite some success by these efforts as reflected in recent declines, consumption of SSBs remains well above recommended levels.⁴⁷



In order to support policy, practices and programs promoting water consumption and clear and consistent nutrition education on healthy beverage habits, as well as to message the public, we urge that both the Dietary Guidelines for Americans and MyPlate should clearly and consistently encourage the benefits of water consumption in place of SSBs.

Thank you for this opportunity to provide our comments.

Yours sincerely,

Organizations



Individuals

Abbey Alkon, RN, PNP, MPH, PhD Department of Family Health Care Nursing School of Nursing University of California, San Francisco Jennifer Woo Baidal, MD, MPH
Division of Pediatric Gastroenterology,
Hepatology, and Nutrition
Columbia University Medical Center
New York-Presbyterian Morgan Stanley Children's
Hospital



Sara N. Bleich, PhD Harvard T.H. Chan School of Public Health Radcliffe Institute for Advanced Study Harvard Kennedy School

Claire Brindis, DrPH
Philip R. Lee Institute for Health Policy Studies
Department of Pediatrics
Department of Obstetrics, Gynecology, and
Reproductive Health Sciences
University of California, San Francisco

Kelly D. Brownell, PhD World Food Policy Center Duke University

David A. Cleveland, MS, PhD Environmental Studies Program and Department of Geography University of California, Santa Barbara

Angie L. Cradock, ScD, MPE Harvard T.H. Chan School of Public Health

Pat Crawford, DrPH, RD Nutrition Policy Institute Division of Agriculture & Natural Resources University of California

William Dietz, MD, PhD
Redstone Global Center for Prevention and
Wellness
Milken Institute School of Public Health
The George Washington University

Fatinah Darwish, MPH, RD Los Angeles County Department of Public Health

Molly DeVinney, MPH Sugar Freedom Project

Lori Dorfman, DrPH Berkeley Media Studies Group

Jen Falbe, ScD, MPH, Nutrition and Human Development University of California, Davis Jake Ferreira
Mission: Readiness

Tracy Fox, MPH, RD Food, Nutrition & Policy Consultants, LLC

Anne Froment
Division of Nephrology and Hypertension
University of North Carolina at Chapel Hill

Christopher Gardner, PhD Stanford University

Edward Giovannucci, MD, ScD
Departments of Nutrition and Epidemiology
Harvard T.H. Chan School of Public Health

Praveen S. Goday, MBBS, CNSC Pediatric Gastroenterology and Nutrition Medical College of Wisconsin

Anna Grummon, PhD, MSPH Harvard T.H. Chan School of Public Health

Sarah Hampl, MD
General Pediatrics and Weight Management
Center for Children's Healthy Lifestyles &
Nutrition
Children's Mercy Kansas City
University of Missouri, Kansas City School of
Medicine

Jeannie Huang, MD, MPH
Pediatric Gastroenterology Hepatology and
Nutrition
University of California San Diego
Rady Children's Hospital San Diego

Glenda Humiston Vice President, Agriculture and Natural Resources University of California, Office of the President

David L. Katz, MD, MPH
True Health Initiative
Yale-Griffin Prevention Research Center

Cristin Kearns, DDS, MBA
Philip R. Lee Institute for Health Policy Studies
Division of Oral Epidemiology & Dental Public
Health
School of Dentistry
University of California, San Francisco

NATIONAL Drinking Water ALLIANCE

Hannah Lawman, PhD Drexel University

Ingrid Lofgren, PhD, MPH, RD
Department of Nutrition and Food Sciences
College of Health Sciences
University of Rhode Island

Robert H. Lustig, MD
Division of Endocrinology
Weight Assessment for Teen and Child Health
(WATCH) Program
University of California, San Francisco

Kristine Madsen, MD, MPH Berkeley Food Institute School of Public Health University of California, Berkeley

Vasanti Malik, ScD
Department of Nutritional Sciences, Faculty of Medicine
University of Toronto
Department of Nutrition
Harvard T.H. Chan School of Public Health

Tania Marquez, MPH
Los Angeles County Department of Public Health

Ashley E. Mason, PhD
Department of Psychiatry
Osher Center for Integrative Medicine
University of California, San Francisco

Kathleen J. Melanson, PhD, RD, LDN Department of Nutrition and Food Sciences College of Health Sciences University of Rhode Island

Shu Wen Ng, PhD, FTOS
Department of Nutrition
Gillings School of Global Public Health
University of North Carolina at Chapel Hill

Brietta M. Oaks, PhD, MPH
Department of Nutrition and Food Sciences
College of Health Sciences
University of Rhode Island

Anisha Patel, MD, MSPH, MSHS Stanford University

Rafael Pérez-Escamilla, PhD, Dr. Honoris Causa Member of the National Academy of Medicine Yale School of Public Health

Gregory Pierce, PhD Luskin Center for Innovation University of California, Los Angeles

Barry M. Popkin, PhD
Department of Nutrition
University of North Carolina at Chapel Hill

Francisco Ramos-Gomez, DDS, MS, MPH Section of Pediatric Dentistry School of Dentistry University of California, Los Angeles

Eric Rimm, ScD Harvard T.H. Chan School of Public Health

Daniel Rizik-Baer, MSW Los Angeles County Department of Public Health

Mica Root
Johns Hopkins Bloomberg School of Public Health

Asher Yoel Rosinger, PhD, MPH Pennsylvania State University

Marlene B. Schwartz, PhD Rudd Center for Food Policy & Obesity University of Connecticut

Laura Schmidt, PhD, MSW, MPH
Philip R. Lee Institute for Health Policy Studies
Department of Anthropology, History and Social
Medicine
School of Medicine
University of California, San Francisco

Dipa Shah, MPH, RD Los Angeles County Department of Public Health

Carmen Byker Shanks, PhD, RDN
College of Education, Health & Human
Development
Montana State University

Sonya Shin, MD, MPH Harvard Medical School Brigham and Women's Hospital

Wendelin Slusser, MD, MS, FAAP David Geffen School of Medicine Fielding School of Public Health University of California, Los Angeles

Karen Sokal-Gutierrez, MD, MPH School of Public Health University of California, Berkeley

Kimber L. Stanhope, PhD, MS, RD Department of Molecular Biosciences University of California, Davis

Jodi Stookey, PhD Nutrition Epidemiology Arizona State University



Mary Story, PhD, RD
Duke Global Health Institute, Duke University
Healthy Eating Research National Program, Robert
Wood Johnson Foundation

Qi Sun, MD, ScD Harvard T.H. Chan School of Public Health

Jezra Thompson Gardening and Cooking Program Berkeley Unified School District

Alison Tovar, PhD, MPH
Department of Nutrition and Food Sciences
College of Health Sciences
University of Rhode Island

Lara Turnbull, MPH
Southern California Public Health Association

Maya Vadiveloo, PhD, RD
Department of Nutrition and Food Sciences
University of Rhode Island

Petra Wilder-Smith DDS, PhD Beckman Laser Institute Chai Family Comprehensive Cancer Center University of California Irvine

Stella Lucia Volpe, PhD, RDN, ACSM-CEP, FACSM Department of Nutrition Sciences College of Nursing and Health Professions Drexel University"

Laura Zatz, MPH Harvard T.H. Chan School of Public Health



¹ Kenney EL, Gortmaker SL, Carter JE, Howe CW, Reiner JF, Cradock AL. 2015. 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 Pub Health* 105(9):1777-1783

² 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

³ Elbel B, Mijanovich T, Abrams C, Cantor J, Dunn L, Nonas C, Cappola K, Onufrak S, Park S. 2015. A Water Availability Intervention in New York City Public Schools: Influence on Youths' Water and Milk Behaviors. *Am J Pub Health* 105(2): 365-372.

⁴ 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

⁵ Pieper KJ, Katner A, Kriss R, Tang M, Edwards MA. 2019. Understanding lead in water and avoidance strategies: a United States perspective for informed decision-making. *J Water Health* 17:540-55

⁶ Hecht AA, Buck S, Patel AI. 2016. Water First: A Toolkit to Promoting Water Intake in Community Settings. Retrieved from: https://cfpa.net/Water/Water/WaterFirstToolkits/Water%20First%20Toolkit.pdf

⁷ Dietary Guidelines Advisory Committee. *Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture*. Washington, DC: US Department of Agriculture, Agricultural Research Service; 2015

⁸ Armstrong LE, Barquera S, Duhamel J-F, et al. 2012. Recommendations for healthier hydration: Addressing the public health issues of obesity and type 2 diabetes. *Clin Obes.* **2**:115-124

⁹ 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

¹⁰ 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):674–693pmid:29237159

¹¹ 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 https://doi.org/10.1186/s40608-017-0178-9

¹² 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. doi: 10.1016/j.acap.2019.11.002. [Epub ahead of print] PubMed PMID: 31712182.

¹³ 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. doi:10.1017/S0007114519002253

¹⁴ Higgins KA, Mattes RD. 2019. A Randomized Controlled Trial Contrasting the Effects of 4 Low-Calorie Sweeteners and Sucrose on Body Weight in Adults with Overweight or Obesity. *Am J Clin Nutr.* 109(5):1288–1301

¹⁵ Imamura F, O'Connor L, Ye Z, Mursu J, Hayashino Y, et al. 2015. 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* 351:h3576

¹⁶ 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. doi: 10.1093/jn/nxy298. PubMed PMID: 31050751.

¹⁷ 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. doi: 10.1093/cdn/nzy008. eCollection 2018 May.



- ¹⁸ Drouin-Chartier J-P, Zheng Y, Li Y, Malik V, Pan A et al. 2019. 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* Sep; dc190734. https://doi.org/10.2337/dc19-0734
- ¹⁹ Neuenschwander M, Ballon A, Weber KS, Norat T, Aune D, Schwingshackl L, Schlesinger S. 2019. Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies. *BMJ*. 366:l2368. doi: 10.1136/bmj.l2368. Review. PubMed PMID: 31270064; PubMed Central PMCID: PMC6607211.
- ²⁰ 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.
- ²¹ 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. doi: 10.3390/ijerph16122192
- ²² Ramírez-López G, Flores-Aldana M, Salmerón J. 2019. Associations between dietary patterns and metabolic syndrome in adolescents. *Salud Publica Mex.* 61(5):619-628. doi: 10.21149/9541. PubMed PMID: 31661739.
- ²³ 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
- ²⁴ 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
- ²⁵ Narain A, Kwok CS, Mamas MA. 2016. Soft drinks and sweetened beverages and the risk of cardiovascular disease and mortality: a systematic review and meta-analysis. *International Journal of Clinical Practice* 70(10):791-805.
- ²⁶ 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.
- ²⁷ Vos MB, Kaar JL, Welsh JA, Horn LVV, Feig DI, Anderson CA, Johnson RK. 2017. Added Sugars and Cardiovascular Disease Risk in Children: A Scientific Statement From the American Heart Association. *Circulation*, 135(19). doi: 10.1161/cir.000000000000439
- ²⁸ Malik VS, Hu FB. 2019. Sugar-Sweetened Beverages and Cardiometabolic Health: An Update of the Evidence. Nutrients. 11(8). pii: E1840. doi: 10.3390/nu11081840
- ²⁹ 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
- ³⁰ Kamal Y, O'Toole S, Bernabé E. 2019. Obesity and tooth wear among American adults: the role of sugar-sweetened acidic drinks. *Clin Oral Investig*. doi: 10.1007 s00784-019-03079-5. [Epub ahead of print] PubMed PMID: 31656969.
- ³¹ Stanhope KL, Goran MI, Bosy-Westphal A, King JC, Schmidt LA et al. 2018. Pathways and mechanisms linking dietary components to cardiometabolic disease: thinking beyond calories. *Obes Rev.* 19(9):1205-1235. doi: 10.1111/obr.12699.
- ³² 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, https://doi.org/10.1093/cdn/nzy008
 ³³ Varraso R, Camargo CA Jr. 2019. Novel dietary risk factors for asthma. *Expert Rev Respir Med*. 13(8):695-698. doi:
- ³³ Varraso R, Camargo CA Jr. 2019. Novel dietary risk factors for asthma. *Expert Rev Respir Med*. 13(8):695-698. doi 10.1080/17476348.2019.1626721. Epub 2019 Jun 5. PubMed PMID: 31159622.



- ³⁴ 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. doi: 10.1136 bmjopen-2019-029046. PubMed PMID: 31615794; PubMed Central PMCID: PMC6797295.
- ³⁵ 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
- ³⁶ Warren M, Beck S, Rayburn J. *The State of Obesity: 2018.* Washington, DC: Trust for America's Health; September 2018 2018.
- ³⁷ Hales CM, Carroll MD, Fryar CD, Ogden CL. 2017. Prevalence of obesity among adults and youth: United States, 2015–2016. NCHS data brief, no 288. Hyattsville, MD: National Center for Health Statistics.
- ³⁸ Ward ZJ et al. 2019. Projected U.S. State-Level Prevalence of Adult Obesity and Severe Obesity. *N Engl J Med* 381:2440-2450; https://www.nejm.org/doi/full/10.1056/NEJMsa1909301
- ³⁹ Council for a Strong America. 2018. Unhealthy and Unprepared. Available at <a href="https://strongnation.s3.amazonaws.com/documents/484/389765e0-2500-49a2-9a67-5c4a090a215b.pdf?1539616379&inline;%20filename=%22Unhealthy%20and%20Unprepared%20report.pdf%22
- ⁴⁰ 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. doi:https://doi.org/10.1001/jama.2016.8544
- ⁴¹ 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.
- ⁴² 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.
- ⁴³ Vos MB, Kaar JL, Welsh JA, et al. 2017. American Heart Association Nutrition Committee of the Council on Lifestyle and Cardiometabolic Health; Council on Clinical Cardiology; Council on Cardiovascular Disease in the Young; Council on Cardiovascular and Stroke Nursing; Council on Epidemiology and Prevention; Council on Functional Genomics and Translational Biology; and Council on Hypertension. Added sugars and cardiovascular disease risk in children: a scientific statement from the American Heart Association. *Circulation*. 135(19):e1017-e1034.
- ⁴⁴ Lott M, Callahan E, Welker Duffy E, Story M, Daniels S. 2019. Healthy Beverage Consumption in Early Childhood: Recommendations from Key National Health and Nutrition Organizations. Consensus Statement. Durham, NC: Healthy Eating Research. Available at http://healthyeatingresearch.org.
- ⁴⁵ Muth ND, Dietz WH, Magge SN, Johnson RK. 2019. Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents. *Pediatrics* 143 (4) e20190282; **DOI:** 10.1542/peds.2019-0282
- ⁴⁶ Epel ES, Hartman A, Jacobs LM, et al. 2019. Association of a Workplace Sales Ban on Sugar-Sweetened Beverages With Employee Consumption of Sugar-Sweetened Beverages and Health. *JAMA Intern Med.* Published online October 28, 2019. doi:10.1001/jamainternmed.2019.4434
- ⁴⁷ Welsh JA, Sharma AJ, Grellinger L, Vos MB. 2011. Consumption of added sugars is decreasing in the United States. *Am J Clin Nutr.* 94(3):726-734. doi:10.3945/ajcn.111.018366