



1111 Franklin Street
Oakland, California 94607-5200
Phone: (510) 987-9074
Fax: (510) 987-9086
<http://www.ucop.edu>

April 16, 2015

The Honorable Tom Vilsack
Secretary
U.S. Department of Agriculture
1400 Independence Avenue, S.W.
Washington, D.C. 20250

The Honorable Sylvia Mathews Burwell
Secretary
U.S. Department of Health and Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20201

Dear Secretary Vilsack and Secretary Burwell:

I am writing to urge you to take the necessary steps to place drinking water on the MyPlate graphic. The addition of a water icon to MyPlate is endorsed by a broad range of public health and nutrition researchers, based on science that promoting calorie-free water is an essential strategy in fighting the nation's obesity and diabetes epidemics. I attach a copy of a letter from leading researchers, scientists, nutritionists, clinicians, and public health professionals advocating for adding water to MyPlate.

As you know the 2015 Dietary Guidelines Advisory Committee recently released their advisory report, the purpose of which is to provide the federal government with current scientific evidence in the areas of health and nutrition. In their report, the Advisory Committee writes, "Strategies are needed to encourage the U.S. population to drink water when they are thirsty. Water provides a healthy, low-cost, zero-calorie beverage option...and should be promoted in all settings where beverages are offered."

The United States is building an explicit policy on drinking water in the Healthy, Hunger-Free Kids Act of 2010 (HHFKA), in the proposed U.S. Department of Agriculture's Child and Adult Care Food Program meal standard and, we hope, in the forthcoming 2015 Dietary Guidelines for Americans. It is through the robust implementation of best practices that we can make policy most effective.

The Honorable Tom Vilsack
The Honorable Sylvia Mathews Burwell
April 16, 2015
Page 2

University of California researchers at the UC Agriculture and Natural Resources' Nutrition Policy Institute (NPI) believe that robust implementation of HHFKA beverage policy requires not only that water be made accessible but also that children are motivated, and then habituated, to drink water. Equally, it is vital for Americans of all ages to understand the importance of healthy beverage choices and for those choices to become the norm. It is in developing and reinforcing this behavior that MyPlate can play such an important role. A healthy diet should include water as the main source of hydration and the MyPlate graphic, better than any alternative, can reinforce this message. I want to underline that this new symbol for water is in no way intended to substitute for the dairy symbol that resides next to the plate in MyPlate. In fact, our NPI team strongly supports dairy; water should substitute for sugar-sweetened drinks as the healthy beverage with which to satisfy thirst.

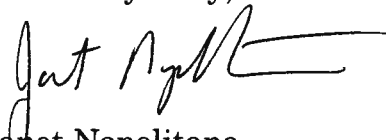
As a land-grant university, the University of California extends education through its Cooperative Extension county nutrition education programs where MyPlate is a primary teaching tool. A small survey of community-based researchers and educators administered by NPI confirms the value of this tool; the addition of a water symbol to convey the importance of water as a healthy beverage choice was deemed highly desirable.

A significant decrease in the consumption of sugar-sweetened beverages, the largest single source of added sugar in the American diet, would make an important difference in public health. Access to free, safe water and education and promotion to make water the primary beverage of choice are crucial strategies to reduce intake of sugar-sweetened beverages by Americans.

Through the Dietary Guidelines, the USDA is leading in promotion of healthy foods and in re-shaping our understanding of a healthy diet, including healthy beverage choices. The MyPlate graphic is key in translating this nutrition education to the public.

Thank you for your consideration of this request, and please let me know if I can provide more information.

Yours very truly,



Janet Napolitano
President

Attachment

cc: Executive Vice President John Stobo
Senior Vice President Nelson Peacock
Vice President Barbara Allen-Diaz
Associate Vice President Gary Falle



University of California

Agriculture and Natural Resources

Lorrene Ritchie, PhD, RD
Director and CE Specialist
Nutrition Policy Institute

1111 Franklin Street, Tenth Floor, Oakland, CA 94607
(510) 987-0523 • Lorrene.Ritchie@ucop.edu
ucanr.edu/sites/np

September 10, 2014

Dear Chairwoman Millen and Members of the Dietary Guidelines Advisory Committee,

We, the undersigned researchers, scientists, nutritionists, clinicians, and public health professionals, are aware, as you are, of the many adverse health effects of sugar-sweetened beverages (SSBs). We know that the American public consumes SSBs in excess. And we know that water should be promoted as a beverage of choice and the best non-caloric substitute for SSBs. In light of these facts, we urge the committee to strengthen the language for drinking water in the 2015 Guidelines and the USDA to add a water graphic to MyPlate.

The MyPlate graphic is the primary representation of the Dietary Guidelines for Americans for the American public. Posters of MyPlate are nearly ubiquitous in the nation's school cafeterias, and the MyPlate concept is used by SNAP-Ed and Expanded Food Nutrition Education Program (EFNEP) educators. While the Dietary Guidelines document provides an invaluable resource for professionals, educators, and anyone who seeks a fuller understanding of healthful eating, what most Americans see and learn from is the MyPlate graphic. For example, Cooperative Extension Nutrition Advisors in California reported to us that they would find the addition of a water symbol to MyPlate useful in their educational programs.

In order to reach the public, we believe that both the Guidelines and MyPlate should consistently encourage the benefits of water consumption.

Recommendations for Water Consumption

The 2010 Dietary Guidelines for Americans is replete with language describing Americans' excessive consumption of added sugars. The Guidelines also identifies SSBs as a major source of added sugars, encouraging reduction of their consumption as a key strategy for the prevention of obesity and overweight and highlighting water as an excellent substitute for SSBs. The DGA states, "To limit excess calories and maintain healthy weight, individuals are encouraged to drink water and other beverages with few or no calories..."¹. For example, in Table A2, entitled "Key Consumer Behaviors and Potential Strategies for Professionals," the DGA urges "Choose water, fat-free milk, and 100% fruit juice, or unsweetened tea or coffee as drinks rather than sugar-sweetened drinks"¹.

Since the release of the 2010 Dietary Guidelines, new scientific evidence and escalating medical costs^{2,3,4} have increased concern over the linked epidemics of obesity and diabetes⁵. New

research has also expanded the knowledge base on the benefits of drinking plain water and on the adverse consequences of SSBs. In Appendix 1 to this letter we highlight research since 2009 on the health benefits of drinking water and, in Appendix 2, we summarize research on the negative health impacts arising from consumption of SSBs.

Despite the increase in knowledge among professionals, many in the general public remain 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 day⁶. In addition, many are unaware of the high level of added sugars and calories they consume each day while quenching their thirst with SSBs⁷. The science is known. It is now time to communicate to the American public the importance of making water a beverage of choice.

Water is the ideal substitute for SSBs

Scientific bodies such as the Institute of Medicine's Committee on Accelerating Progress in Obesity Prevention⁸, Centers for Disease Control and Prevention⁹, and the American Heart Association Voices for Healthy Kids¹⁰ have embraced the importance of water in chronic disease prevention and have called for improvements in community-wide drinking water access. The American Academy of Pediatrics encourages water as the best source of hydration for young people¹¹.

In terms of adequate hydration, most Americans get enough to drink. The issue at stake is what they are drinking. Recent research shows that substituting drinking water for SSBs (sodas, juice drinks, pre-sweetened tea and coffee drinks, sports drinks, and energy drinks) can help reduce intake of calories from added sugars among both children and adults^{12,13,14,15} and can reduce the risk of dental caries¹⁶.

Recommendations for 2015

Dietary Guidelines

We urge the Dietary Guidelines Advisory Committee to develop language that strengthens the 2010 Dietary Guidelines language on the adverse effects of SSBs and the benefits of drinking water. Incorporating a general message into the otherwise more specific recommended daily intakes would be similar to the "Steps to a Healthier You" beside the prior pyramid. In Appendix 3 we present numerous examples of how other countries have addressed this important issue.

MyPlate

In parallel with the 2015 Dietary Guidelines we urge the USDA to add a simple graphic to MyPlate: a symbol for water.

Alternatively the symbol could be the Partnership for a Healthier America's Drink Up water drop, which would align with their water promotion campaign (they have told us they would be happy with this usage). Taglines with educational materials might include "Don't forget to drink plain water," "Thirsty? Drink water," "Think water first for thirst," or, "Drink your fat-free milk

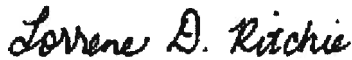
– and then quench your thirst with plain water.” We wish to emphasize that we do not recommend replacing the milk glass symbol on MyPlate with the proposed water graphic.

Promotion of water via strengthened Dietary Guidelines and MyPlate, by encouraging water consumption, would in turn increase the momentum for improved access to clean and safe tap water, needed in many schools and other public sites across the country^{17,18}. Including water with the MyPlate icon will support effective implementation of the two provisions of the Healthy, Hunger-Free Kids Act of 2010 requiring ready access to water in childcare and in our schools.

Inclusion of water on MyPlate would increase knowledge among those segments of the population that are most vulnerable, including young people to whom SSBs are heavily marketed^{19,20}. This action would be in concordance with the Partnership for a Healthier America’s Drink Up campaign to raise public awareness about the benefits of drinking water²¹ as well as with key strategies of the Centers for Disease Control and Prevention designed to decrease the consumption of SSBs²².

Clear public policy components are essential to building any change toward healthful behavior. We urge the Dietary Guidelines Advisory Committee to strengthen language in the 2015 Dietary Guidelines regarding the importance of water and we urge the USDA to add a graphic promoting drinking water to MyPlate.

Yours sincerely,



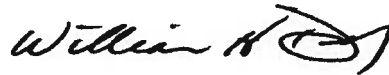
Lorrene Ritchie, PhD, RD
Director and CE Specialist
Nutrition Policy Institute
University of California
1111 Franklin, #10123
Oakland, CA 94607



Steven L. Gortmaker, Ph.D.
Professor of the Practice of Health Sociology
Department of Social and Behavioral Sciences
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115



Barry Popkin, PhD
Carolina Population Center
University Square, CB# 8120
123 W. Franklin St.
Chapel Hill, NC 27516-3997



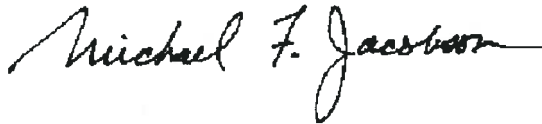
William Dietz, MD, PhD
Director, Sumner M. Redstone Global Center for
Prevention and Wellness
Milken Institute School of Public Health
George Washington University



Tracy A. Fox, MPH, RD
President, Food, Nutrition & Policy Consultants,
LLC
Washington, DC



Marlene B. Schwartz, Ph.D.
Director
Rudd Center for Food Policy and Obesity
Yale University



Michael F. Jacobson, Ph.D.
Executive Director
Center for Science in the Public Interest
1220 L Street, NW, Suite 300
Washington, DC 20005



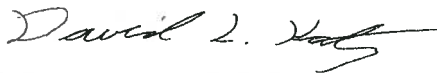
Anisha I. Patel, MD, MSPH, MSHS
Assistant Professor
Division of General Pediatrics
Institute for Health Policy Studies
University of California at San Francisco



Donna B. Johnson, RD, PhD
Professor, Nutritional Sciences
University of Washington
Box 353410
Seattle, WA 98195

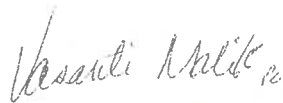


Kelly Brownell, PhD
Sanford School of Public Policy
Duke University
RM# Rubenstein Hall
124 Sanford Building
Duke Box 90239
Durham, NC 27708



David L. Katz, MD, MPH, FACPM, FACP
Director
Yale University Prevention Research Center

George Bray, MD
Chief, Division of Clinical Obesity and Metabolism
Pennington Biomedical Research Center
6400 Perkins Road
Baton Rouge, LA 70808



Vasanti Malik, M.Sc.
Research Scientist
Harvard School of Public Health
[Department of Nutrition](#)
655 Huntington Avenue
Boston, Massachusetts 02115



Pat Crawford, DrPH, RD
Director, Atkins Center for Weight & Health
CE Nutrition Specialist
Adjunct Professor
School of Public Health
University of California, Berkeley

Appendix 1: Water is important to health

Water is an essential nutrient²³. Without water, human life can be sustained for only a few days. Adequate hydration is crucial for the proper function and regulation of the kidneys and heart thus affecting heart rate, blood pressure, vaso-vagal response, lipid regulation, removal of body waste products and thermoregulation; good hydration also supports mental concentration, mood, skin health, helps prevent headache and lubricates joints^{6,24,25,26,27,28,29,30,31,32,33}. While hydration can come from many sources, low intake of plain water has been found to be associated with poor dietary quality and physical inactivity in youth³⁴.

In most instances Americans do not suffer from dehydration. However, children should be drinking more water^{35,36}. Current research indicates that children, in particular, are subject to “voluntary dehydration” from low intake of plain water^{37,38,39}. Between 2005 and 2010, more than a quarter (28%) of children aged 4-13 years old in the U.S. did not have a drink of plain water on two consecutive days³⁶. Plain water accounted for less than one third of total daily dietary water intake from beverages and foods for children aged 4-13 years old³⁶. While it is possible to meet all hydration needs with other sources, plain water is ideal because, unlike sugar-sweetened beverages, plain water does not contain calories.

Appendix 2: Adverse health effects of SSBs

Sugar-sweetened beverages are beverages containing added sugars or any caloric sweetener, and include sodas, juice drinks, pre-sweetened tea and coffee drinks, and fortified or energy drinks²². They occupy a unique niche among food and beverages: they are among the top sources of calories for children and adolescents⁴⁰ and they are a major contributor of empty calories¹. Even though SSB consumption in the U.S. has declined in recent years⁴¹, between the late 1960s and early 2000s the consumption of SSBs doubled⁴². SSBs are the single largest source of added sugars in the diet for children and adolescents⁴³. Miller⁴⁴ recently re-evaluated data from the U.S. National Health and Nutrition Examination Survey (NHANES) to assess sugar-sweetened beverage consumption by age, gender and ethnicity and by type of SSB and found that Americans consume more calories from added sugars in beverages than previously reported. While the American Heart Association recommends no more than 6 teaspoons of added sugars per day for women and 9 teaspoons per day for men, the average U.S. consumption remains too high at 17 teaspoons per day⁴⁵, or as much as 15% of daily calories⁴⁶. SSB intake as early as infancy has been found to be predictive of both SSB intake and obesity later in life¹³. Of concern is the disparity in SSB consumption among population sectors; for example, low-income populations have higher intakes of SSBs⁴⁷ and Latino children drink more SSBs than white children⁴⁸.

Since the 2010 Dietary Guidelines for Americans was issued, knowledge of the magnitude of the risk and extent of adverse effects from SSB consumption has increased. The public health consequences of the nation's consumption of excess sugars are increasingly costly at both the individual and population level. Obesity, diabetes and dental caries are well-known adverse *sequelae* of added sugar consumption, especially in the form of SSBs. Scientific evidence has grown on other serious sugar-related morbidities and inflammatory conditions.

Obesity. Two-thirds of American adults are overweight or obese⁴⁹. One in three overweight (and one in two obese) adolescents has at least one risk factor for cardiovascular disease⁵⁰. Of concern is the disparity in overweight and obesity among subsets of the population. For example, non-Hispanic blacks have the highest age-adjusted rate of obesity at 47.8%⁵¹. Among children the prevalence of obesity is highest in low-income children⁵².

Diabetes. A new Lancet study of lifetime diabetes risk states that 40% of U.S. adults are now expected to develop diabetes during their lifetime and these figures are worse for Hispanics and for African-American women⁵³. In 2012, 29.1 million people or 9% of the U.S. population had diabetes and 37% of adults were pre-diabetic⁵. Total direct and indirect costs of diabetes in the U.S. in 2012 were \$245 billion⁵. In 2007-08 nearly one-quarter of U.S. teens had diabetes or were pre-diabetic⁵⁰. Diabetes is not equal opportunity: one in three U.S. children is predicted to become diabetic over his lifetime and this rises to one in two Hispanic children⁵⁴.

Other sugar-related morbidities. Cardiovascular disease, present in more than one-third of American adults⁵⁵, is now understood to be exacerbated by the inflammatory effects of excess sugar consumption^{56,57,58,59,60}. Excess sugar consumption is a risk factor for non-alcoholic fatty liver disease, a precursor to diabetes mellitus⁶¹.

Dental caries. U.S. adults (aged 20 to 64) have an average of 3.28 decayed or missing permanent teeth and 13.65 decayed and missing permanent surfaces⁶². The NHANES, 1999 to 2002, reported that 41% of children aged 2–11 years had dental caries in the primary dentition, and that 42% of children and adolescents aged 6–19 years had caries in the permanent dentition⁶³. Dental caries are particularly endemic to specific population subsets: Hispanic subgroups and those with lower incomes have more severe decay in their permanent teeth⁶².

**Appendix 3: Examples of dietary guidance for water from countries around the world
(courtesy of Dr. Barry Popkin)**

ARGENTINA

2003

Guías alimentarias para la población argentina; p39

AADYND, Asociación Argentina de Dietistas y nutricionistas dietistas

<http://www.msal.gov.ar/promin/publicaciones/pdf/guias-alimentarias.pdf>

AUSTRALIA AND NEW ZEALAND

2006

Nutrient reference values for Australia and New Zealand; p53; National Health and Medical Research Council

http://www.nhmrc.gov.au/files_nhmrc/publications/attachments/n35.pdf

Australian Dietary Guidelines, National Health and Medical Research Council

<http://www.nhmrc.gov.au/guidelines/publications/n55>

BELGIUM

Voedingsaanbevelingen Voor België; Hoge Gezondheidsraad

<http://www.health.belgium.be/internet2Prd/groups/public/@public/@shc/documents/ie2form/19066661.pdf>

De actieve voedingsdriehoek: een praktische voedings- en beweeggids

<http://www.vigez.be/index.php?page=59&detail=227>

BRAZIL

2005

Guia alimentar para a população brasileira; p114; MoH: Ministry of health

http://dtr001.saude.gov.br/editora/produtos/livros/pdf/05_1109_M.pdf

EUROPE

2010

Scientific opinion on dietary reference values for water; p38; European Food Safety Authority (EFSA)

<http://www.efsa.europa.eu/en/efsajournal/pub/1459.htm>

FRANCE

2000

De l'eau sans modération, Programme National Nutrition Santé (PNNS)

<http://www.inpes.sante.fr/CFESBases/catalogue/pdf/1179.pdf>

GERMANY

2002

DGE: German nutrition society

<http://www.dge.de/modules.php?name=News&file=article&sid=162>

MEXICO

2008

¿Sabes cómo llevar una buena alimentación?, Instituto nacional de Salud pública

http://www.insp.mx/bajale/docs/talleres/dieta_grupos_alimentos_necesidades_nutrimientales.pdf

SPAIN

2007

Rueda de los Alimentos, Sociedad Española de Dietética y Ciencias de la Alimentación (SEDCA)

[http://www.nutricion.org/publicaciones/revistas/NutrClinDietHosp08\(28\)2_3_19.pdf](http://www.nutricion.org/publicaciones/revistas/NutrClinDietHosp08(28)2_3_19.pdf)

SOUTH AFRICA

2012

South African guidelines for healthy eating. National Department of Health. Directorate: Nutrition

ftp://ftp.fao.org/es/esn/nutrition/dietary_guidelines/zaf_eating.pdf

TURKEY

2011

Dietary guidelines for Turkey; p20; MoH: Ministry of Health

http://www.beslenme.gov.tr/content/files/yayinlar/ingilizce_yayinlar/books/dietary_guidelines.pdf

USA/CANADA

2005

DRI, Dietary reference intake for water, potassium, sodium, chloride and sulfate, p73; Institute of Medicine (IOM)

http://www.nap.edu/openbook.php?record_id=10925&page=7

The FAO and other organizations have collected food guidance models from around the world. The following are links to their websites, demonstrating that numerous other countries include water in their food guidance.

<http://www.fao.org/ag/humannutrition/nutritioneducation/fbdg/en/>

<http://fnic.nal.usda.gov/dietary-guidance/past-food-pyramid-materials/ethnicultural-food-pyramids>

<http://www.eufic.org/article/en/expid/food-based-dietary-guidelines-in-europe/>

References

- ¹ U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office; 2010.
- ² Finkelstein EA, Khavjou OA, Thompson H, Trogdon JG, Pan L, Sherry B, Dietz W. Obesity and severe obesity forecasts through 2030. *Am J Prev Med.* 2012; 42(6): 563-570.
- ³ Cawley J, Meyerhoefer C. The medical care costs of obesity: an instrumental variables approach. *J Health Econ.* 2012; 31(1): 219-230.
- ⁴ Wang CY, McPherson K, Marsh T, Gortmaker SL, Brown M. Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet.* 2011; 378(9793): 815-825.
- ⁵ Centers for Disease Control and Prevention Website. Now, 2 Out of Every 5 Americans Expected to Develop Type 2 Diabetes During Their Lifetime. Available at: <http://www.cdc.gov/diabetes/news/trends.htm>. Updated August 13, 2014. Accessed September 5, 2014.
- ⁶ Popkin BM, D'Anci KE, Rosenberg IH. Water, hydration, and health. *Nutr Rev.* 2010; 68(8): 439-458.
- ⁷ Park S, Onufrak S, Sherry B, Blanck HM. The relationship between health-related knowledge and sugar-sweetened beverages intake among US adults. *J Acad Nutr Diet.* 2014; 114(7): 1059-1066.
- ⁸ Institute of Medicine. Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. Washington, DC: The National Academies Press; 2012.
- ⁹ Centers for Disease Control and Prevention Website. Water & Nutrition. Available at: <http://www.cdc.gov/healthywater/drinking/nutrition/>. Updated June 3, 2014. Accessed September 5, 2014.
- ¹⁰ American Heart Association Website. Voices for Healthy Kids – Healthy Drinks. Available at: http://www.heart.org/HEARTORG/Advocate/Voices-for-Healthy-Kids---Healthy-Drinks_UCM_460610_SubHomePage.jsp. Accessed September 5, 2014.
- ¹¹ Schneider MB, Benjamin HJ. Clinical Report – Sports drinks and energy drinks for children and adolescents: Are they appropriate? *Pediatrics.* 2011; 1(127): 1182-1189.
- ¹² 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.
- ¹³ 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.
- ¹⁴ 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.
- ¹⁵ Wang YC, Ludwig DS, Sonneville 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.

-
- ¹⁶ 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.
- ¹⁷ Hood NE, Turner L, Colabianchi N, Chaloupka FJ, Johnston LD. Availability of drinking water in US public school cafeterias. *J Acad Nutr Diet*. 2014; 114(9): 1389-1395.
- ¹⁸ Patel AI, Hecht K, Hampton KE, Grumbach JM, Braff-Guajardo E, Brindis CD. Tapping into water: key considerations for achieving excellence in school drinking water access. *Am J Public Health*. 2014; 104(7): 1314-1319.
- ¹⁹ Study Synopses: Sugar-Sweetened Beverage (SSB) Marketing to Youth. Yale Rudd Center; 2013. Available at: http://www.yalerruddcenter.org/resources/upload/docs/what/policy/SSBtaxes/SSBStudies_Marketing_to_Youth.pdf. Accessed September 3, 2014.
- ²⁰ Food and Beverage Marketing to Children and Adolescents: Limited Progress by 2012, Recommendations for the Future. RWJF, 2012. Available at: http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf404379. Accessed September 3, 2014.
- ²¹ Partnership for a Healthier America: Drink Up Campaign. Available at: <http://ahealthieramerica.org/our-work/you-are-what-you-drink/>. Accessed September 3, 2014.
- ²² The CDC Guide to Strategies for Reducing the Consumption of Sugar-Sweetened Beverages. Centers for Disease Control and Prevention; 2010. Available at: http://www.cdph.ca.gov/SiteCollectionDocuments/StratstoReduce_Sugar_Sweetened_Bevs.pdf. Accessed September 3, 2014.
- ²³ National Research Council. *Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate*. Washington, DC: The National Academies Press, 2005.
- ²⁴ Masento NA, Golightly M, Field DT, Butler LT, van Reekum CM. Effects of hydration status on cognitive performance and mood. *Br J Nutr*. 2014; 111(10): 1841-1852.
- ²⁵ Pross N, Demazières A, Girard N, Barnouin R, Santoro F, Chevillotte E, Klein A, Le Bellego L. Influence of progressive fluid restriction on mood and physiological markers of dehydration in women. *Br J Nutr*. 2013; 109(2): 313-321.
- ²⁶ Pross N, Demazieres A, Girard N, Barnouin R, Metzger D, Klein A, Perrier E, Guelinckx I. Effects of changes in water intake on mood of high and low drinkers. *PLoS One*. 2014; 9(4): e94754.
- ²⁷ Edmonds CJ, Crombie R, Ballieux H, Gardner MR, Dawkins L. Water consumption, not expectancies about water consumption, affects cognitive performance in adults. *Appetite*. 2013; 60(1): 148-153.
- ²⁸ Ganio MS, Armstrong LE, Casa DJ, McDermott BP, Lee EC, Yamamoto LM, Marzano S, Lopez RM, Jimenez L, Le Bellego L, Chevillotte E, Lieberman HR. Mild dehydration impairs cognitive performance and mood of men. *Br J Nutr*. 2011; 106(10): 1535-1543.
- ²⁹ Kempton MJ, Ettinger U, Foster R, Williams SC, Calvert GA, Hampshire A, Zelaya FO, O'Gorman RL, McMorris T, Owen AM, Smith MS. Dehydration affects brain structure and function in healthy adolescents. *Hum Brain Mapp*. 2011; 32(1): 71-79.
- ³⁰ Armstrong LE, Ganio MS, Casa DJ, et al. Mild dehydration affects mood in healthy young women. *J Nutr*. 2012; 142(2): 382-388.

³¹ Benefer MD, Corfe BM, Russell JM, Short R, Barker ME. Water intake and post-exercise cognitive performance: an observational study of long-distance walkers and runners. *Eur J Nutr*. 2013; 52(2): 617-624.

³² Spigt M, Weekamp N, Troost J, van Schayck CP, Knottnerus JA. A randomized trial on the effects of regular water intake in patients with recurrent headaches. *Fam Pract*. 2012; 29(4): 370-375.

³³ Goodman AB, Blanck HM, Sherry B, Park S, Nebeling L, Yaroch AL. Behaviors and attitudes associated with low drinking water intake among US adults, Food Attitudes and Behaviors Survey, 2007. *Prev Chronic Dis*. 2013; 10: E51.

³⁴ Park S, Blanck HM, Sherry B, Brener N, O'Toole T. Factors associated with low water intake among US high school students – National Youth Physical Activity and Nutrition Study, 2010. *J Acad Nutr Diet*. 2012; 112(9): 1421-1427.

³⁵ Ritchie L, Rausa J, Patel A, Braff-Guajardo E, Hecht K. Providing water with meals is not a concern for young children: Summary of the literature & best practice recommendations. CFWA; 2012. Available at:

http://cwh.berkeley.edu/sites/default/files/primary_pdfs/Providing_Water_With_Meals_is_Not_a_Concern_for_Young_Children_5.12.pdf. Accessed September 9, 2014.

³⁶ Drewnowski A, Rehm CD, Constant F. Water and beverage consumption among children age 4-13y in the United States: Analyses of 2005-2010 NHANES data. *Nutrition Journal*. 2013; 12(1): 1-9.

³⁷ Stookey JD, Brass B, Holliday A, Arieff A. What is the cell hydration status of healthy children in the USA? Preliminary data on urine osmolality and water intake. *Pub Health Nutr*. 2012; 15(11): 2148-2156.

³⁸ Bar-David Y, Urkin J, Landau D, Bar-David Z, Pilpel D. Voluntary dehydration among elementary school children residing in a hot arid environment. *J Hum Nutr Diet*. 2009; 22(5): 455-460.

³⁹ Bar-David Y, Urkin J, Kozminsky E. The effect of voluntary dehydration on cognitive functions of elementary school children. *Acta Paediatr*. 2005; 94(11): 1667-1673.

⁴⁰ Ervin RB, Kit BK, Carroll MD, Ogden CL. Consumption of added sugar among U.S. children and adolescents, 2005–2008. NCHS data brief no 87. Hyattsville, MD: National Center for Health Statistics. 2012

⁴¹ Kit BK, Fakhouri THI, Park S, Nielsen SJ, Ogden CL. Trends in sugar-sweetened beverage consumption among youth and adults in the United States: 1999–2010. *Am J Clin Nutr* 2013; 98: 180–8.

⁴² Duffey KJ, Popkin BM. Shifts in patterns and consumption of beverages between 1965 and 2002. *Obesity*. 2007; 15: 2739–2747.

⁴³ Reedy J, Krebs-Smith S. Dietary sources of energy, solid fats, and added sugars among children and adolescents in the United States. *J Am Diet Assoc*. 2010; 110: 1477–1484.

⁴⁴ Miller PE, McKinnon RA, Krebs-Smith SM, Subar AF, Chriqui J, Kahle L, Reedy J. Sugar-sweetened beverage consumption in the U.S.: Novel Assessment Methodology. *Am J Prev Med*. 2013; 45(4): 416-421.

⁴⁵ Usual Intake of Added Sugars: Table A40. Added Sugars: Means, percentiles and standard errors of usual intake, 2007-2010. National Cancer Institute Website. Available at: http://appliedresearch.cancer.gov/diet/usualintakes/pop/2007-10/table_a40.html. Update April 2, 2014. Accessed September 3, 2014.

-
- ⁴⁶ 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):516-524.
- ⁴⁷ Han E, Powell LM. Consumption patterns of sugar-sweetened beverages in the US. *J Acad Nutr Diet.* 2013; 113: 43-53.
- ⁴⁸ Chaloupka FJ, Ramirez AG. Sugary Drinks and Latino Kids. Yale Rudd Center; 2013. Available at: http://www.bridgingthegapresearch.org/_asset/z6x4mo/BTG-Salud-America_Sugary-Drinks-brief_09-30-13.pdf. Accessed September 5, 2014.
- ⁴⁹ Obesity and Overweight. Centers for Disease Control and Prevention Website. Available at: <http://www.cdc.gov/nchs/fastats/obesity-overweight.htm>. Updated May 14, 2014. Accessed September 5, 2014.
- ⁵⁰ May AL, Kuklina EV, Yoon PW. Prevalence of cardiovascular disease risk factors among US adolescents, 1999-2008. *Pediatrics.* 2012; 129(6): 1035-1041.
- ⁵¹ Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011-2012. *JAMA.* 2014; 311(8): 806-814.
- ⁵² Centers for Disease Control and Prevention. Childhood Obesity Facts. Centers for Disease Control and Prevention. 2014. Available at: <http://www.cdc.gov/obesity/data/childhood.html>. Accessed September 5, 2014.
- ⁵³ Gregg EW, Zhuo X, Cheng YJ, Albright AL, Venkat KM, Narayan KMV, Thompson TJ. Trends in lifetime risk and years of life lost due to diabetes in the USA, 1985–2011: a modelling study. *The Lancet Diabetes & Endocrinology* 13 August 2014(Article in Press DOI: 10.1016/S2213-8587(14)70161-5).
- ⁵⁴ Narayan KMV, Boyle JP, Thompson TJ, Sorensen SW, Williamson DF. Lifetime risk for diabetes mellitus in the United States. *JAMA.* 2003; 290(14): 1884-1890.
- ⁵⁵ Go AS, Mozaffarian D et al. AHA Statistical Update. Heart Disease and Stroke Statistics—2013 Update. *Circulation.* 2013; 127: e6-e245.
- ⁵⁶ Johnson RK, Appel LJ, Brands M, Howard BV, Lefevre M, Lustig RH, Sacks F, Steffen LM, Wylie-Rosett J, American Heart Association Nutrition Committee of the Council on Nutrition, Physical Activity and Metabolism. Council on Epidemiology and Prevention Dietary sugars intake and cardiovascular health: a scientific statement from the American Heart Association. *Circulation.* 2009; 120: 1011–1020.
- ⁵⁷ Fung TT, Malik V, Rexrode KM, Manson JE, Willett WC, Hu FB. Sweetened beverage consumption and risk of coronary heart disease in women. *Am J Clin Nutr* 2009; 89: 1037–1042.
- ⁵⁸ Malik VS, Hu FB. Sugar-sweetened beverages and health: where does the evidence stand? *Am J Clin Nutr* 2011; 94: 1161–1162.
- ⁵⁹ Welsh JA, Cunningham SA. The role of added sugars in pediatric obesity. *Pediatr. Clin. North Am.* 2011; 58(6): 1455-1466.
- ⁶⁰ Ritchey MD, Wall HK, Gillespie C, George MG, Jamal A. Million Hearts: Strategies to Reduce Prevalence of Leading Cardiovascular Disease Risk Factors --- United States, 2011. *Morbidity and Mortality Weekly Report.* 2011; 60(36): 1248-1251.
- ⁶¹ Lazo M, Hernaez R, Bonekamp S, Kamel IR, Brancati FL, Guallar E, Clark JM. Non-alcoholic fatty liver disease and mortality among US adults: prospective cohort study. *BMJ.* 2011; 343: d6891.
- ⁶² National Institute of Craniofacial Research. Dental Caries (Tooth Decay) in Adults (Age 20 to 64). NIH. 2014. Available at:

<http://www.nidcr.nih.gov/DataStatistics/FindDataByTopic/DentalCaries/DentalCariesAdults2010/064.htm>. Accessed September 5, 2014.

⁶³ Centers for Disease Control and Prevention. Surveillance for dental caries, dental sealants, tooth retention, edentulism, and enamel fluorosis — United States, 1988–1994 and 1999–2002. In: Surveillance Summaries, August 26, 2005. MMWR 2005; 54(No. SS-3).