



October 23, 2015

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

The Honorable Sylvia Burwell
Secretary
U.S. Health and Human Services
200 Independence Ave., SW
Washington, D.C., 20201

Dear Secretaries Vilsack and Burwell:

In September 2014 we, the undersigned researchers, scientists, nutritionists, clinicians, and public health professionals, sent a “Best of Science” letter to you and to the Dietary Guidelines Advisory Committee (DGAC) reviewing the science on the importance of drinking water for obesity prevention and for health in general. We urged the DGAC to recommend strong language in the 2015 Guidelines encouraging Americans to drink water and they did so. Further, we urged the U. S. Department of Agriculture (USDA) to consider modifying the MyPlate graphic to include water.

Today, as your departments work to complete the 2015 Dietary Guidelines for Americans, we write with recent evidence that confirms the advisability of supporting the language in the Guidelines with a water symbol on MyPlate, the translation of the Guidelines seen by children – who often are not drinking enough water -- and families:

- *Many US children need more water.* The first study of urine osmolality using nationally representative data found 54.5% of US children aged 6-19 inadequately hydrated (Kenney 2015). (Please see Appendix for a complete listing of new science with summaries and full citations.)
- *Americans want kids to drink more water.* In a key finding, the WK Kellogg Foundation’s 2015 School Food Poll found that 91% of Americans say encouraging children to drink more water is a “number one” or “high” priority.



- *Americans support promotion of water consumption.* The same poll shows that 90% of people believe water should be the preferred beverage choice and a part of the Dietary Guidelines for Americans.
- *Beverage choices are related to diet quality.* In a nationally representative sample of Americans, consumption of sugar-sweetened beverages, including artificially sweetened beverages, was associated with the largest reduction in daily overall diet quality (An 2015).
- *A new study adds evidence that drinking more water does not reduce children's dairy consumption.* Students in New York City public schools increased water intake 3-fold within three months after installation of water jets and showed no decrease in milk-taking over a one-year study (Elbel 2014).
- *People lack clear information on drinking water.* A recent article on dehydration in the *New York Times* "Upshot" by a pediatrician drew nearly 700 online comments revealing wide interest in the subject – and also revealing widespread misperceptions concerning the subject, both in the original article and in the online comments.
- *Unanimous approval for drinking water.* Last spring, over fifty positive comments and no negative comments were submitted in favor of improving drinking water access and education, and the addition of a symbol for water to MyPlate, in response to the 2015 DGAC report. This makes drinking water that rare recommendation: one with no apparent dissent.
- *MyPlate is a ubiquitous guide.* In addition to its central role in nutrition education for children in schools, even in small, family-run childcare operations 40% use MyPlate to guide their meal planning, according to a 2015 survey of 254 California licensed family childcare sites.

The dietary guidelines not only influence school meal nutrition standards and other nutrition policy, they also shape what children and adults learn about healthy choices through the MyPlate graphic and other nutrition education. We hope to see strong language in the final Dietary Guidelines encouraging Americans to drink water, and we urge the USDA Center for Nutrition Policy and Promotion to fully support the



science and public interest need by taking all necessary steps to add a symbol for drinking water to MyPlate.

“Water: First for Thirst.”

Yours sincerely,

A handwritten signature in cursive script that reads "Lorrene D. Ritchie".

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A handwritten signature in cursive script that reads "Marlene B. Schwartz".

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An, R. 2015. Beverage Consumption in Relation to Discretionary Food Intake and Diet Quality among US Adults, 2003-2012. *J Acad Nutr Diet* S2212-2672(15)01258-7. Analyzing NHANES data for 2003-2012, the study found that beverage choices are related to diet quality. The author examined consumption of different types of beverages (excluding water) in relation to diet quality (measured by Healthy Eating Index 2010) and intake of “discretionary foods.” The study found that SSB consumption was associated with the largest increase in daily total calorie intake and the largest reduction in daily overall diet quality. Of note, the study also found that diet beverage consumption, though associated with overall reduced caloric intake, was associated with the largest increase in daily calorie intake from discretionary (i.e., nutrition poor) food items.

Della Torre SB, Keller A, Depeyre JL, Kruseman M. 2015. Sugar-Sweetened Beverages and Obesity Risk in Children and Adolescents: A Systematic Analysis on How Methodological Quality May Influence Conclusions. *J Acad Nutr Diet* S2212-2672(15)00651-6. The authors performed a systematic review and quality analysis of the methodology of studies investigating the influence of SSB consumption on obesity and risk of obesity in children and adolescents. Looking only at the studies deemed to have strong methodology, the majority found a positive association between SSB consumption and obesity or risk of obesity, especially among already overweight children.

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. Researchers found that installing water jets in schools was an effective way to increase water consumption among students. They observed water- and milk-taking among 9000, and self-reported fluid consumption among 2899, students in 9 New York City public schools before and 3 months after installation of water “jets” in cafeterias. They observed a subset of schools one year later and interviewed cafeteria workers. At 3 months there was a 3-fold increase in water-taking and a very small decline in milk-taking; at one year the 3-fold water increase remained and the decrease in milk-taking relative to baseline disappeared. Cafeteria workers reported jets were easy to maintain.

Hernández-Cordero S, Barquera S, Rodriguez-Ramirez S, Villanueva-Borbolla MA, de Cossio TG, Dommarco JR, Popkin B. 2014. Substituting water for SSBs reduces circulating triglycerides and the prevalence of metabolic syndrome in obese but not in overweight Mexican women in a randomized controlled trial.



***Journal of Nutrition*. 144(11): 1742-1752.** This Mexican study found that providing water and nutritional counseling was effective in increasing water intake and decreasing SSB intake for overweight and obese women. It was also effective in decreasing triglycerides for obese women.

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. A group-randomized, controlled trial in Boston, MA schools examined the effect of drinking water promotion (signage promoting water) and provision of cups near water sources. Over the 3 months of the study, the percentage of students drinking water in intervention schools nearly doubled, the amount they drank more than doubled, and the percentage observed with SSBs declined significantly.

Kenney EL, Long MW, Cradock AL, Gortmaker SL. 2015. Prevalence of Inadequate Hydration Among US Children and Disparities by Gender and Race/Ethnicity: National Health and Nutrition Examination Survey, 2009–2012. *Am J Pub Health* 105 (8):113-e118. The study calculated a measure of inadequate hydration (urine osmolality over 800 mOsm/kg) in a sample of 4134 participants aged 6 to 19 years in the National Health and Nutrition Examination Survey from 2009 to 2012 and found 54.5% prevalence of inadequate hydration. It estimated the association of inadequate hydration with gender and race/ethnicity and found that boys, non-Hispanic blacks, and younger children were at a significantly higher risk of inadequate hydration. It found that an 8-fluid-ounce daily increase in water intake was associated with a significantly lower risk of inadequate hydration.

Kristensen AH, Flottesmesch TJ, Maciosek MV, Jenson J, Barclay G, Ashe M, Sanchez E, Story M, Teutsch SM, Brownson RC. 2015. Reducing Childhood Obesity through U.S. Federal Policy: A Microsimulation Analysis. *Am J Prev Med*. 47(5):604-612. Using criteria to select three policies to reduce childhood obesity and a review of the literature to find evidence to create average effect sizes, the authors used a microsimulation model to estimate the impact of each policy on BMI on a school-aged population after 20 years of implementation. All three policies would be effective in reducing obesity, however the authors concluded an SSB excise tax would be effective and would also most reduce disparities in obesity (as well as generating revenues).



Onufrak SJ, Park S, Sharkey JR, Merlo C, Dean WR, Sherry B. 2014. Perceptions of tap water and school water fountains and association with intake of plain water and sugar-sweetened beverages. *J Sch Health* 84(3): 195-204. The YouthStyles survey assessed perception of tap water safety, perception of school drinking fountains, plain water intake, SSB intake and sociodemographic information in 1044 respondents. Nineteen percent of youth disagreed that their local tap water was safe and 38% disagreed that their school water fountains were clean and safe. Negative perceptions of tap water were more common among black and Hispanic youth, youth from lower-income families, and obese youth. Among Hispanics, negative perceptions of school fountains were associated with SSB intake.

Onufrak SJ, Park S, Wilking C. 2014. Student-reported School Drinking Fountain Availability by Youth Characteristics and State Plumbing Codes. *Prev Chronic Dis* 11: 130314. Forty percent of 1,196 YouthStyles survey respondents reported there were only a few drinking fountains available to them at school, and 2.6% reported there were no working fountains available in their school. Youth living in states where plumbing codes required only 1 fountain per more than 100 students were less likely to report widely available drinking fountains than youths living in states that required 1 per 100 students.

Park S, McGuire LC, Galuska DA. 2015. Regional Differences in Sugar-Sweetened Beverage Intake among US Adults. *J Acad Nutr Diet* S2212-2672(15)00661-9. Using 2010 NHANES data the authors found that sixty-four percent of US adults consume SSBs once or more per day; examination of the association between census region of habitation and frequency of SSB consumption found that frequency and type of SSB consumption vary by geographic region.

Zheng M, Rangan A, Olsen NJ, Andersen LB, Wedderkopp N, Kristensen P, Grøntved A, Ried-Larsen M, Lempert SM, Allman-Farinelli M, Heitmann BL. 2015. Substituting sugar-sweetened beverages with water or milk is inversely associated with body fatness development from childhood to adolescence. *Nutrition* 31(1):38-44. This Danish study found that replacing SSBs with water can help curb body fat development in young children. The study followed 9-year-old children for 6 years, and looked at body fat development with respect to beverage intake. It found that sugar sweetened beverage (SSB) intake at age 9 was directly associated with subsequent 6 year change in BMI ($P=.02$). Daily substitution of 100 g of water or milk for 100 g of SSBs was inversely associated with changes in BMI over the 6 years ($P=.02$).



Zheng M, Allman-Farinelli M, Heitmann BL, Rangan A. 2015. Substitution of sugar-sweetened beverages with other beverage alternatives: a review of long-term health outcomes. *J Acad Nutr Diet* 115(5):767-79. The authors systematically retrieved, reviewed and assessed quality of prospective cohort studies and randomized controlled trials (RCTs) examining the effects of substituting beverage alternatives for SSBs on long-term health outcomes in both children and adults, resulting in ten studies with the quality rating ranging from acceptable to high. Evidence from these studies showed that substitution of SSBs by water or low-calorie beverages was associated with long-term lower energy intake and lower weight gain. Evidence was insufficient to draw conclusions regarding the effect of beverage substitution on other health outcomes, and which beverage alternative is the best choice.

Article in *The New York Times* “Upshot” on dehydration may be found at <http://www.nytimes.com/2015/08/25/upshot/no-you-do-not-have-to-drink-8-glasses-of-water-a-day.html>

Letter to the Editor, *The New York Times*, in response, on the importance of drinking water may be found at <http://mobile.nytimes.com/2015/08/31/opinion/how-much-water-should-we-drink-every-day.html?referrer=>