

# Policy Brief: Fulfilling the Promise of Free Water in K-12 Schools

## Background

Overweight and obesity among children and adolescents have tripled in the past three decades.<sup>1</sup> With one-third of our nation's 2-19 year-olds now overweight or obese,<sup>1</sup> the consequences are alarming for their health and longevity, as well as for the nation's economic well-being. A growing body of research implicates sugar-sweetened beverages (SSBs), such as sodas and sports drinks, as a key driver of rising obesity rates.<sup>2-3</sup> In the U.S., 80 percent of 2-19 year-olds consume at least one SSB daily.<sup>4</sup>

Free drinking water provides a healthy, low-cost, zero-calorie beverage option. Consumption of water is associated with a number of health benefits including obesity prevention,<sup>5-10</sup> dental caries reduction (even in the absence of fluoridation, drinking water instead of SSBs can prevent caries),<sup>10-12</sup> proper hydration, and improved cognitive function.<sup>13-15</sup> Access to free, clean drinking water in schools is important since children spend substantial time there and students may arrive at school already dehydrated.<sup>16</sup>

In September 2010, California enacted SB 1413, which requires schools to provide access to free drinking water during meal times in school food service areas.<sup>17</sup> In December 2010, President Obama signed the Healthy, Hunger-Free Kids Act of 2010, which included a similar provision.<sup>18</sup> Both statutes were effective as of the 2011-2012 school year.<sup>19</sup>

## The Study

From May to November of 2011, researchers at the University of California, San Francisco, in conjunction with California Food Policy Advocates and ChangeLab Solutions (formerly Public Health Law & Policy), examined drinking water access, water-related policies, and practices, as well as barriers to improving water access and intake in California public schools.<sup>20</sup> The study principally consisted of interviews with administrators from 240 randomly selected California schools, and helped to document water access in California's schools as the law was being initially implemented. In addition, a stakeholder convening was held in March 2012, where policy and research recommendations were developed, based upon the study's findings.



**ChangeLab  
Solutions**

Law & policy innovation  
for the common good.

University of California  
San Francisco



Philip R. Lee Institute  
for Health Policy Studies



**CALIFORNIA  
FOOD POLICY  
ADVOCATES**

## Principal Study Findings

While all study schools reported offering free drinking water in at least one location on campus, one in four schools reported no such access where meals are served despite the new state and federal requirements.

Drinking fountains were cited as the most common source of free drinking water in schools. Five main barriers to full implementation of the new water-access requirements were identified:

- a. Unfamiliarity with the “water in schools” legislation and/or health benefits of improving water access and intake.
- b. Concerns about the cost of making drinking water available during meal times and throughout the school day.
- c. Concerns about water safety and quality.
- d. Lack of student preference for water and their low consumption of water.
- e. School administrators’ other pressing work-related concerns.

## Key Policy Recommendations

**Strategic goal:** Change the paradigm by increasing access to and consumption of free, appealing, and safe drinking water in all schools as rapidly as possible.

1. **Make water easily accessible, available and visible to students during meals.** *At minimum, schools should provide a cup of water on every school lunch tray or at least nearby the serving line and where students eat.*
2. **Eliminate sales of single-use, individual-size bottled water and other competitive beverages at school.** *The presence of competitive beverages in schools contradicts and undermines the policy to require and promote free water. If any competitive beverages are sold on school campuses, they should be limited to nutrition services’ sale of nonfat and 1% unflavored milk and 100% juice in National School Lunch Program (NSLP) portion size.*



3. **Require annual water-quality testing at the tap of every school’s drinking water, with notice of testing results readily available to students, parents and community.** *Current water-quality testing is piecemeal and arcane. Greater coherence and transparency will earn confidence in tap water from students and their families.*

4. **Require access to free water in the School Breakfast Program, Summer Food Service Program, and the Afterschool Snack and Dinner Programs under federal law.** *The nutrition and health benefits of free water access should not be limited to NSLP under federal law.*

5. **Integrate an examination of water availability and quality of school drinking water devices within existing school accountability report cards, and assessments.** *Stakeholders need a baseline understanding of water access to make improvements.*

6. **Facilitate and support the development of good models for purchase, installation, and maintenance of a range of water delivery systems, from short-term solutions (e.g. coolers) to permanent solutions (e.g., plumbed in bottle filling dispensers), support the negotiation of high-volume pricing; prohibit/discourage the use of single-use bottled water on campuses.** *This is the information that schools most request and need.*

**7. Include a water consumption recommendation in all nutrition guidance documents, particularly the Dietary Guidelines, with which school meals must be aligned, and include water access/consumption standards in incentive/reward programs like Healthier US School Challenge and Alliance for Healthier Generation.** *This strategy will strengthen implementation, promotion, and consumption.*

**8. Submit comments on relevant United States Department of Agriculture proposed rules stemming from the Healthy, Hunger-Free Kids Act of 2010, including those dealing with competitive foods, indirect costs, and wellness policies.** *This is an effective strategy in support of robust implementation of the relevant provisions of the Healthy, Hunger Free Kids Act of 2010.*

### Recommendations for Future Research

1. Study how the availability of competitive beverages in schools affects student consumption of free water.
2. Determine the cost of purchase, installation, and maintenance of a range of water delivery systems and identify the key factors for selecting appropriate models (e.g., most effective in increasing water intake, affordability, ease of installation).
3. Develop a baseline inventory of currently operating sources of drinking water, including type, condition, and location in the school.
4. Collect, analyze and disseminate best practices in drinking water-relevant nutrition education, promotion, and marketing that increases consumption and promotes health.
5. Develop and disseminate cost-effective ways for testing water.
6. Examine how increased drinking water access and intake impacts health outcomes, such as obesity, dental caries, and cognitive functioning.

### References

1. Wang Y, Beydoun MA. The obesity epidemic in the United States--gender, age, socioeconomic, racial/ethnic, and geographic characteristics: a systematic review and meta-regression analysis. *Epidemiol Rev* 2007;29:6-28
2. Schulze MB, Manson JE, Ludwig DS, et al. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. *JAMA* 2004;292:927-34.
3. Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. *Am J Clin Nutr* 2006;84:274-88.
4. Wang YC, Bleich SN, Gortmaker SL. Increasing caloric contribution from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004. *Pediatrics* 2008;121:e1604-14.
5. Stookey JD, Constant F, Popkin BM, Gardner CD. Drinking water is associated with weight loss in overweight dieting women independent of diet and activity. *Obesity (Silver Spring)* 2008;16:2481-8.
6. Stookey JD, Constant F, Gardner CD, Popkin BM. Replacing sweetened caloric beverages with drinking water is associated with lower energy intake. *Obesity (Silver Spring)* 2007;15:3013-22.
7. Ebbeling CB, Feldman HA, Osganian SK, Chomitz VR, Ellenbogen SJ, Ludwig DS. Effects of decreasing sugar-sweetened beverage consumption on body weight in adolescents: a randomized, controlled pilot study. *Pediatrics* 2006;117:673-80.
8. Daniels MC, Popkin BM. Impact of water intake on energy intake and weight status: a systematic review. *Nutr Rev* 2010;68:505-21.
9. 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:e661-7.
10. Popkin BM, D'Anci KE, Rosenberg IH. Water, hydration, and health. *Nutr Rev* 2010;68:439-58.
11. McDonagh MS, Whiting PF, Wilson PM, et al. Systematic review of water fluoridation. *BMJ* 2000;321:855-9.

12. Ismail AI, Sohn W, Lim S, Willem JM. Predictors of dental caries progression in primary teeth. *J Dent Res* 2009;88:270-5.
13. Edmonds CJ, Jeffes B. Does having a drink help you think? 6-7-Year-old children show improvements in cognitive performance from baseline to test after having a drink of water. *Appetite* 2009;53:469-72.
14. D'Anci KE, Constant F, Rosenberg IH. Hydration and cognitive function in children. *Nutr Rev* 2006;64:457-64.
15. Benton D, Burgess N. The effect of the consumption of water on the memory and attention of children. *Appetite* 2009;53:143-6.
16. 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. *Public Health Nutr* 2012:1-9.
17. California State Legislation: Senate Bill SB 1413. Available at: [www.leginfo.ca.gov/pub/09-10/bill/sen/sb\\_1401-1450/sb\\_1413\\_bill\\_20100930\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_1401-1450/sb_1413_bill_20100930_chaptered.pdf). Accessed July 19, 2012.
18. Healthy, Hunger-Free Kids Act of 2010, 42 USC 1751, §203 (2010).
19. California Department of Education. Information Alert: Access to Free Water. Available at [www.cde.ca.gov/ls/nu/sn/iafreewater.asp](http://www.cde.ca.gov/ls/nu/sn/iafreewater.asp). Accessed June 14, 2012.
20. Patel AI, Chandran K, Hampton KE, Hecht K, Grumbach JM, Kimura AT, et al. Observations of Drinking Water Access in School Food Service Areas Before Implementation of Federal and State School Water Policy, California, 2011. *Prev Chronic Dis* 2012;9:110315. DOI: <http://dx.doi.org/10.5888/pcd9.110315>

### Acknowledgment

The study of water access and water policies in California was funded by Healthy Eating Research, a national program of the Robert Wood Johnson Foundation.

### Useful Resources

#### Websites

- California Food Policy Advocates. Water in Schools [Online]. [www.waterinschools.org/resources/](http://www.waterinschools.org/resources/)
- Centers for Disease Control and Prevention. Water Access in Schools [Online]. [www.cdc.gov/healthyyouth/npao/wateraccess.htm](http://www.cdc.gov/healthyyouth/npao/wateraccess.htm).

#### Reports & Publications

- The Boston Public Health Commission's **Healthy Beverages Toolkit**
- The Community Water Center's **Guide to Community Drinking Water Advocacy**
- Encouraging Consumption of Water in School and Child Care Settings: Access, Challenges, and Strategies for Improvement; <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2011.300142>
- The Hidden Energy Costs of School Beverage Vending Machines; [www.phaionline.org/2012/06/07/the-hidden-energy-costs-of-school-beverage-vending-machines/](http://www.phaionline.org/2012/06/07/the-hidden-energy-costs-of-school-beverage-vending-machines/)

**Cite as:** Braff-Guajardo, E., Hecht, K., Hampton, K.E., Brindis, C.D., Grumbach, J.M., Patel, A.I. Policy Brief: Fulfilling the Promise of Free Water in K-12 Schools.(2012). Retrieved from: <http://waterinschools.org/pdfs/FulfillingThePromiseOfFreeWater2012.pdf>