

CALIFORNIA: Improving Drinking Water Equity and Access in California Schools



This brief summarizes a CHOICES Learning Collaborative Partnership model examining a strategy to improve access to drinking water in California schools. This voluntary water equity and access program involves the installation of touchless chilled water dispensers on or near school cafeteria lunch lines in K-8 non-charter California public schools that have adequate plumbing.

The Issue

All children should have access to clean, appealing, and free drinking water no matter where they live or where they go to school. Providing appealing access to drinking water gives students a healthier alternative to sugary drinks, like sweetened fruit drinks, sports drinks, and soda. Students drink more water when schools provide access to water at lunch at no charge,¹ and improving school water access can help kids grow up at a healthy weight.^{2,3}

In California, one in 10 schools reported having no access to free drinking water where meals are served despite state and federal requirements.^{4,5} Additionally, only one in five schools reported meeting criteria considered the standard for excellence in water access.⁴ Creating a healthy, equitable school environment that includes appealing drinking water access can help set children up for a healthy future.

About the Water Dispensers in Schools Strategy

This strategy focuses on increasing water access by installing touchless water dispensers at schools serving primarily families with low income, which also have a greater share of Black/African American and Latino students than other schools in California. Promoting better drinking water access in schools has been shown to increase water intake during the day and may help promote a healthy weight.³ Thus, it is a strategy that can help local health departments reach the twin goals of increasing access to and promotion of safe drinking water while decreasing access to and consumption of sugary drinks.⁶ Putting this strategy into place would require resources for administering the program, installing and maintaining dispensers, utility and disposable cup usage, lead testing and remediation, and delivering water-promotion education.

Comparing Costs and Outcomes

A CHOICES cost-effectiveness analysis compared the costs and outcomes of installing touchless water dispensers in schools with the costs and outcomes associated with not implementing the voluntary water equity and access program over 10 years (2020-2030).

Installation of touchless water dispensers in schools in California is an investment in a more equitable future. By the end of 2030:



1.88 MILLION CHILDREN REACHED

with improved access to safe drinking water in schools over 10 years

\$12 MILLION

HEALTH CARE COSTS SAVED

over 10 years

\$6

COST PER CHILD

per year

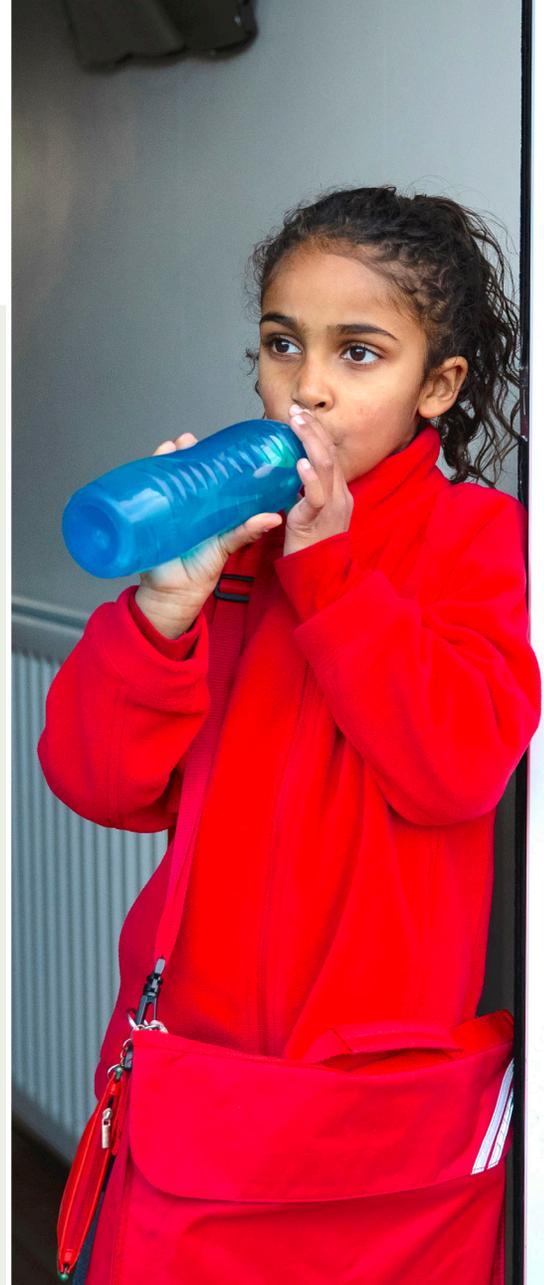
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Conclusions and Implications

Installing water dispensers in K-8 public schools is an effective strategy for increasing access to clean, appealing, and free drinking water. Over 10 years, this strategy is expected to improve drinking water access and consumption for over 1.8 million students in California. This strategy is estimated to prevent 3,660 cases of childhood obesity in 2030 and would cost on average \$6 per child to implement each year. Comparatively, the value of lunch served to students is \$3 per day or about \$600 per year.⁷ While the costs to implement this strategy would be \$21,500 per school over 10 years, there would be an estimated \$12 million in obesity-related health care cost savings over the same time period.

Improving students' access to free, clean drinking water could promote health equity. Latino youth report less availability of drinking water access in schools,⁸ and Black/African American youth are less likely to be adequately hydrated compared with White non-Latino youth.⁹ Focusing drinking water access improvements in schools with high percentages of Black/African American and Latino students may benefit these populations the most. In addition to promoting a healthy weight, this strategy may also benefit children in other ways. Adequate water consumption can lead to improvements in well-being and support cognitive function.¹⁰ Fluoridated water intake also prevents dental caries.¹¹

Though investment is required, every student deserves access to clean, appealing drinking water, and this strategy can be a part of a suite of interventions that support children and their families. Many preventive strategies play a critical role in helping children establish healthy habits early on in life. Focusing on supporting these healthy habits now can help more children grow up at a healthy weight.



1. Bogart LM, Babey SH, Patel AI, Want P, Schuster MA. Lunchtime school water availability and water consumption among California adolescents. *Journal of Adolescent Health*. 2016; 58(1):98-103. doi: 10.1016/j.jadohealth.2015.09.007.
2. Schwartz AE, Leardo M, Aneja S, Elbel B. Effect of a School-Based Water Intervention on Child Body Mass Index and Obesity. *JAMA Pediatr*. 2016; 170(3):220-226. doi:10.1001/jamapediatrics.2015.3778.
3. Kenney EL, Cradock AL, Long MW, et al. Cost-Effectiveness of Water Promotion Strategies in Schools for Preventing Childhood Obesity and Increasing Water Intake. *Obesity*. 2019;27(12):2037-2045.
4. Altman EA, Lee KL, Hecht CA, Hampton KE, Moreno G, Patel AI. Drinking water access in California schools: Room for improvement following implementation of school water policies. *Preventive Medicine Reports*. 2020;19:101143. Published 2020 Jun 8. doi:10.1016/j.pmedr.2020.101143.
5. California Department of Education. Drinking Water for Students in Schools. Reviewed January 14, 2020. <https://www.cde.ca.gov/ls/nu/he/water.asp#:~:text=California%20Education%20Code%20Section%2038086%20states%20that%20if%20a%20school,reasons%20why%2C%20whether%20due%20to>. Accessed February 16, 2021.
6. California Department of Public Health. FFY 2020-2022 SNAP-Ed Local Health Departments Programmatic Priorities. Published December 10, 2018. <https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/NEOPB/CDPH%20Document%20Library/Branch16Add2FFY20-22SNAPEdLHD.pdf>. Accessed January 29, 2021.
7. California Department of Education. 2019-20 CNP Reimbursement Rates. <https://www.cde.ca.gov/ls/nu/rs/rates1920.asp>. Accessed December 12, 2020.
8. Onfurak SJ, Park S, Wilking C. Student-reported school drinking fountain availability by youth characteristics and state plumbing codes. *Preventing Chronic Disease*. 2014; 11: E60. doi: 10.5888/pcd11.130314.
9. Kenney EL, Long MW, Cradock AL, Gortmaker SL. Prevalence of inadequate hydration among U.S. children and disparities by gender and race/ethnicity: National Health and Nutrition Examination Survey, 2009-2012. *American Journal of Public Health*. 2015; 105(8): e113-8. doi: 10.2105/AJPH.2015.302572.
10. Popkin BM, D'Anci KE, Rosenberg IH. Water, hydration, and health. *Nutrition Reviews*. 2010 Aug;68(8):439-58.
11. American Dental Association and Centers for Disease Control. Nature's Way to Prevent Tooth Decay: Water Fluoridation. Published 2006. https://www.cdc.gov/fluoridation/pdf/natures_way.pdf. Accessed July 13, 2021.

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