

# Increasing Access to Drinking Water in Schools



National Center for Chronic Disease Prevention and Health Promotion  
Division of Population Health



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# Background





# Background

## Why provide access to drinking water in schools?

Drinking water can contribute to good health, and schools are in a unique position to promote healthy, dietary behaviors, including drinking water. More than 95% of children and adolescents are enrolled in schools, and students typically spend at least 6 hours at school each day.<sup>1</sup> Ensuring that students have access to safe, free drinking water throughout the school environment gives them a healthy alternative to sugar-sweetened beverages before, during, and after school. Access to safe, free drinking water helps to increase students' overall water consumption, maintain hydration, and reduce energy intake, if substituted for sugar-sweetened beverages.<sup>2-4</sup> In addition, adequate hydration may improve cognitive function among children and adolescents, which is important for learning.<sup>5-9</sup> Drinking water, if fluoridated, also plays a role in preventing dental caries (cavities).<sup>10</sup>

## Are schools required to provide access to drinking water?

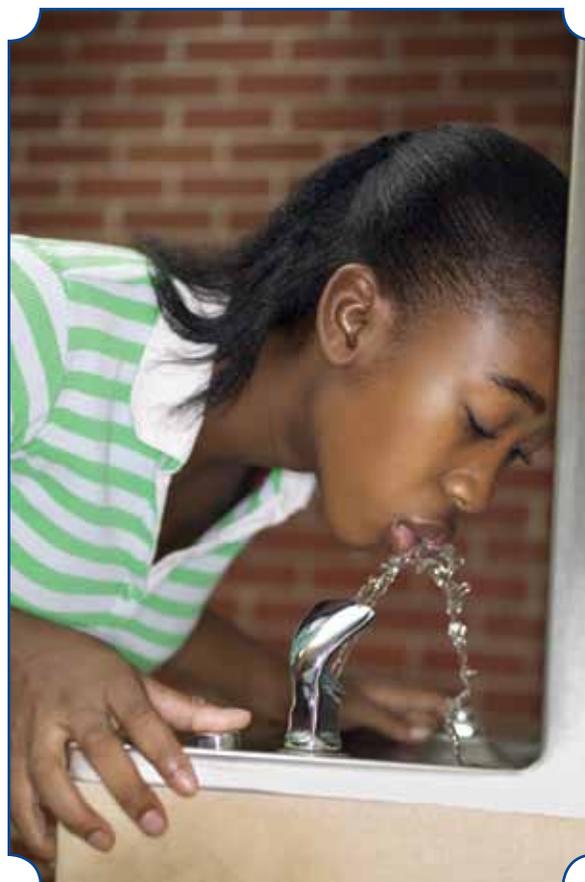
The United States Department of Agriculture (USDA) requires that schools participating in the National School Lunch Program (NSLP) make plain (i.e., no flavoring, additives, or carbonation) drinking water available to students at no cost during the lunch meal periods at the locations where meals are served.<sup>11</sup> Schools must also make drinking water available during the School Breakfast Program (SBP), when breakfast is served in the cafeteria. Schools that participate in the Afterschool Snack Program are encouraged to provide drinking water when snacks are served. Water is not considered part of the reimbursable meal, and there is no separate funding for providing drinking water. Funds from the nonprofit food service account may be used to pay for some costs of providing the water, including cups and pitchers. The USDA has issued guidance on this requirement, including information on determining allowable costs.<sup>12,13</sup> Schools can consult their state education or agriculture agencies with additional questions about meeting these requirements. States, school districts, and individual schools may have additional policies and regulations requiring drinking water in schools.

## Are there recommendations for schools on providing drinking water to students?

In addition to federal requirements for providing students with access to drinking water, there are other recommendations related to water access in schools. The Institute of Medicine and the Centers for Disease Control and Prevention recommend that plain drinking water be available throughout the school day at no cost to students, and if other beverages are available or sold during the school day, they should only include plain water (i.e., no flavoring, additives, or carbonation), fat-free or low-fat milk, and 100% fruit juice in specified portions.<sup>14,15</sup> Similar recommendations are promoted in several voluntary school recognition programs, including the Alliance for a Healthier Generation's Healthy Schools Program and USDA's Healthier US School Challenge (HUSC).<sup>16,17</sup> The American Academy of Pediatrics (AAP) also recommends the following: (a) Children and adolescents should be taught to drink water routinely as an initial beverage of choice as long as daily dietary caloric and other nutrient (e.g., calcium, vitamins) needs are being met; (b) Water is also generally the appropriate first choice for hydration before, during, and after most exercise regimens, and (c) Children should have free access to water, particularly during school hours.<sup>18</sup>

## The Water Access in Schools Tool Kit contains the following three major components —

1. A description of key steps schools can take to meet federal requirements for drinking water during the meal periods, as well as to make drinking water available and accessible across the school campus, including the following:
  - [Conducting a needs assessment of current drinking water policies and practices.](#)
  - [Developing a school water access plan.](#)
  - [Implementing the school water access plan.](#)
  - [Evaluating the success of the water access plan.](#)
2. [A School Drinking Water Needs Assessment Checklist and Planning Guide \(Appendix 1\)](#) to guide schools through the process of assessing current policies and practices related to water, developing and prioritizing actions to increase access to drinking water, and evaluating changes.
3. Key resources for promoting water consumption and making water more available and accessible among school settings.



## Who should use this tool kit?

This tool kit can be used by school health councils, nutrition services providers, principals, teachers, parents, and other school staff who are interested in increasing access to drinking water. In addition, other stakeholders may choose to use the tool kit, such as public health partners, community members, and university staff, to support the implementation and evaluation of these efforts among schools.

# Needs Assessment





# Needs Assessment

Because every school is different, it is important to spend time thinking through what specific changes to water accessibility are needed. Consider the resources available to make the changes, and what training and promotion will help ensure that the changes to provide and encourage water intake are successful.

The needs assessment process includes the following: (a) assessing policies and practices related to water access; (b) reviewing water testing requirements and recommendations; (c) conducting an assessment of the school's water access points; (d) assessing students' and other stakeholders' perceptions about the drinking water; and (e) identifying key personnel to become water access champions.

Key individuals who might be involved in the needs assessment process include school administrative personnel, the school business office staff, the facilities division staff of the school, school food service staff, school nurses, students, families, community members, members of the school health council or school health team, and other health and nutrition agency representatives. [The School Drinking Water Needs Assessment Checklist and Planning Guide \(Appendix 1\)](#) can be used to review key questions about current drinking water policies, practices, and environments.

Although the needs assessment process outlined in this tool kit is specifically focused on improving drinking water access, CDC's School Health Index (<http://www.cdc.gov/healthyouth/shi>) can be used to assess overall school health policies and practices, including some aspects related to drinking water access. The School Health Index and the Water Access in Schools Tool Kit can complement each other and help schools address water access, in addition to other school health priorities.

## Step 1: Assess state, district, and school policies and practices related to water access.

### Overview

Policies about water access before, during, and after school may be established at the federal, state, and local levels. For example, there is a federal requirement for schools to provide drinking water during breakfast and lunch meal periods.<sup>11</sup> Most states have plumbing codes that establish a minimum number of water fountains per number of students. Districts participating in the NSLP are required to have a local school wellness policy (LWP), which may include goals for drinking water, such as making drinking water available in multiple locations throughout the school environment—not just in eating areas—and ensuring that students and staff have access to safe drinking water throughout the school day, including after-school settings.<sup>19,20</sup>

Federal, state, and local water policies may address food service areas (e.g., cafeterias) or the entire school campus. Policies that address food service areas can be found on local school district Web sites or by contacting the nutrition services division for the entire school district. To learn more about building-wide policies, the district environmental health officer, business office, or the facilities division of the school may be contacted.

- [The School Drinking Water Needs Assessment Checklist and Planning Guide \(Appendix 1\)](#) can be used to assess school policies and practices for the following areas:

### **Food Service Areas**

- **Availability of water during meal periods (as required by USDA).**
- **State laws or policies requiring drinking water to be provided during meals and snacks that exceed USDA requirements.**
- **School district policies requiring water to be provided during meals and snacks that exceed USDA requirements.**
- **Sanitary code specific to food service areas.**
  - » The state may have requirements for how to properly clean and maintain water access points, which are implemented by the local health departments.
- **Standard Operating Procedures (SOPs) for placement, filling, and cleaning of water dispensers in the cafeteria.**
  - » Schools may have SOPs that detail how to properly clean, sanitize, and maintain water access points, specifically in food service areas, including who is responsible for conducting each step. SOPs should align with sanitary code requirements, including cleaning and flushing the fountains, bulk water dispensers, or other water access points.

### **Campus-Wide**

- **Safe Drinking Water Act (SDWA).**
  - » Federal regulations for schools that have their own water source (i.e., a well).
- **State and local plumbing codes.**
  - » Most state and some local municipalities have plumbing codes for schools that require a specific number of water access points based on the number of students (e.g., 1 fountain per 100 students). Schools can contact their local building inspector for plumbing code information and standards.
- **State laws or regulations relevant to water access in schools.**
  - » Some states (e.g., Massachusetts, West Virginia) have policies that require students to have access to drinking water during the school day, as well as during before-school and after-school activities.
- **School district policies.**
  - » School districts may also have policies related to drinking water access, including allowing students to bring fillable water containers to class, providing cups at water access points, and marketing or promoting drinking water during the school day or at school-sponsored events and activities. Schools that have known water quality problems may also have district policies governing the purchase, placement, and distribution of bottled water dispensers needed to replace plumbed fountains that have been taken out of service.

- **SOPs for water delivery devices.**
  - » For water access points outside the food service areas, schools may have SOPs outlining the steps needed to properly clean, sanitize, and maintain water access points, including who is responsible for conducting each step.
- **State or local laws or regulations that support community water fluoridation.**
  - » Reporting requirements to state or local authorities about facilities that include plumbing systems.
  - » Schools may have an annual facilities inventory or have an annual building condition report that can be referenced.

### Additional Resources

- Environmental Protection Agency (EPA)—*Water in Schools and Childcare Facilities*.  
<http://water.epa.gov/infrastructure/drinkingwater/schools/guidance.cfm>
- USDA—Memorandum on Water Availability During Meal Service.  
[http://www.fns.usda.gov/sites/default/files/SP28-2011\\_osr.pdf](http://www.fns.usda.gov/sites/default/files/SP28-2011_osr.pdf)
- USDA—Local School Wellness Policy.  
<http://www.fns.usda.gov/tn/Healthy/wellnesspolicy.html>
- CDC—Local School Wellness Policy.  
<http://www.cdc.gov/healthyyouth/npao/wellness.htm>
- CDC—My Water’s Fluoride.  
<http://apps.nccd.cdc.gov/MWF/Index.asp>
- WellSAT—School Wellness Policy Evaluation Tool, by Robert Wood Johnson Foundation.  
<http://wellsat.org/>
- National Policy and Legal Analysis Network—*How to Enforce a Wellness Policy: A Guide for Parents and Community Advocates*.  
[http://changelabsolutions.org/sites/changelabsolutions.org/files/EnforceWellnessPolicyFactSheet\\_web\\_FINAL\\_090219.pdf](http://changelabsolutions.org/sites/changelabsolutions.org/files/EnforceWellnessPolicyFactSheet_web_FINAL_090219.pdf)
- ChangeLab Solutions—Water Access in Schools: Model Wellness Policy Language.  
<http://changelabsolutions.org/publications/wellness-policy-water>

### Examples of Successful Water Access Wellness Policies

Schools throughout the country have adopted a variety of policies and practices to improve access to drinking water on campus. The following example illustrates a district that includes language on access to drinking water in the district wellness policy:

- Earlimart School District in California adopted a wellness policy that requires water to be accessible throughout the school day, as well as during before-school and after-school activities. It allows students to take water into the classroom in capped containers, and it also includes provisions on periodic maintenance of water fountains and testing of water sources.  
[http://www.californiaprojectclean.org/docuserfiles/Case%20Studies\\_Earlimart-Final.pdf](http://www.californiaprojectclean.org/docuserfiles/Case%20Studies_Earlimart-Final.pdf)

## Step 2: Review federal, state, and local water testing requirements and recommendations.

### Overview

Schools are responsible for providing safe drinking water. Drinking water comes into the school facilities from either (a) a public water supplier (e.g., water utilities or water suppliers, such as cities, towns, and water districts) or (b) an on-site water system (e.g., a well). In the United States, most school districts (80%) get their drinking water from a community or municipal source.<sup>21</sup> There are different testing requirements for schools depending on the source of the drinking water.

### Schools using local public water supplier

Federal law does not require schools using a local public water supplier (e.g., municipal water system) to regularly test the water because the public water supplier is required to regularly test the water to ensure that it meets federal and state drinking water standards for contaminants, including bacteria and certain chemicals. However, even if the water meets federal and state standards, the water pipes and plumbing fixtures in the schools can affect the quality of the water. Therefore, the Environmental Protection Agency (EPA) recommends that all schools routinely test drinking water for lead and perform regular maintenance to ensure that drinking water is safe.

Schools that would like to test water for lead should contact the lead officer for the local health department or the municipal water provider for information about certified laboratories that can test for lead. In some cases, the municipal water provider may be able to conduct the lead testing for schools. Schools could conduct their own testing by having the facilities division take samples from the school and sending the samples to a private laboratory. The EPA has guidance for schools that use a local public water supplier: <http://water.epa.gov/infrastructure/drinkingwater/schools/upload/epa816b13002.pdf>.



### Schools that are a public water system

Schools that get drinking water from an on-site water source (e.g., well) and serve at least 25 people are considered a *public water system* and required to comply with a series of federal testing rules and regulations under the Safe Drinking Water Act (SDWA), including the EPA's Lead and Copper Rule requirements. At minimum, states have to meet the federal SDWA requirements but may have stricter requirements. If lead and copper levels exceed specified levels, then other actions may need to be taken, such as water quality parameter testing or corrosion control treatment. The EPA has guidance for schools that are a public water system: <http://water.epa.gov/infrastructure/drinkingwater/schools/upload/epa816b13001.pdf>.

## Guidance for all schools

Students, parents, teachers, or other administrative officials may want to learn about the quality of the water within their school, especially if the school is in an older building. If there are concerns about water quality, contact the school district's facilities division to determine if a plumbing inspection is warranted, or if further action such as testing needs to be conducted. A list of resources for how to pursue water quality testing is provided at the end of this section. In addition, [Appendix 2](#) provides an overview of how to get started on testing water in schools.

## Additional Resources

- EPA guidance for schools on testing drinking water, correcting water quality problems when they exist, and communicating drinking water testing results and actions to communities:  
<http://www.epa.gov/safewater/schools/guidance.html>
- EPA quick reference guide for lead and copper testing in schools:  
[http://www.epa.gov/safewater/schools/pdfs/lead/qrg\\_lcr\\_schools.pdf](http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf)
- EPA guidance for reducing lead in drinking water in schools: [http://www.epa.gov/ogwdw/schools/pdfs/lead/toolkit\\_leadschools\\_guide\\_3ts\\_leadschools.pdf](http://www.epa.gov/ogwdw/schools/pdfs/lead/toolkit_leadschools_guide_3ts_leadschools.pdf)

### Examples of District Water Testing Procedures

- This case study demonstrates how Stoughton Public Schools in Stoughton, Massachusetts, approached testing water in their schools:  
[http://water.epa.gov/infrastructure/drinkingwater/schools/casestudy\\_stoughtonschools.cfm](http://water.epa.gov/infrastructure/drinkingwater/schools/casestudy_stoughtonschools.cfm)
- Los Angeles Unified School District has a Web site dedicated to lead testing results:  
[http://www.lausd-oehs.org/drinkingwater\\_listschools.asp](http://www.lausd-oehs.org/drinkingwater_listschools.asp)

### Step 3: Learn more about the school water environment.

Conducting an assessment of the current drinking water environment will help identify where changes may be needed. The following list of questions can be used to begin thinking through an assessment process. Schools can use the [School Drinking Water Needs Assessment Checklist and Planning Guide provided in Appendix 1](#) to conduct a more detailed assessment of the current drinking water environment.

**Key Assessment Questions** (reference the [School Drinking Water Needs Assessment Checklist and Planning Guide](#))

- **What kind of information does your school or district already collect regularly about the condition of the school building? Does your facilities, maintenance, or environmental health division collect or maintain records of water access points or water quality testing results in your school district or individual school building?**

Some states require annual facilities inventories, and some cities require annual school building condition reports to the city council. Therefore, information on the current school water environment may already be available.

- **How many drinking water access points are there within the school? Where are the water access points currently located within the school? How many are accessible to students during the school day and during after-school hours?**

Water access points may include water fountains, water coolers, hydration stations, and other water filling stations, but should not include bottled water for sale because not all students may be able to purchase bottled water. Examples of different types of drinking water access points can be found in [Appendix 3](#).

- **What is the fountain-to-student ratio in your school? Does it meet the state plumbing code requirements?**

Schools can contact their local building inspector for plumbing code information and standards.

- **Are drinking water access points clean and operating properly?**

Important elements to assess here include (a) clarity of the water; (b) cleanliness (i.e., any visible dirt, gum, or trash); (c) actual delivery of water (i.e., Is water coming out?); (d) temperature of the water (i.e., Is it cold?); and (e) sufficient water pressure to maintain an adequate stream of water to drink from or fill a cup or water bottle. If the school relies on bulk bottled water dispensers, determine if they are routinely sanitized, and if cups are provided and routinely restocked.

- **Are cups provided at water access points?**

Students tend to drink more water when cups are provided.<sup>22</sup>



## Step 4: Assess students' and other stakeholders' perceptions about current drinking water and about providing drinking water in the school.

### Overview

An assessment of students' and other stakeholders' (e.g., school administrators, staff, health and nutrition agency representatives, and families) perceptions about the current drinking water can help guide what changes are needed, as well as address misperceptions about drinking water. Students have expressed a variety of opinions about drinking water at school, including concerns about inadequate numbers of fountains, inconvenient fountain locations, water safety, broken or dirty water fountains, poor water taste, warm water, unappealing water color, and possibly some general bias against tap water.<sup>22-25</sup> School officials also express a variety of concerns about improving drinking water in schools, including costs for labor and equipment to update and maintain existing fountains and for introducing new water access points (e.g., serving water in pitchers at lunch, installing filters on fountains), a possible decrease in competitive beverage sales that often fund school extracurricular activities, and a reduction in milk consumption among students.<sup>23</sup> Suggestions for addressing some common concerns are listed in [Appendix 4](#).

### Key assessment components

- **Depending on available resources, schools may want to conduct a general survey about perceptions of drinking water among students and other stakeholders.** Questions can include accessibility of school drinking water, attitudes about drinking water, including perceptions of tap water taste, health, and safety, barriers to drinking water, and ways to promote drinking water, in particular, tap water.<sup>23</sup> An example of a stakeholder interview questionnaire that can be adapted and used is provided in [Appendix 5](#).
- **Schools can engage existing student groups who might be interested in water issues.** Sports teams, environmental clubs, and other groups may be interested in gathering information from their fellow students to share with the school about how they perceive water access and what changes they would like to see happen to improve water access.

### Example of Engaging Students

- At Del Norte High School in Crescent City, California, a group of students came together to help improve access to drinking water in their school. The group came together in response to the poor status of water fountains in their schools. Students reported that there was gum, trash, and sometimes tobacco spit in the water fountains, and that the water was often lukewarm, leaving the students to buy water rather than drink from the fountain. The group met with the school board to present several alternate solutions to improving drinking water consumption, such as installing water-bottle filling stations, and is investigating funding sources to implement possible solutions.

## Step 5: Identify key water access champions.

### Overview

Water access champions are individuals or groups who support student access to drinking water before, during, and after school. These champions can help develop and implement a drinking water access plan.

### Key assessment components

- **Who are the water access champions in the school?**

Key water access champions may include parents, school wellness coordinators, facilities managers, teachers, nurses, principals, health education and physical education teachers, students, food service directors, and community members including physicians, dentists, and other dental health care personnel.

- **What are the potential roles of the water access champions?**

There are many important roles that water access champions can have to support drinking water access. For example, the school wellness coordinator could bring together a group of individuals to conduct the needs assessment process, develop the school water access plan, and implement the plan. The school principal can help get staff and community support and commitment for the water access plan, and allocate resources to implement the plan.



# Develop a School Water Access Plan





Once the assessment of the school's water policies and practices has been completed, the next step is to develop a drinking water access plan. The purpose of developing a plan is to

- Identify strengths and opportunities for improvement in providing access to and consumption of drinking water.
- Develop a list of recommended actions to address policy and practice needs for providing access to and consumption of drinking water.
- Rank the list of actions so that the top priorities are addressed first.

Using [Appendix 1](#), read and respond to the two planning questions to identify strengths and areas for improvement, develop a list of recommended actions, and rank the list of actions. These priority actions can then be used to create goals and objectives for implementation.

## Planning Question 1

**On the basis of the results from the School Drinking Water Needs Assessment, what are the strengths and areas for improvement in providing access to and consumption of drinking water?**

As guided in [Appendix 1](#), make a list of the strengths and weaknesses from the needs assessment process. Examples of weaknesses could include the following:

- Water fountains do not work properly or are inadequate in number or location to meet students' needs.
- School's water has been tested, but results are not communicated to parents, students, or school staff.
- School does not allow students to bring refillable bottles to school.
- Students or parents have a negative impression of tap water taste or quality.



## Planning Question 2

### What are the recommended actions to address the identified weaknesses?

On the basis of the weaknesses identified in Planning Question 1, make a list of recommended actions to improve drinking water access in the template provided in [Appendix 1](#), and select at least one priority action from the list. Although the number of priority actions will vary for each school, it is recommended to identify between one and three priority actions. Examples could include the following:

- Work with facilities staff to ensure that water fountains are cleaned regularly and working properly.
- Form a student committee to help implement a drinking water campaign at school.
- Develop a capital improvement plan to secure funds to install new water access points.
- Revise the district wellness policy to allow students to carry water bottles with them at school.
- Consider revising school policies (e.g. disciplinary code) to allow refillable bottles.

## Creating Goals and Objectives

Use the Goals and Objectives Template provided in [Appendix 1](#) to identify goals and objectives for each of the priority actions that were identified. Remember to develop specific, measurable, achievable, realistic, and time-phased (SMART) objectives, and identify an individual or group of individuals who will be responsible for helping to implement each of the objectives.



# Put the Water Access Plan Into Action





Once the plan has been developed, including goals and objectives, then begin to implement the water access plan. Depending on the goals and objectives that are identified, additional steps may be needed to implement the water access plan. This section will cover the following implementation strategies to help schools achieve the goals and objectives:

- Seek opportunities for funding.
- Gather partners to support the effort.
- Select a water delivery method.
- Identify personnel needs and training.
- Develop water promotion strategies.
- Address sustaining the water access plan long-term.

## Key Considerations

### **Budget for necessary supplies and repairs, and seek additional funding opportunities, if needed.**

Schools consider incorporating certain costs involved with improving water access into their annual budgets. Funding may be needed for installation of new water access points (e.g., water fountains, water dispensers, hydration stations), buying cups to be kept at water access points (unless the school has the students bringing their own containers), maintaining water access points (e.g., a water dispenser may require filter changes every few months), testing of drinking water, repair (e.g., old drinking water-related infrastructure), removing drinking water contaminants (e.g., filter certified to remove lead), and supporting labor costs to maintain water sources.<sup>25,26</sup> If the provision of drinking water in your school is beyond the district's current means, consider including these improvements in the school's long-term school modernization plans as a worthwhile investment.

Other options for funding school water-related programs include the following:

- School food service funds, (if the water access point is in the food service area).
- Federal, state, or municipal funding.
- Foundation grants.
- Partnership with private industry (e.g., reusable water bottle companies).
- Parent Teacher Association (PTA) fundraiser.



## Examples of Obtaining Funding for Water Access and Promotion in Schools

- Several public schools in New York City received financial assistance from the city departments of education and health to install water jets in their school cafeterias.
- One school district in California purchased reusable water bottles for students with funding from the California Nutrition Network, a group of local, state, and national partners working to promote increased fruit and vegetable consumption and physical activity among low-income communities.
- As part of a pilot program, students and staff in the Los Angeles Unified School District in California received reusable water bottles to encourage water consumption throughout the school day. A well-known maker of reusable bottles donated the water bottles for the program.
- In Utah, a filter manufacturer provides and maintains filters for 18,000 drinking fountains in more than 750 public schools throughout the state at no cost to schools.

## Gather partners who could help support this effort.

In addition to key stakeholders necessary to the entire planning and implementation process (e.g., school health councils, parents, community members), there are many people and organizations who share the common goal of promoting access to drinking water.

Key partners may include the following:

### Drinking Water Agencies and Associations

- Association of State Drinking Water Administrators
- Association of Metropolitan Water Agencies
- National Rural Water Association
- Rural Community Assistance Partnership
- Water Quality Association
- Water Quality Research Foundation
- Local chapter of the American Water Works Association
- Local water district or local water utility company

### Health Professionals, Agencies, and Associations

- Association of State and Territorial Health Officials
- Dentists and other oral health professionals, physicians, and dietitians
- Public health departments

### Youth Advocacy Programs and Education Associations

- Youth development programs (e.g., Girls and Boy Scouts, 4H)
- Parent Teacher Associations (PTA)

## Others

- School facilities and custodial staff
- State department of environmental protection
- Foundations interested in health issues

### Example of Building Partnerships

- Louisville Water and Jefferson County Public Schools in Louisville, Kentucky, worked together to create Louisville Pure Tap drinking water fill stations with signage promoting water above the fill stations (produced by Louisville Water).

<http://www.louisvillepuretap.com/>

## Choose a water delivery method.

Once you know the current water environment at your school, one potential priority action might be to install new water access points in the school or to retrofit existing fountains. This decision will depend on where the water access points will be located and the available budget. If any construction or remodeling is being considered, involve the school facilities staff in the planning process.

### Step 1: Know the available budget.

Although all new water access options will require some initial funding to implement, there is evidence that water provision options that rely on tap water have lower long-term costs.<sup>26</sup> In addition, cups (e.g., reusable, recyclable, or compostable) or reusable water bottles for students should be considered in the water access budget. See [Appendix 3](#) for examples of different methods for providing water.

### Step 2: Decide where the water access points will be located.

Schools may consider the following criteria when deciding where access points will be located:

- Does the age and layout of the building allow for new access points to be installed?
- Will students have access to the water at any time during the school day?
- Is the potential access point in an area of the school where water may be in higher demand, such as near gymnasiums or lunchrooms?
- Is there access to plumbing for a water source and drainage?
- Is there access to electricity to chill water?
- Is there a solid wall behind the fountain? Solid walls may be more difficult and costly to open for new installations.

Knowing where water access points will be located will help to determine whether a plumbed access point or nonplumbed access point will be the most appropriate. Plumbed access points, such as water fountains and water bottle filling stations and some models of water coolers, require direct access to the building's water pipes, whereas nonplumbed access points (e.g., pitchers) do not require direct access to the water pipes.

### **Step 3: Consider providing cups or allowing the use of reusable water bottles.**

In addition to providing the water source, it is important to consider the types of containers students will use to drink the water. For example, it is recommended that cups be made available at water access locations. Providing cups helps students drink more water.<sup>22</sup> Some schools may opt for compostable or recyclable cups to decrease landfill waste. If recyclable cups are provided, it is important to ensure that the school has a system in place to ensure that the cups are recycled properly.

Using reusable water bottles is another option for helping students to drink water at school. Reusable water bottles can help reduce waste from single-use plastic bottles and cups and allows students to have access to water throughout the school day. Students should be reminded to bring their water bottles with them each day, label them with their names, and take them home to be washed regularly.

### **Identify Personnel Needs and Training.**

Depending on how the school chooses to address water access, there are questions related to staffing that will need to be addressed:

- **Is additional staff time needed to maintain existing and new water access points?**  
Additional staff time may be needed to maintain existing and new water access points to ensure that they are functioning properly, regularly sanitized and cleaned, have adequate water pressure, and to clean up spills. In addition, school staff can help ensure that cups are available and properly disposed of and refill nonplumbed water sources.<sup>22</sup>
- **Is there language in labor contracts related to lifting heavy containers and cleaning or maintaining water fountains, and should such language be included if it doesn't currently exist?**  
Food carts can be used to move water dispensers, if needed.
- **What training is needed for school staff?**  
School staff may require training on different aspects of providing drinking water in schools. School nutrition staff may require training on how to provide and maintain drinking water access points in the cafeteria in compliance with the sanitary code, including how to disassemble and sanitize new equipment. Principals and other staff (e.g., counselors, physical education teachers, and athletic coaches) may require training on how to promote drinking water among students throughout the school day and during physical activity. Teachers may require training on the health benefits of drinking water and how to promote drinking water among students, such as through inclusion of benefits of water consumption in health education and other subject area lesson plans. Training may also be needed on how to address students who abuse the privilege of having water in the classroom or at recess (e.g., filling the water bottles with other types of beverages). Custodial staff may require training on how to maintain and clean water fountains or water dispensers, as well as perform basic repairs, if needed. Further, local health inspectors may require or recommend additional training for school staff, such as water testing or flushing protocol, if needed.

## Develop Water Promotion Strategies.

It is important to promote water for overall health and as a healthy beverage option. Interventions that have improved drinking water access with concurrent education (e.g., by teachers) to change beverage preferences have been more effective at increasing water intake.<sup>3,22</sup> Promotion efforts may include the following:

- Placing signs or posters near water fountains and dispensers.
- Including messages about the benefits of water in school newsletters and communication materials sent to parents and families.
- Listing water as an available beverage on the school meals menu.
- Including content about water into lesson plans. For example, messages about the health benefits or environmental aspects of drinking water can be included in lesson plans for various subjects (e.g., math, biology, health and other curricula) and for students of various ages.
- Engaging students in water promotion activities. Engaging students in the development of water promotion campaigns can help obtain support from the greater student body. For example, host a competition where students create posters and videos describing why they like to drink water.

It could be helpful to develop a promotion plan. When developing a promotion plan, consider addressing the following:

- **Identify key locations to promote water.**  
This could be near water access points, in the school cafeteria, in school hallways, and in the school newsletter and other materials to parents.
- **Determine the audience for the messages.**  
Primary audiences can include students, parents, teachers, food service directors, and other school administrators.
- **Determine the key messages.**  
Promotional efforts may focus on one or more key messages related to water, including the following:
  - » The importance of water for overall health.
  - » That fluoridated water prevents tooth decay in people of all ages.
  - » Water as the optimal beverage to quench thirst.
  - » The health benefits of replacing calorically sweetened beverages with water.
  - » The quality and safety of tap water.
  - » The environmental benefits of drinking tap water instead of bottled beverages, including bottled water.
  - » The cost savings of drinking tap water compared with other beverages.
- **Determine if there is enough money to support water promotion.**  
Funding may be needed to create flyers, fund water promotion contests among students, create placards and billboards, or place posters on buses.

## Examples of Water Promotion Campaigns

- Drink Up  
<http://www.youarewhatyoudrink.org/>
- Bay Area, California Soda Free Summer  
<http://www.sodafreesummer.org/>
- Rethink Your Drink  
[http://www.cdc.gov/nccdphp/dnpa/nutrition/pdf/rethink\\_your\\_drink.pdf](http://www.cdc.gov/nccdphp/dnpa/nutrition/pdf/rethink_your_drink.pdf)
- Take Back the Tap  
<http://www.foodandwaterwatch.org/water/take-back-the-tap/>
- Water First, Think Your Drink  
<http://www.wecanky.com/waterfirstthinkdrink.html>
- Potter the Otter  
<http://www.potterloveswater.com/>
- Drinking Water Week  
<http://www.awwa.org/resources-tools/public-affairs/public-affairs-events/drinking-water-week.aspx>
- Turlock Unified School District 'Real. Fresh' campaign  
<http://www.youtube.com/watch?v=2vhIDrWBoGo>
- Los Angeles Unified School District SNaX Project  
<http://www.cdc.gov/prc/stories-prevention-research/stories/snax-for-everyone.htm>

## Additional Resources

- California Department of Education.  
<http://www.cde.ca.gov/ls/nu/he/water.asp>

## Include strategies in your plan to sustain water access once changes in the school are made.

School water champions play an important role in ensuring that water access efforts continue to be implemented. Suggestions for sustaining water access in school include the following:

- **Adding language about water access to district policies.**

All school districts that participate in federal child nutrition program (e.g., National School Lunch Program, School Breakfast Program) are required to have a local school wellness policy (LWP) that includes goals that promote student wellness. Consider attending the district's school wellness council meetings to discuss the importance of addressing water in the LWP and helping to revise policy language to incorporate water. Examples of language that could be incorporated in a LWP include the following:<sup>27</sup>

- » Provide all students and employees with access to clean, safe, palatable drinking water free of charge at every district facility, including cafeteria and eating areas, classrooms, hallways, play yards and athletic fields, and faculty lounges throughout the school day and at before- and after-school activities
- » Allow students to bring drinking water from home and to take water into the classroom, provided that the water is in a clear, capped container, such as a water bottle, to prevent spills.
- » Encourage school administrators, teachers, and building staff to model healthy behavior, including drinking tap water.
- » Require repairs to bring school buildings into compliance with state and local plumbing codes and relevant state laws.
- » Establish hygiene standards for water access points, including how often they should be cleaned.
- » Promote water through multiple methods, including providing cups at water access points.



- 
- **Ensuring that district maintenance and food service policies specify who is responsible for maintaining** the water access points, including the frequency of cleaning and maintaining water fountains or other water sources, the frequency of testing water for contaminants, as well as flushing water outlets after periods of no use, such as weekends or school vacations, and spot checks to ensure implementation of policies.
  - **Promoting water access** by using posters, signs, newsletters, and announcements will encourage students and school staff to continue to use water access points.
  - **Sharing success stories** in the local newspaper, school Web site and social media, newsletters, and school board meetings can help other schools in their efforts to improve access to drinking water.

# Evaluate Progress





Evaluation is a process that can be used to assess and improve policies and practices among school settings, including access to drinking water. Evaluation can help access to drinking water policies and practices by identifying strengths and weakness, developing plans for improvement, improving the implementation of policies and practices, and measuring changes in the school environment, as well as the dietary habits of students and staff.

Evaluation activities vary for the purpose, design, and resources required. There are two main types of evaluation: process and outcome. Process evaluation aims to assess the extent to which a policy, program, or practice has been implemented as intended, and can help identify ways to improve implementation in the future. Schools may consider assessing the following as part of the process evaluation:

- Were water access points added in the school setting? If so, how many?
- Are cups provided at water access points? If so, how many cups were used? What was the cost of providing the cups?
- Where in the school were water access points added? Was one location used more than another?
- Have water promotion efforts been implemented? If so what are they?
- Has language on water access been added to the local school wellness policy or other school policy?
- Have school staff received training on providing, maintaining, and promoting drinking water in schools?

Outcome evaluation is used to assess if specific changes occurred as a result of implementing policies or practices. Depending on how many resources a school has for evaluation activities, a school may consider evaluating the following outcomes:

- Have students' perceptions of access to water among school settings changed?
- Have students' attitudes and preferences related to water changed?
- Have students' consumption of water and other beverages changed?

It is important to plan an evaluation that can be used to further improve policies and practices. This includes identifying what will be evaluated, how the evaluation will be conducted, who will conduct the evaluation, who will analyze the data, how the data will be reported, and available resources. The goals and objectives that have been developed as part of the water access implementation plan will guide the evaluation design, including what information should



be collected. Common data collection methods include questionnaires, interviews, focus groups, document reviews (e.g., policy analysis) and observations. Use of more than one source of data may be needed to measure specific goals and objectives.

At a minimum, schools should revisit their completed [Water Access Goals and Objectives template](#) annually to monitor progress. If an objective was not met, discuss why it wasn't met, and what might be needed to ensure that it can be met in the future. If it is determined that the objective is still important and can likely be achieved, consider adding it as an objective for the following year. Schools may consider partnering with evaluators at universities, local or county health departments, school districts, or state departments of education and health to identify methods and resources for conducting a more complex evaluation of their water access efforts.

Additional information about conducting a successful evaluation is available:

- <http://managementhelp.org/evaluation/program-evaluation-guide.htm>.
- <http://www.cdc.gov/eval/framework/index.htm>.



# Appendices





# Appendix 1: School Drinking Water Needs Assessment Checklist and Planning Guide

The **School Drinking Water Needs Assessment Checklist and Planning Guide** is designed to help schools identify strengths, areas for improvement, and priority actions, and to develop measurable goals and objectives for improving access to and consumption of drinking water.

Respond to each question in the School Drinking Water Needs Assessment Checklist. In the notes section of the checklist, capture additional details or clarifying comments. For example, if your school district is working on developing a local school wellness policy that would incorporate language on student access to water fountains or filling stations throughout the school day, you might make note of the steps being taken to achieve that, or the barriers that make it difficult to achieve. Those notes will help guide you in developing your goals and objectives.

After completing the School Drinking Water Needs Assessment Checklist, **two planning questions** are provided to help guide further action to promote drinking water access within your school.

School Drinking Water Needs Assessment Checklist	Response options		Notes
	Yes	No	
<b>Step 1: Assess state, district, and school policies and practices related to water access.</b>			
<b>Food Service Areas</b>			
a. Does the school provide students with access to drinking water during the meal periods, as required by USDA?			
b. Is there a state requirement that students have access to drinking water during meals and snacks?			
c. Is there a district policy requiring water to be provided during meals and snacks (e.g., Local School Wellness Policy)?			
d. Does the district or school have Standard Operating Procedures (SOPs) for placement, filling, and cleaning of bulk bottled water dispensers in the cafeteria?			
<b>Other Areas in the School</b>			
e. What are the state or local plumbing codes and requirements for the number of water access points? What is the fountains-to-students ratio in your school? Does it meet the plumbing code requirements?			
f. Are there state or local sanitary codes for cleaning and maintaining drinking fountains, water containers, hydration stations, and other methods for delivering drinking water?			
g. Does the school district have policies related to drinking water access? Policies may address providing students with access to water fountains or water filling stations throughout the school, allowing students to bring fillable water containers to class, allowing students to get up to get a drink of water during class, providing cups at water access points, and marketing or promoting drinking water during the school day or at school-sponsored events and activities.			
<b>Step 2: Review states and local water testing requirements and recommendations.</b>			
a. Does your school meet the definition of a public water system and, therefore, comply with the Safe Drinking Water Act (SDWA)?			
b. If so, does it meet all federal and state standards under the SDWA?			

School Drinking Water Needs Assessment Checklist	Response options		Notes
	Yes	No	
c. Has your school's water quality been tested? When was it last tested?			
d. Are testing results readily available to students, parents, and the community?			
e. Is the available drinking water optimally fluoridated?			
<b>Step 3: Conduct an assessment of the school water access environment.</b>			
<p>a. What kind of building information does your school or district regularly collect? Does your facilities, maintenance, or environmental health division collect or maintain records of water access points or water quality testing results in your school district or individual school building?</p> <ul style="list-style-type: none"> <li>• Are the following water access points available to students at school? (Please indicate the number and where they are located in the Notes column, for example, in the cafeteria, gymnasium, hallway.) Refer to Appendix 2 to learn more about the differences between each of these water access points. <ul style="list-style-type: none"> <li>i. Water fountains.</li> <li>ii. Water coolers.</li> <li>iii. Bottle fillers.</li> <li>iv. Pitchers or containers of water served at lunch.</li> <li>v. Other (please describe).</li> </ul> </li> </ul>			
<p>b. Are the drinking water access points that are available to students clean and operating properly?</p> <ul style="list-style-type: none"> <li>• Elements to assess include the clarity of the water, cleanliness (e.g., any visible dirt, gum, or trash), temperature of the water, and water pressure.</li> </ul>			
c. Are cups provided at drinking water access points?			
d. Is there signage or other materials promoting drinking water in the school? Please include where this information is included.			
<b>Step 4: Perception about drinking water.</b>			
Have you assessed students' and other stakeholders' (e.g., school administrators, staff, health and nutrition agency representatives, and families) perceptions about current drinking water and about providing drinking water in the school?			
<b>Step 5: Identify key water champions.</b>			
a. Are there potential water champions in your school? You can identify specific champions in the Notes section (e.g., parents, teachers, school nutrition staff).			
b. Describe the potential role of water champions in the Notes section.			

**Planning Question 1: On the basis of the results from the School Drinking Water Needs Assessment, what are the strengths and areas for improvement in providing access to and consumption of drinking water?**

Strengths	Areas for Improvement
1. <i>Example: All water access points are clean and operating properly.</i>	1. <i>Example: Students perceive that the tap water at school is not safe</i>
2.	2.
3.	3.
4.	4.
5.	5.

**Planning Question 2: On the basis of the areas for improvement identified above, what are the recommended priority actions for improving access to and consumption of drinking water (e.g., increase funding for water-related programs, install one new water access point in the cafeteria, form a drinking water student committee)?**

1. *Example: Develop and implement a water promotion campaign to address students' concerns about water safety.*

2. \_\_\_\_\_  
\_\_\_\_\_

3. \_\_\_\_\_  
\_\_\_\_\_

4. \_\_\_\_\_  
\_\_\_\_\_

5. \_\_\_\_\_  
\_\_\_\_\_

## Goals and Objectives Template

Use this template to identify goals and objectives for each of the priority actions that you have identified. Remember to develop specific, measurable, achievable, realistic, and time-phased (SMART) objectives, and identify an individual or group of individuals who are responsible for implementing each objective. The following is an example of a goal and SMART objectives for the example priority action.

### **Sample Goal 1:**

*Develop and implement a water promotion campaign to address students' concerns about water safety.*

**Sample Objective 1.1:** *By the beginning of school year 2014, communicate to students, parents, and teachers the most recent drinking water test results.*

**Sample Objective 1.2:** *By the beginning of school year 2014, identify 6–8 students to participate in a committee to identify 3–5 key messages for a water promotion campaign.*

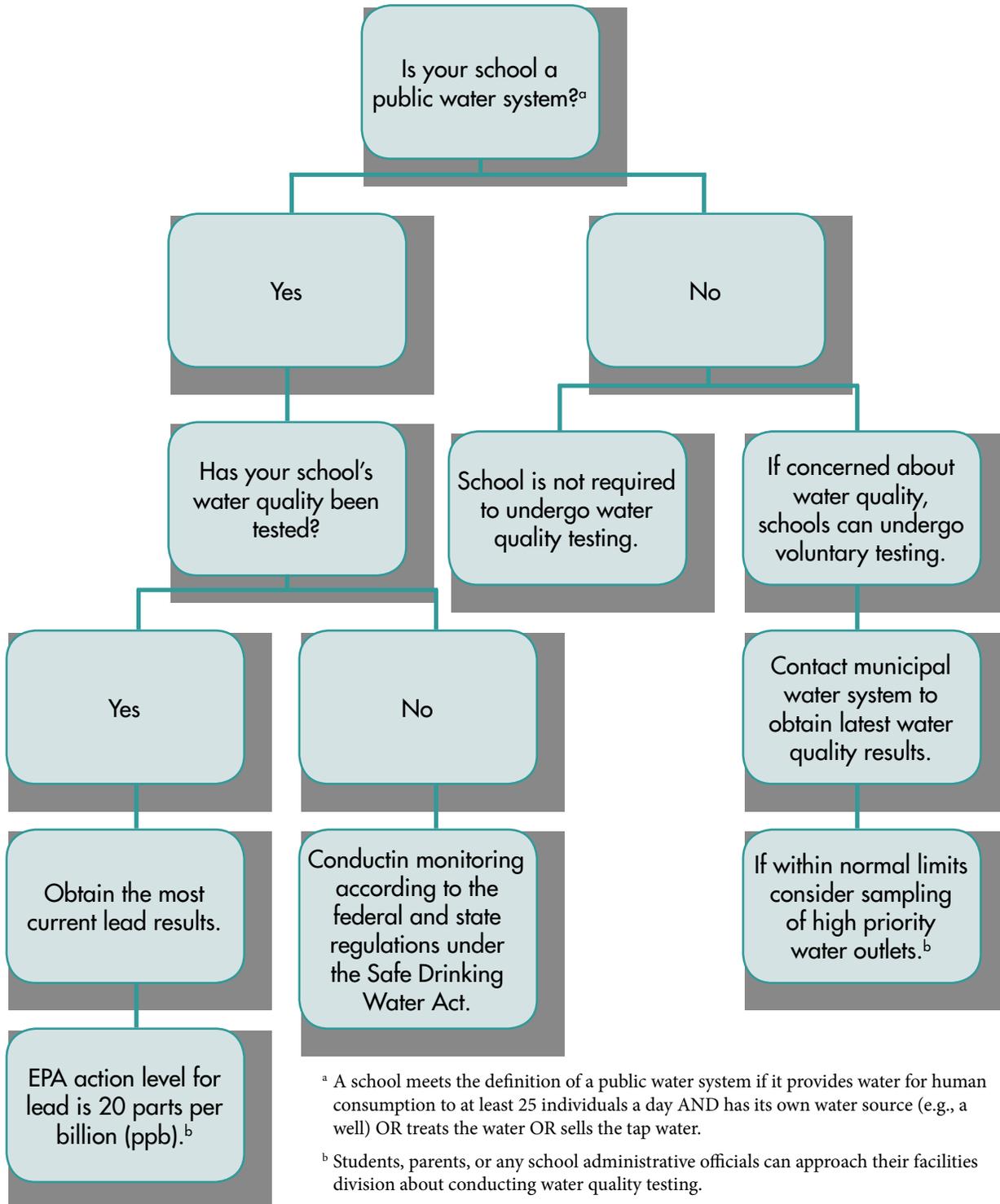
**Sample Objective 1.3:** *By November 2014, develop posters and other materials by using the key messages identified by the student committee.*

You can revisit these goals each year to check on the progress that has been made. If an objective was not met, consider focusing on it during the next year.

	Fully Met/ Partially Met/ Not Met	Person Responsible for the Objective	Comments
<b>Goal 1</b>			
Objective 1.1			
Objective 1.2			
Objective 1.3			
<b>Goal 2</b>			
Objective 2.1			
Objective 2.2			
Objective 2.3			
<b>Goal 3</b>			
Objective 3.1			
Objective 3.2			
Objective 3.3			

## Appendix 2: Diagram of Water Testing In Schools

This diagram outlines the water testing process for schools.



<sup>a</sup> A school meets the definition of a public water system if it provides water for human consumption to at least 25 individuals a day AND has its own water source (e.g., a well) OR treats the water OR sells the tap water.

<sup>b</sup> Students, parents, or any school administrative officials can approach their facilities division about conducting water quality testing.

## Appendix 3: Examples of Water Dispensers for Schools

Water Dispenser	Type	Price <sup>a</sup>	Considerations
	Portable Water Dispenser	\$	<ul style="list-style-type: none"> <li>• Potential weight concern for staff refilling container in the sink.</li> <li>• Requires room for storage.</li> <li>• Account for expenses to provide cups.</li> <li>• Requires access to commercial dishwasher or other way to sanitize.</li> </ul>
	Water Dispenser	\$	<ul style="list-style-type: none"> <li>• Will require staff to refill container.</li> <li>• Potential storage concern.</li> <li>• Need committed nutrition services staff.</li> <li>• Account for expenses to provide cups.</li> </ul>
	Water Cooler	\$/month	<ul style="list-style-type: none"> <li>• Monthly fee for leasing machine.</li> <li>• Option for filtered water, which may alleviate students' perceptions about public water sources.</li> <li>• Station needs to be placed near existing water source and electric outlet for cold water.</li> <li>• May need to disable the hot water spout.</li> <li>• Easy to install.</li> <li>• Account for expenses to provide cups.</li> </ul>
	Bottle Filler	\$\$\$\$	<ul style="list-style-type: none"> <li>• Station needs to be placed near existing water source.</li> <li>• Filtered water.</li> <li>• Ideal for school cafeterias that are undergoing construction because it will make installation easier and be cost effective.</li> <li>• Sleek-looking and may alleviate students' perception that public water sources are unsafe.</li> <li>• Some models display how many bottles are saved from waste.</li> <li>• Account for expenses to provide cups if students do not have refillable water bottles.</li> </ul>
	Water Fountain with Bottle Filler	\$\$\$-\$\$\$\$	<ul style="list-style-type: none"> <li>• Must be placed near existing water source.</li> <li>• Filtered water.</li> <li>• Ideal for school cafeterias undergoing construction because it will make installation easier.</li> <li>• Sleek-looking and may alleviate students' perception that public water sources are unsafe.</li> <li>• Some models display how many bottles are saved from waste.</li> </ul>

<sup>a</sup>Price Key (per unit): \$ = \$1–\$99; \$\$ = \$100–\$499; \$\$\$ = \$500–\$999; \$\$\$\$ = \$1,000–\$5,000.

Source: Adapted with permission from

[http://waterinschools.org/pdfs/CFPA\\_WaterDispenserOptions.pdf](http://waterinschools.org/pdfs/CFPA_WaterDispenserOptions.pdf)

## Appendix 4: Strategies to Overcome Potential Challenges

Stakeholders may express concerns about increasing access to drinking water in schools. Below are examples of some common concerns and suggestions to prevent and address these concerns.

### **Students' consumption of milk will decrease during school meals.**

Although there has not been a lot of research on this particular issue, unpublished research demonstrates that milk consumption is not significantly decreased when drinking water is made available to students in the cafeteria. Water is not a replacement for milk at meals, but rather an additional beverage that is available to students.

### **Providing cups at water access points will increase littering in the school.**

Providing cups at water access points has been shown to increase the amount of water that students consume.<sup>21</sup> However, there is a concern students will not properly dispose of the cups after they drink from them. One way to prevent littering is to ensure that trash or recycling receptacles are available near all water access points. In addition, policies and practices encouraging students to bring their own reusable water bottles to schools can help to reduce the need for disposable cups.

### **Concern that tap water is not safe.**

Most tap water in the United States is assured by the United States Environmental Protection Agency standards and regulations to be clean and safe for drinking.<sup>28</sup> However, in some cases, tap water may not be safe to drink because of unsafe plumbing systems or contaminated water sources. It is important to have drinking water tested so that water quality problems are addressed when they exist. If water quality problems cannot be fixed, then schools should use alternate methods of providing drinking water to students, including installing point-of-use filtration systems that are certified to remove contaminants, or purchasing drinking water for students and staff. It is a good idea to regularly communicate drinking water testing results and actions to students, parents, and the community. Schools may consider starting a campaign to actively promote water quality or work with local organizations on a community-wide tap water promotion campaign. (See [pages 29–30](#) for ideas about water promotion campaigns.)

### **Students do not like the taste of the local tap water.**

Even though most tap water is safe to drink, the taste of the water varies depending on the source. Filtering water and chilling the water are two strategies that may improve the taste.

### **More classroom disruptions will occur because of water spills.**

Although very little research has been done on this particular issue, schools can require that all water bottles must be capped when in the classroom, or kept on the floor to prevent water from spilling on desks.

### **Misuse of reusable water bottles (e.g., putting other beverages besides water in the water bottle).**

Schools concerned about the contents of the reusable water bottle can require students to use clear (i.e., see-through) reusable bottles.

## Appendix 5: Water Access Key Stakeholder Sample Interview Questions

### Basic Information

Date of Interview:	Type of Stakeholder:
Coder Initials:	Title of Stakeholder:
Identification Number:	Type of Organization:

### Topic #1: Accessibility of Drinking Water in Schools

What type of access do students have to drinking water in school?

*Probe:* Examples could include water fountains, bathrooms sinks, bottled water from vending machines, water coolers, hydrations systems, water brought from home, pitchers of water served at lunch, and water as a part of the meal tray.

Do you think students have adequate access to drinking water in public schools?

### Topic #2: Attitudes and Perceptions About Current Drinking Water in Schools

What are potential barriers to drinking water in schools?

*Probe:* Examples could include inadequate number of water access points, inconvenient location of water access points, water safety concerns, poor maintenance of drinking water outlets, broken or dirty water fountains, poor water taste, warm and unappealing water color.

### Topic #3: Attitudes, Barriers, and Facilitators for Providing Drinking Water in Schools

In your opinion, how should water be offered in schools?

*Probe:* Examples could include water fountains, bottled water from vending machines, water coolers, hydrations systems with cups vs. refillable water bottles, water brought from home, pitchers of water served at lunch, and water as a part of the meal tray.

When should students have access to water in schools?

*Probe:* Examples could include during mealtimes (breakfast, lunch, and for nutrition), after recess, right before school, after school, after sports or PE, and during classes.

What factors would make providing water in schools hard to do? (Ask the following probes if not covered in response to this question.)

*Probe (if needed):* Do you know of any federal or state regulations that prohibit serving water at breakfast or lunch or for nutrition. If so, what is your understanding of these regulations? (Probe about USDA reimbursement for certain types of beverages offered in the cafeteria.)

*Probe (if needed):* Are there individual school or district challenges to providing water to students in schools? If so, what are these challenges? (e.g., providing students with containers for water [disposable cups vs. bottles], long lines to water dispensing areas, time for obtaining water, costs, labor union contracts, vandals tampering with hydration stations, maintenance personnel to assist with upkeep, increased restroom access or breaks because of increased consumption, water bottle size limitations).

*Probe (if needed):* Are there any regulations related to water safety and quality?

What factors would make providing water in school easy to do?

#### Topic #4: Water-Related Interventions

Do you know of other schools that are providing water to students? If so, how do these schools provide water to students?

*Probe:* Examples could include filtered water stations, pitchers of water, as a part of the meal tray, and vending machines with bottled water for purchase.

When do these schools provide water to students? Does the availability vary depending on the water source?

*Probe:* Examples could include accessible all day, meal times, after school, and summer.

Do you know the costs associated with providing water to students? (Costs can include those to students, schools, etc.)

How, if at all, does the school advertise, market, or promote drinking water to students?

#### Topic #5: Suggestions for Other Key Informants

If you were designing an intervention a program to increase availability and consumption of water in schools, from whom in the community would you want to get input and buy-in?

*Probe:* Examples include PTA leaders, teachers, school leaders, city officials, media, businesses, community organizations, students, parents, policymakers, and advocacy groups.

I am interested in interviewing other individuals like you. Whom would you suggest?

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