

# Hydrate Philly Research Protocol

## Table of Contents

Study Design .....	1
Center Eligibility Criteria .....	1
Center Recruitment: .....	2
Informed Consent: .....	2
Randomization .....	2
Water Safety Testing.....	2
Procedures .....	3
Measures.....	4
References .....	5
List of Appendices .....	5
A. Water Safety Testing Protocol .....	6
B. Paper Backup Data Collection Form .....	10
C. Quick Data Collection Guide.....	11
D. Beverage Intake Questionnaire .....	12
E. Fountain Observation Protocol .....	13
F. Fountain Observation Form .....	19
G. Fountain Maintenance Survey.....	20

## Study Design

The study is a group randomized trial with n=28 centers. Philadelphia Parks and Recreation (PPR) and Get Healthy Philly (GHP) are partnering to implement the proposed study. All proposed study design and materials have been reviewed and approved by leadership within both organizations and found to comply with other relevant city policies and procedures.

## Center Eligibility Criteria

For recreation centers to be eligible to participate in Hydrate Philly they must meet the following criteria:

1. Location in a low-income neighborhood in the City of Philadelphia, defined by  $\geq 20\%$  of the residents in the zip code at or below Federal Poverty Level;

2. Site includes both summer and after-school programming
3. Willingness to comply with City of Philadelphia Healthy Vending standards and discourage SSB consumption
4. Water lines appropriate for installing indoor hydration stations
5. Willingness to accept randomization

## Center Recruitment:

Project staff will call potentially eligible recreation center leaders and notify them of the opportunity to participate. Project staff will describe the project using an FAQ and sign a Memorandum of Understanding, emphasizing what centers will be requested to do (programming and measures) and what support and resources will be provided to them (equipment, measurement tools).

If more recreation centers are eligible and interested than slots are available, 28 centers will be randomly selected to ensure fairness. A pilot site will be selected by PPR and project staff according to their suitability to start a pilot program in the summer of 2017 to inform the broader program development to be implemented in full in the summer of 2018.

After the initial determination of eligibility and the final selection of 28 centers, project staff will review the MOU with the participating center leaders and district managers individually. Signed MOUs will serve as confirmation that the sites want to participate. This is needed before informed consent procedures in order to allow detailed project planning and needs assessments to occur at the centers, which will inform the project team of any facilities and maintenance concerns before data collection is scheduled to begin.

## Informed Consent:

Prior to the collection of any individual data will be obtained from the 1-2 staff members per site that will be providing project data. Utilizing the MOU approach and waiting to collect informed consent until data collection begins allows for needed project planning information to be collected from the final sites before it is known who the particular staff member will be that is providing the data and needs consenting. It also lowers the likelihood that a consented staff member will be transferred to a non-participating site. The data collected for this study are non-sensitive and, except in the case of the staff beverage questionnaire, are not individual level data. If consented staff members are transferred, new replacement staff members will be consented at the intervention site.

## Randomization

Randomization to treatment condition will be performed by a coin flip that takes place at the grant kickoff event in front of center leaders from the enrolled recreation centers.

## Water Safety Testing

While there is no reason to believe there are any water safety problems present in the recreation centers targeted to receive the water intervention (or more broadly), all of the partners agree that testing the water at the recreation centers for lead, as recommended by the EPA, before

implementing a promotional campaign is essential to the success of the project and beneficial for reducing health disparities. Due to the size of PPR recreation centers and the required large 2-inch pipes, lead pipes were not used in recreation centers as sometimes has been done in smaller or residential facilities. PPR has completed water safety testing of all potable water sources within their recreation centers, which showed no lead concerns. For the proposed study, water safety testing for lead will be conducted at each proposed source and results will be made available to parents and staff according to EPA recommendations. Following EPA recommended sampling procedures (1), all levels will be required to be below 10ppb. Lead action levels are consistent with the School District of Philadelphia water testing lead action levels and are below the EPA recommended action level of 15ppb for schools and child care facilities designated as a public water system (2).

Water safety testing occurred after installation of the new hydration station and after at least 2 weeks had passed. This was done so that any problems with the old fixtures would not result in elevated level for fountains that were going to be replaced. At least 2 weeks was needed after unit installation to allow for “passivation” to occur as recommended by the Philadelphia Water Department (PWD). Passivation allows time to pass for the new units to have the “new car smell” go away, which can sometimes cause slightly elevated levels of some elements that are not harmful but can affect taste. PWD will conduct water safety testing for the pilot site. The Project Coordinator will collect samples for all intervention sites and send them for testing at the Penn State Agricultural Analytical Services Lab according to the water safety testing protocol (**Appendix A**).

## Procedures

Three measurement periods, each lasting 2 weeks, will occur: baseline (July/Aug 2017), mid-point (March 2018), and post (July/Aug 2018). This timeline allows PPR staff to complete installation of hydration stations during the time of year (Sept-Dec) with the greatest staffing flexibility and ensures the intervention is ready for implementation during PPR’s peak summer season. The study timeline was developed to meet requirements of PPR for installation that does not interfere with recreation center pools, which requires the same installation team as the proposed project.

To minimize staff burden, one staff person per center will be identified to serve as the liaison. City employees are prohibited from accepting gifts, inclusive of incentives for participating in additional work for a research study. The staff liaison will be allowed to decide what center supplies or equipment should be purchased with a \$25 gift card at the end of each measurement period to incentivize the collection of simple measures. This staff person will respond to text-based surveys each weekday with 4 questions (attendance, tally of outside beverages, tally of reusable water bottles, and weight of trash as described above) and fill out a 15-question survey on their own beverage consumption once per measurement period. If the center leader is unable to complete measures by texting or in the case of technical difficulties, paper record backups will be recorded (**Appendix B**). A training on how to complete measures will be performed and a quick reference guide for data collection was developed (**Appendix C**). PPR has used this method of requesting their staff to report on PPR pilot initiatives in the past for program tracking and program evaluation purposes.

## Measures

**Center water consumption (primary outcome).** The primary outcome measure will be each center's total gallons of water taken from hydration stations (or existing water fountains in control centers) as measured by objective water flow meters installed for the study. Water flow meters will be installed before baseline at all sites for all existing operational water fountains, and research staff will record water meter readings at the beginning and end of each 2 weeks measurement period. This estimate will only include water from hydration stations (in intervention sites) or existing water fountains (in control sites) and will not include other non-consumption water use (eg, pools, bathroom sinks, etc). However, some non-consumption water use in water fountains will occur (eg, rinsing cups). In addition, ounces of water per person will be estimated by taking the center level water consumption estimates for 2 weeks and dividing by total attendance.

**Outside beverages during programs (primary outcome).** Outside beverages for after-school and summer programs will be measured by the number of youth at the center that bring in an outside SSB or purchase a SSB from the center's vending machine. The center liaison will tally the number of children who bring in beverages each weekday for 2 weeks. Daily tallies will be summed to create one center-level estimate of total outside beverages and will be adjusted for attendance.

**Reusable water bottles (secondary outcome/mediator).** The center liaison will record the tally of students who brought reusable water bottles to programs following the same approach as outside beverages.

**Weight of trash (secondary outcome).** Center policies currently require program staff to remove trash daily from after-school and summer program rooms after students leave. Daily program waste will be measured by the center liaison using a portable luggage scale before removing each day for 2 weeks.

**Staff SSB consumption (secondary outcome/mediator).** At the beginning of each 2-week measurement period and prior to beginning student measures, the staff liaison will complete the Beverage Intake Questionnaire (BEVQ-15; **Appendix D**, (3,4)). This questionnaire will be used to estimate staff SSB and water consumption using ounces of water and total energy intake from beverages.

**Center attendance (secondary outcome).** Attendance will be recorded each weekday by staff for 2 weeks, which is already part of their standard reporting requirements. Any secondary impacts on attendance from the improvement to facilities or change in procedures will be examined. Attendance will also be used as a covariate and as a denominator to estimate water consumption per person.

**Fountain Observations.** At post, research assistants will conduct observations of the fountain with the flow meter installed (or the new hydration station where the old fountain with a flow meter used to be). **Appendices E & F** describe the protocol in detail and the final observation form.

**Maintenance Tracking.** Research staff will complete 3-5 calls (lasting approximately 5-10 minutes) during the study period after hydration stations were installed to assess any maintenance

problems (e.g., malfunctioning fountains, vandalism, etc). Surveys will be completed with maintenance staff or site leaders. A survey was developed for the current study (**Appendix G**).

## References

1. US EPA O. Memo Clarifying Recommended Tap Sampling Procedures for the Lead and Copper Rule [Internet]. [cited 2016 Sep 21]. Available from: <https://www.epa.gov/dwreginfo/memo-clarifying-recommended-tap-sampling-procedures-lead-and-copper-rule>
2. US EPA O. Testing Schools and Child Care Centers for Lead in the Drinking Water [Internet]. [cited 2016 Sep 21]. Available from: <https://www.epa.gov/dwreginfo/testing-schools-and-child-care-centers-lead-drinking-water>
3. Hedrick VE, Comber DL, Estabrooks PA, Savla J, Davy BM. The Beverage Intake Questionnaire: Initial Validity and Reliability. *J Am Diet Assoc.* 2010 Aug;110(8):1227–32.
4. Hedrick VE, Savla J, Comber DL, Flack KD, Estabrooks PA, Nsiah-Kumi PA, et al. Development of a brief questionnaire to assess habitual beverage intake (BEVQ-15): sugar-sweetened beverages and total beverage energy intake. *J Acad Nutr Diet.* 2012 Jun;112(6):840–9.

## List of Appendices

- A. Water Safety Testing Protocol**
- B. Paper Backup Data Collection Form**
- C. Quick Data Collection Guide**
- D. Beverage Intake Questionnaire**
- E. Fountain Observation Protocol**
- F. Fountain Observation Form**
- G. Fountain Maintenance Survey**

# Hydrate Philly Recreation Center Water Testing Protocol

**Background:** Hydrate Philly is a Robert Wood Johnson Funded grant project bringing together Philadelphia Parks and Recreation and Get Healthy Philly to support access to appealing water and discourage sweetened beverages in recreation centers. In order to address public perceptions of water quality, which can sometimes be a barrier to drinking Philly's high quality water, PPR and GHP leadership agreed to test water sources for lead contamination as part of Hydrate Philly. This protocol outlines the steps of water testing for lead.

## One Week Prior to Testing

1. Begin scheduling with center
2. Review procedures with center:
  - a. We are testing before doing a water promotion program to help build trust in the water quality.
  - b. Testing will occur before ANY water has been used at the center (no flushed toilets, no sinks, no water used since the previous day). It is important that we follow this standard testing practice to ensure that people believe our results
  - c. Samples will have to be sent to a lab, which will take a few weeks to get results.

## One Day Prior to Testing

3. Remind staff to confirm scheduled time.
4. Remind staff that no water can be used prior to testing.
5. Have staff cover water fountain with plastic bag the night before to prevent use prior to testing (fountain must remain unused for at least 6 hours prior to testing).

## Day of Testing

6. Arrive at testing site prior to facility opening, if possible, to prevent any water use.
7. When possible, have leader or other key staff present for testing
  - a. Staff presence is required for centers who expressed active concerns about water quality (defined as responding with "not very confident" or "no confidence" from Needs Assessment question on confidence in water quality)
8. Explain process of "revised first draw" sample (clear the water storage tank in order to only test water that had been stagnant in piping)
  - a. Have diagram 1 showing how water enters through the street, travels through the piping and is stored in the tank
9. Perform test
  - a. Use gloves to prohibit cross-contamination (relevant for any bacteria tests).
  - b. Run fountain to fill a single 1 liter bottle (the size of the storage tank inside the fountain) and dump out the water. This allows us to obtain a "revised first draw" sample to bypass the water from the storage tank that was flushed from the previous day and stored in the tank. It allows us to access the water that has been sitting in the pipe overnight for a first draw sample.

- c. Fill the first test bottle, seal and place in cooler
- d. Run fountain over chlorine residual test strip for about 10 seconds
- e. Flush the toilets then run the fountain for 5 minutes using a timer (to flush water from building and bring in fresh water from street lines; See Diagram 1)
- f. Fill the second test bottle, seal and place in cooler.
- g. Run fountain over second chlorine residual strip for about 10 seconds.
- h. Place a small bag of ice in cooler over test samples, ensure samples stay refrigerated.
- i. Submit samples to testing facility immediately.
  - i. To ensure accurate readings for bacteria tests, samples must be mailed immediately so they are received within 24 hours. Penn State's Agricultural Testing Center does not receive samples on Fridays or weekends as there is insufficient time to conduct testing.
- j. Provide expected timeline to the center staff for test results to be completed (1-2 weeks)

### **After Testing**

Lead action levels are consistent with the School District of Philadelphia water testing lead action levels and are below the EPA recommended action level of 15ppb for schools and child care facilities designated as a public water system. Notification of elevated levels for other tests will be determined based on EPA criteria for normal ranges that are reported by Penn State Agricultural Analytical Services Lab on each water safety testing report.

#### **If Results are Less than 10 ppb:**

10. Inform PPR, PDPH, and recreation site leader of results within 48 hours

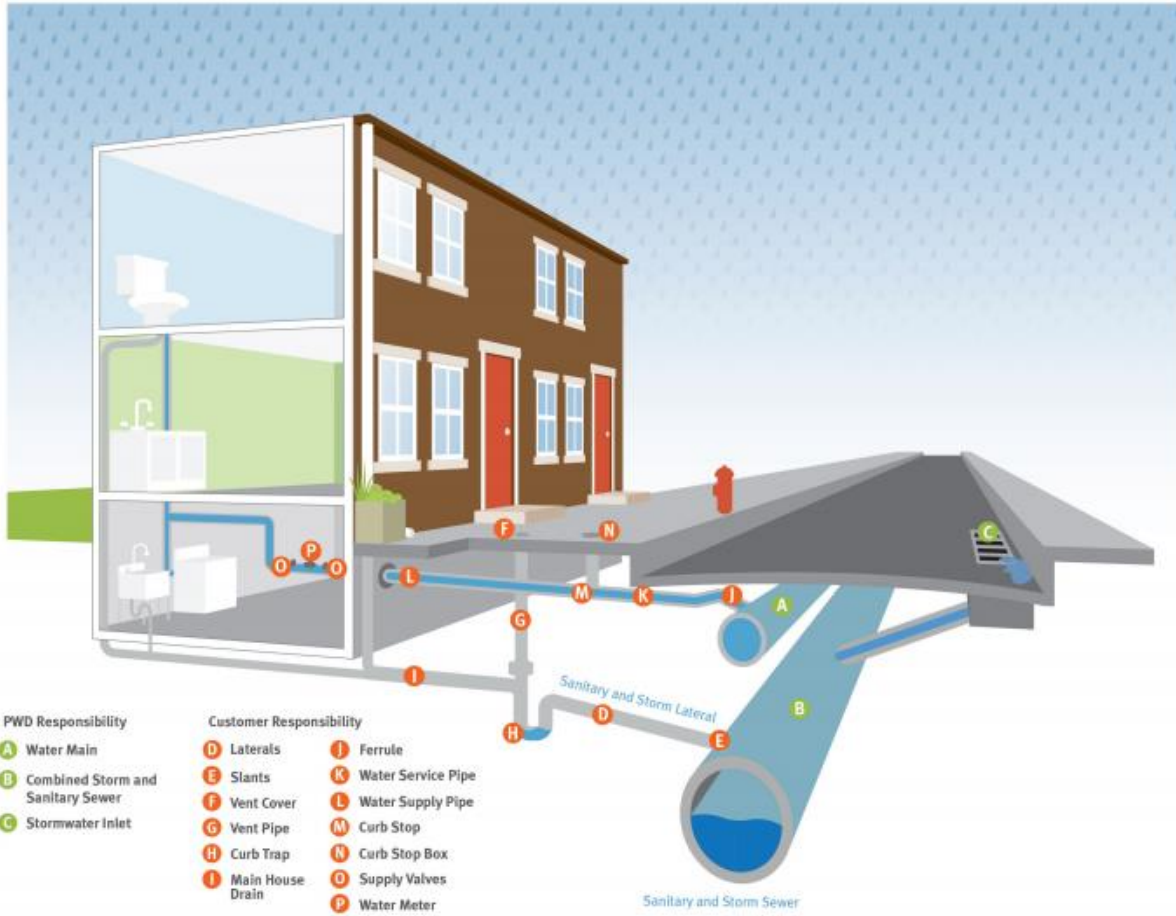
#### **If Results are 10 ppb or greater:**

11. Turn off outlet and tag to prevent turning back on
12. Notify Cheryl Bettigole, Kathi Muller, Frank Fabey, and Kathryn Ott Lovell of elevated results within 24 hours.
13. The city lead program should be notified of elevated lead levels

### **Documentation**

1. When testing is complete, email notification records should be made to all project staff
  - a. Include:
    - i. Health: Cheryl Bettigole, Hannah Lawman
    - ii. PPR: Kathryn Ott Lovell, Aparna Palantino, Orlando Rendon, Kathi Muller, Frank Fabey,
    - iii. PWD: Dennis OConnor, Gary Burlingame
  - b. Include PDF of all sites' detailed results and PDFs of all sites' notification letters

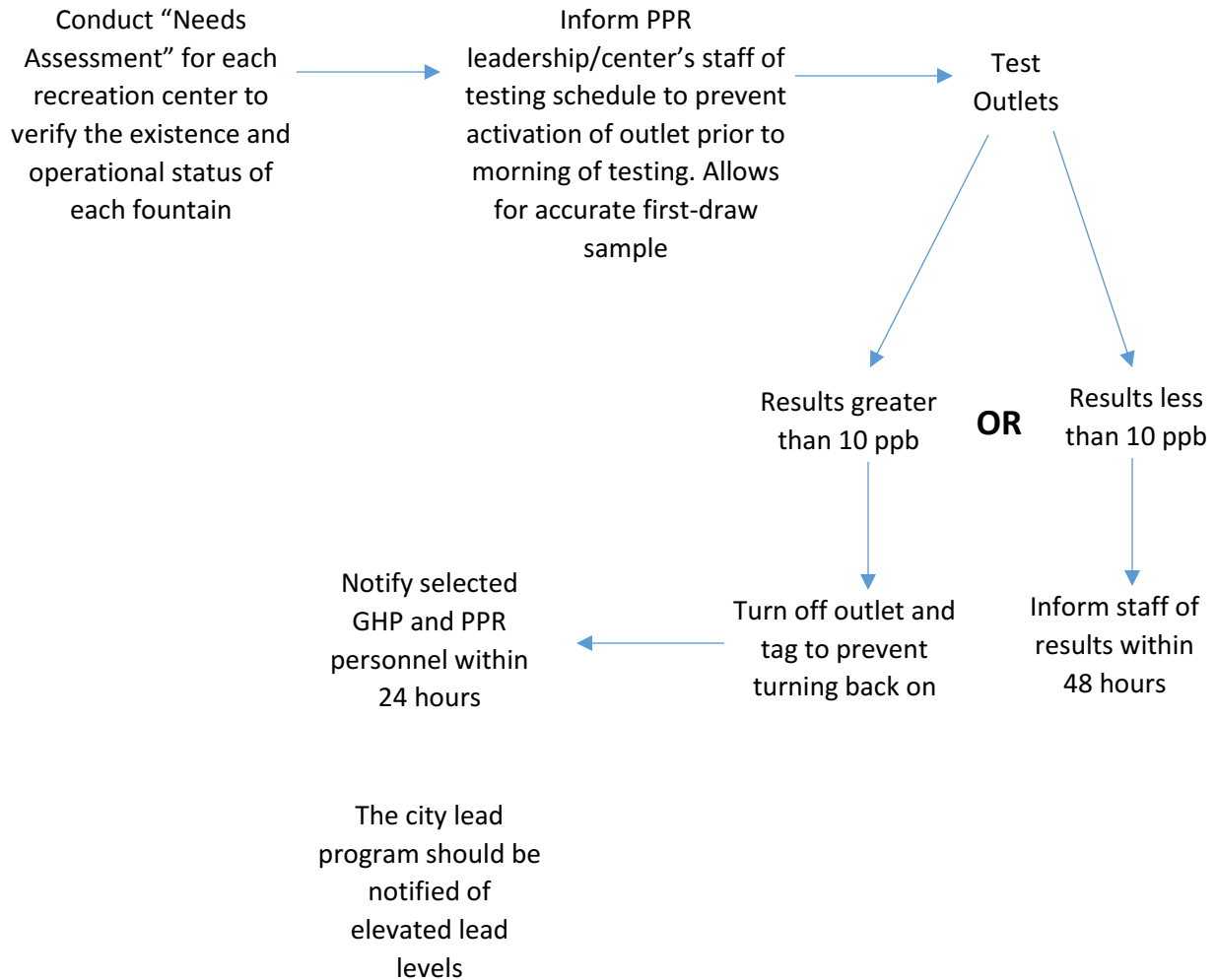
# Diagram 1





# Get Healthy Philly Water Safety Testing Protocol

September 2017





# • HYDRATE PHILLY •

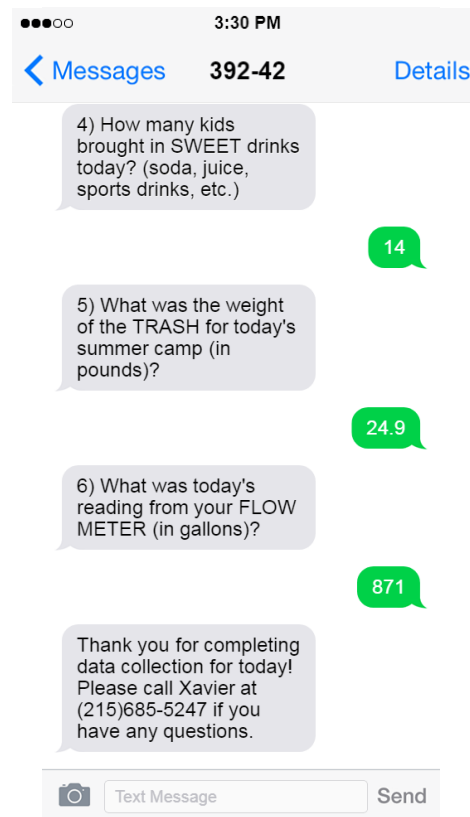
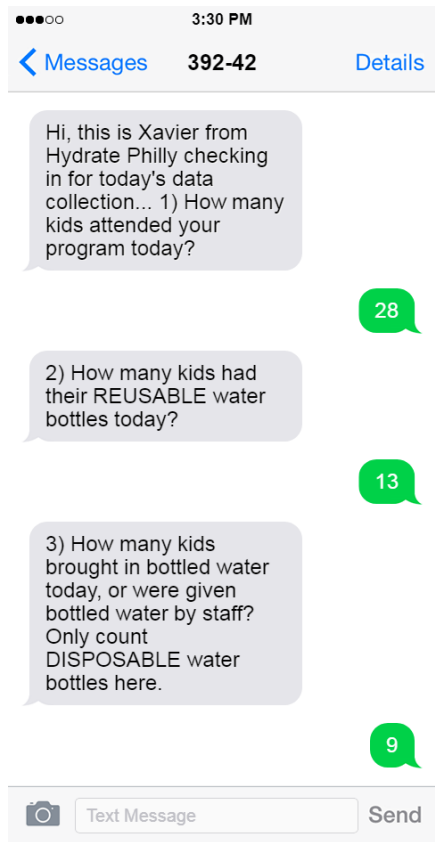
## A Quick Guide to Data Collection

Hydrate Philly will text you for data collection at **3 times** over the next year...

- Summer 2017: July 24 – August 4
- Spring 2018: TBD
- Summer 2018: July/August

Every data collection period lasts **10 days**. During the period, we'll text you at **3:30 PM** every day.

Here's an example (with made up numbers) of what to expect. **Please respond to our texts using numbers only.** After you respond to the first question, you will receive another text with the second question, and so on until you've answered all 6 questions:



*Your responses are NOT monitored as they come in, so if you have questions please contact Xavier directly.*

### Common Questions:

1. When do I weigh trash and check the flow meter?

- Wait until you receive our text at 3:30 PM every day, so you're checking the trash and flow meter at the same time each day. This can be your normal trash take out routine during the data collection period.

2. I have more than one trash can. Which trash can do I weigh?

- Choose the trash can that is most often used for the after school program. The most important thing is to weigh the **same** trash can for the whole data collection period, even if the kids use a different trash can one day.




3. What do I do on irregular days, when there are trips or other special events?

- Keep track of the measures and respond as you normally would. We realize some numbers (for example, weight of trash) may be different than usual on these days.

**Instructions:** For each beverage below, fill in the bubble for "how often" you drank the beverage IN THE PAST MONTH and "how much" you usually drank.

**EXAMPLE:** If a person drinks water 5 times per week and drinks about 1 cup each time, they would fill in the bubble for "4-6 times per week" under "how often" and "8 fl oz (1 cup)" under "how much each time."

**TYPE OF BEVERAGE**

	1. In the past month, how often did you drink the following beverages? (Mark ONE for each beverage)							2. If you drank it, about how much each time? (Mark ONE for each beverage, or skip if you don't drink it)					
	3+ times per day	2 times per day	1 time per day	4-6 times per week	1-3 times per week	<1 time per week	Never	6 fl oz (¾ cup or less) <i>Like a small pouch or box</i> 	8 fl oz (1 cup)	12 fl oz (1½ cups) <i>Like a typical can</i> 	16 fl oz (2 cups)	20 fl oz (2½ cups) <i>Like a vending machine bottle</i> 	33.8 fl oz / 1 liter (4 cups) or more
→ <b>EXAMPLE:</b> water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>100% Fruit Juice</b> like orange or apple juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Sweetened fruit drinks</b> like lemonade, punch, Sunny D, Capri-Sun, Tampico (do NOT include 100% juice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Energy drinks</b> like Red Bull or Monster (do NOT include diet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Sports drinks</b> like Gatorade, Vitamin water, Powerade (do NOT include diet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Diet fruit, energy, or sports drinks</b> like diet cranberry drink, Red Bull Sugarfree, Powerade Zero	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Diet soda or pop</b> like Diet Coke or Sprite Zero	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Regular soda or pop</b> like Coke, Pepsi, Sprite, Sunkist, grape soda (do NOT include diet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Pre-sweetened coffee</b> like mocha or Frappuccino (do NOT include diet or plain coffee you add sugar to)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Unsweetened coffee</b> (black or with milk)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Pre-sweetened tea</b> like Arizona or Snapple (do NOT include diet or plain tea you add sugar to)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Unsweetened or diet tea</b> like plain tea, diet Arizona, diet Snapple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Plain or flavored milk</b> (do NOT include milk in cereal)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Unsweetened bottled or tap water</b> (including sparkling)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**BE SURE TO ANSWER THESE QUESTIONS FOR ALL BEVERAGES YOU DRANK**





## **Hydrate Philly Water Fountain Observation Cheat Sheet**

1. Arrive at recreation center. Find site leader and ask for today's program attendance.
2. (Intervention sites only) Record 'challenge game' and 'program bottle count'.
3. Take photos of water source at 10 feet and close up.
4. (If time allows) test time to fill bottle/cup from bottle filler and/or spigot.
5. Immediately before observation period begins, record flow meter reading and take photo.
6. As observation period begins, count initial tally of total site visitors.
7. Complete observation period.
8. Immediately after observation period ends, record flow meter reading and take photos.
9. If you did not do so earlier, test time to fill bottle/cup now.
10. Text photo of completed observation form to Hilary at (856) 630-3550.



## Hydrate Philly Water Fountain Observation Protocol

### Overview of Observation Design

1. All 28 study sites will receive 5 observations (1 each weekday) lasting 30 minutes each (see Appendix A for schedule).
2. Observations will occur over 2-3 weeks by a single RA at each site. RAs will train to reliability using a gold standard measurement and a 2<sup>nd</sup> RA will conduct intermittent 2<sup>nd</sup> observations overlapping with the 1<sup>st</sup> RA for inter-rater reliability calculation purposes.
3. Intervention and control matched pair sites will be observed at the same time period.
4. If there are 2 hydration stations or water fountains at the recreation center, observations will occur at the location where the flow meter is installed (see Appendix B for list).
5. Observations will overlap with the post-measurement period (i.e., same time as flow meter readings, attendance, and tally of water bottles, reusable bottles, and sugary drinks are being reported by site leaders).
- 6.

### Observation Protocol

1. Arrive at least 15 minutes before observations are scheduled to begin. It is very important all observations start on schedule. Do not begin observing early; begin at the scheduled time -- otherwise it can affect the results. Prior to observations beginning, these pieces should be started:
  - a. # Program Participants on Site (ask site leader for today's attendance)
  - b. 2 Photos of the fountain
  - c. "Before" photo of the flow meter or bottle counter (immediately before obs. period starts)
  - d. # Total Site Visitors (immediately as obs. period starts)
2. Sit or stand in an area close to the water source. Choose a spot where you can best observe the water flow coming from the water source. Do not sit so close as to be an obstruction. If needed, you can walk around a little bit to observe the other drinks that site visitors are consuming.
3. Complete the observation form. Use one observation form per 30 minutes long observation. If you are paired with another volunteer during your shift, you each should complete your own observation form.
  - a. **Intervention Only:** For intervention sites only, complete:
    - i. **Challenge Game:** Circle Y or N for whether the "Weekly Water Challenge" game poster is hanging up somewhere in the center
    - ii. **Program Bottle Count:** The number of "Hydrate Philly" branded water bottles that were seen in possession by children and adults at summer camp at the recreation center (not just from your observation post).
  - b. **Photos:** Please take two photos before each observation period – 1) the water source at a distance of approximately 10 feet; and 2) water source basin close-up. In the first photo, we would like to see if there are any obstructions near the water source. In the second we would like to see if there is



any dirt, trash, etc. in the water source basin that could impact consumption. (If you are paired with another volunteer on your shift, only one of you needs to take and send photos)

- c. **Tally of program participants on site:** When you arrive, take an initial count of children enrolled in the summer program who are onsite during the observation period. Ask the site leader how many kids attended the program that day. Do not count other youth at the center if they are not in summer camp (e.g., youth playing basketball on their own) because they will be counted in “other site visitors”.
- d. **Tally of total site visitors:** Just as the observation period starts, take an initial count of all visitors in the recreation center that you can see from your post. All additional visitors who enter your line of sight from your post (within the recreation center) will also be counted and added to your tally. Do not count visitors that you cannot see from your post (e.g., visitors in other rooms out of site of the hydration station). Do count visitors that you would be able to see from your post if not for an obstruction (e.g. vending machine or people having a conversation that block your line of sight). You will likely wind up counting summer program participants and non-participants in this tally.
- e. **Flow meter:** Record the number on the flow meter at both the start and end of the observation period. This measurement should occur immediately before/after observation period. If the site is a control site, you will need to open the old water fountain cover in order to access the flow meter. Be very careful not to move or touch the flow meter if possible. If it’s necessary to move the flow meter, move it carefully. Flow meters have been known to break or malfunction if handled roughly. In addition to recording the flow meter number, take a photo of the flow meter number (before and after observation period).
- f. **Time to fill bottle:** Use a stopwatch to time how long it takes to completely fill 1) your small cup from the spigot and 2) your 20oz bottle from the bottle filler (intervention sites only). If two staff members are available, this measurement should be performed with your observation partner such that one partner holds the stopwatch and another partner fills the bottle and gives start/stop directions to the timer. The measurement should be performed twice with each measurement partner swapping roles of timer versus bottle filler. The timer will record the measure on their observation form (so after the roles are switched the other person will be able to record their time on their own observation form). The measure should be repeated 3 times to obtain a reliable estimate.
  - i. Test bottle fill time either before you record the first flow meter reading or after you record the flow meter reading at the end of the observation period, so the bottle testing does not affect water usage (and therefore flow meter reading) during the observation period.
- g. **Tally of program participants and other site visitors using water sources:**
  - i. Count each time a water source is used as a separate tally. (i.e. if a man approaches a water source and drinks directly from the spout and then fills up his water bottle, count him both under sips and under bottles. Or if a girl takes a sip and then returns)
    1. Use a stop watch to time how long (in seconds) the visitor sips from the spigot, or how long water flows from the bottle filler into their bottle. Count only the time in which the visitor is actually drinking water or there is water touching his/her lips.
    2. For filled bottles, check ‘R’ if the visitor is using a reusable bottle. Do not count disposable cups or single use bottles.



3. If visitors are drinking from the fountain back-to-back, and you do not have enough time to record and restart stopwatch between visitors, then pause the stopwatch in between visitors and capture overall time for that group of visitors. Record this number of seconds, then in parentheses to the right of the value, record the number of visitors who drank during that measure; e.g. 25.61 sec. (4)
- h. **Other Beverages Observed:** Tally a count of other beverages by their type for anyone within view of your observation post. Do not count beverages that are clearly not meant to be consumed (e.g. children returning unused milk cartons at the end of lunchtime).
- i. Examples include flavored milks, Capri Sun, Sunny-D, lemonade, Starbucks bottled Frappuccino, bottled yogurt drinks (Danimals, Yakult), fruit punch, Hugs, soda and any other drink with added sugar. Alcoholic beverages are counted as ‘other sugary drinks’.
  - ii. If you don’t know if a drink contains added sugar, write down the details of the drink from the label in your “notes” section, and look it up on the internet *immediately after your observation is complete* (so you don’t forget). You can start by searching the drink here: <https://www.fatsecret.com/>. If there is an opaque bottle or a container with an unknown liquid, attempt to ask what’s the person is drinking or, if it is too busy to ask, classify these beverages as “unknown”
  - iii. Available type categories are:
    1. **Water in Reusable Bottle:** Include all water seen in a reusable bottle. If someone fills a reusable bottle at the fountain, you will tally them here and check the ‘R’ box.
    2. **Bottled Water (Single Use):** Include all water in a single use receptacle.
    3. **Milk (plain)**
    4. **Milk (flavored):** strawberry, vanilla, chocolate, etc.
    5. **Diet Soda/Diet Tea:** count only diet sodas and teas that are artificially sweetened, not sugar sweetened
    6. **100% Juice:** count only non-carbonated juice that appears to be 100% juice
    7. **Soda:** count only sugar-sweetened (not diet/artificially sweetened) sodas. This could include fruit flavored sodas (eg, Crush).
    8. **Coffee:** any type of hot or cold coffee beverage
    9. **Other Sugary Beverages:** Any other sugary drinks (e.g. lemonade, milkshakes, Sunny-D, Capri-Sun, sweetened teas)
    10. **Unknown:** count coffee mugs or opaque bottles
    11. *Note:* We should be able to aggregate these tallies to help us estimate potential trashed saved.
  - i. **Notes:** please describe if anything unusual occurs during your shift that might impact water consumption – i.e. a parade, a school field day, a birthday party, construction, rain, a holiday, etc. If the fountain is dirty or clogged or broken today, please describe how (e.g., fountain is clogged with sand; trash in the basin). You can use this space to also describe anything else noteworthy (e.g. two small children tried to drink from fountain but couldn’t reach; woman washed her hands in fountain; children sat/climbed on fountain)





Appendix A – RA Observation Schedule

Proposed Daily Schedule	
Time	Agenda
10:30a	Arrive site 1
<b>10:45a to 11:15a</b>	<b>Site 1 observations</b>
11:15a to 12p	Travel from site 1 to site 2
12p	Arrive site 2
<b>12:15p to 12:45p</b>	<b>Site 2 observations</b>
12:45p to 1:30p	Travel from site 2 to site 3
1:30p	Arrive site 3
<b>1:45p to 2:15p</b>	<b>Site 3 observations</b>
2:15p to 2:30p	Wrap up for day



Appendix B – Description of water fountain that will be observed

Site ID	No. of Fountain	Fountain Type	Location to Observe
1806	2?	Elkay	ground floor, between the bathrooms near office
1610	2	Elkay	in lobby outside of auditorium
1812	2	Elkay	in main lobby
1208	2?	Elkay	inside the gym, as you enter, to the left
1216	1	Elkay	only 1 fountain
1226	1	Elkay	only 1 fountain
1402	1	Elkay	only 1 fountain
1618	1	Elkay	only 1 fountain
1620	1	Elkay	only 1 fountain
1624	1	Elkay	only 1 fountain
1728	1	Elkay	only 1 fountain
1822	1	Elkay	only 1 fountain
1604	2	Elkay	up steps in main lobby across from gym
1314	2	Elkay	upstairs across from office
2811	2	Fountain	as you enter the building, to the right, near office
2307	2	Fountain	in lobby, next to the vending machines
2315	2	Fountain	on main floor, in hallway leading to computer room
2223	2	Fountain	outside of the main office, near the bathrooms
2225	1	Fountain	only 1 fountain
2227	1	Fountain	only 1 fountain
2205	1	Fountain	only 1 fountain
2409	1	Fountain	only 1 fountain
2819	1	Fountain	only 1 fountain
2821	1	Fountain	only 1 fountain
2803	1	Fountain	only 1 fountain
2413	1	Fountain	only 1 fountain
2729	1	Fountain	only 1 fountain
2317	1	Fountain	only 1 fountain



# Hydration Station Maintenance Needs

Tracking the maintenance needs of water fountains and hydration stations over the course of six months

\* Required

## 1. Site Name \*

*Mark only one oval.*

- CB Moore
- Chew
- Christy
- Cohocksink
- Cruz
- East Poplar
- Feltonville
- FJ Myers
- Gambrel
- Gathers
- Glavin
- Hillside
- James Wright
- Kingsessing
- Lee Cultural
- Lonnie Young
- Mander
- McIlvain
- McVeigh
- Morris Estate
- Olney
- Papa
- Penrose
- Rivera
- Roosevelt
- Smith
- Tustin
- Vogt

**2. Person filling out form. \****Mark only one oval.*

- Caretaker
- Recreation Leader
- Other: \_\_\_\_\_

**3. How often in the past week have you had to remove gum, seeds, or other food from the fountain/hydration station(s)? \****Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

**4. How often in the past week have you had to remove graffiti from the fountain/hydration station(s)? \****Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

**5. How often in the past week have you had to remove dirt/dust from the fountain/hydration station(s)? \****Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

**6. How often in the past week have you had to remove trash from the fountain/hydration station(s)? \****Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

7. **How often in the past week have you had to clean the fountain/hydration station(s) of blood/mucus? \***

*Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

8. **How often in the past week have you observed the fountain/hydration station(s) to be clogged? (Water stuck in the basin, not draining or slowly draining) \***

*Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

9. **How often in the past week have you observed the fountain/hydration station(s) to be flooded? (Water overflowed, not due to children spilling) \***

*Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

10. **How often in the past week have you needed to wipe down the fountain/hydration station? (general cleaning) \***

*Mark only one oval.*

- Every Day
- 3-5 times
- Once or twice
- Never

11. **How much time does it typically take to maintain the fountain/hydration station? \***

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12. **Have you experienced any issues with maintenance of the fountain/hydration station? If so, explain. \***

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