Identifying and Eliminating Lead in Drinking Water

June 28, 2023

In partnership with Georgia Department of Education (GaDOE)

Clean Water for Georgia Kids

Presenters:

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RTI INTERNATIONAL

GaDOE Georgia Department of Education

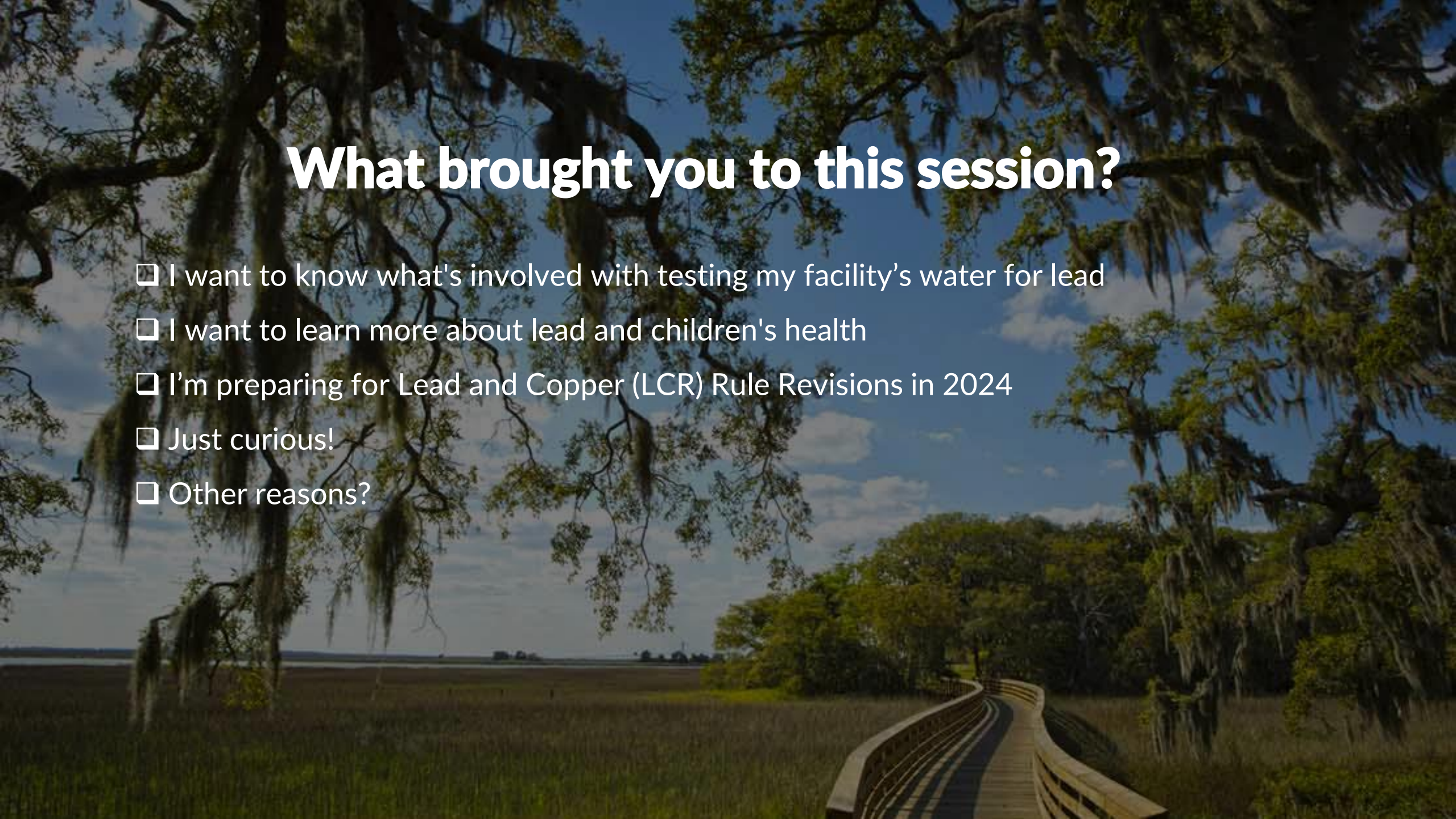
Georgia Dept of Early Care and Learning
BRIGHT FROM THE START

Overview

- Lead and children's health
- Sources of lead exposures
- Clean Water for Georgia Kids Program
  - Testing drinking and cooking water for lead
  - Actions to get the lead out of water
  - Program results
- Getting Started: Myths and Facts

Clean Water for Georgia Kids


We’re so glad you’re here!
What brought you to this session?



What brought you to this session?

- ❑ I want to know what's involved with testing my facility’s water for lead
- ❑ I want to learn more about lead and children's health
- ❑ I’m preparing for Lead and Copper (LCR) Rule Revisions in 2024
- ❑ Just curious!
- ❑ Other reasons?

Lead and Children's Health

Clean Water for Georgia Kids

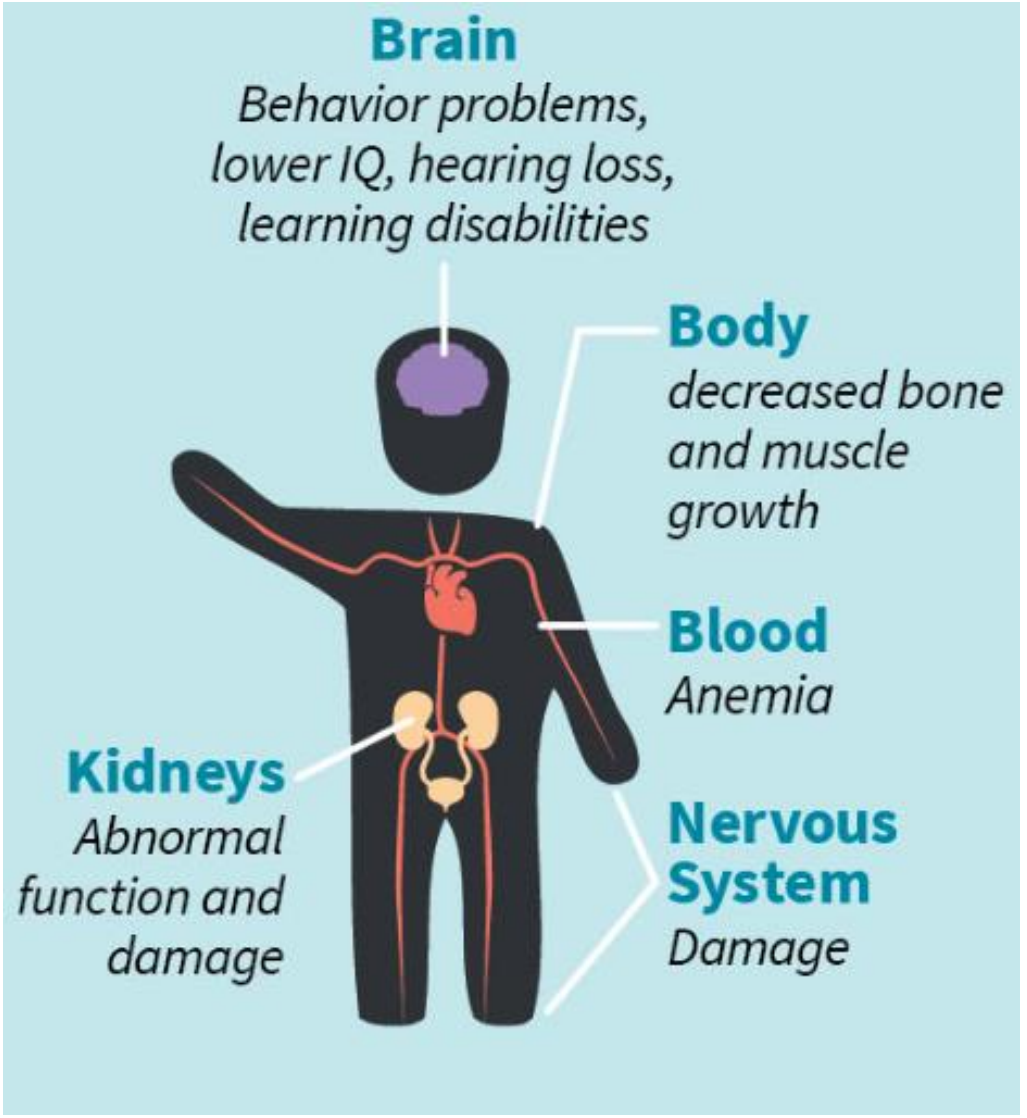
There is
no safe level of lead
exposure

Lead Exposure Health Risks

There is no safe level of lead in the body!

- Even low levels of lead can affect:
  - Attention
  - Hearing
  - Social Behavior
  - Speech and Language

Lead exposure is *preventable!*



Source: Hawaii Childhood Lead Poisoning Prevention Program

Reducing childhood exposure to lead is associated with:

- increased educational potential,
- higher lifetime earnings, and
- improved wellbeing.

Sources of Lead Exposures

Clean Water for Georgia Kids

Soil and dust

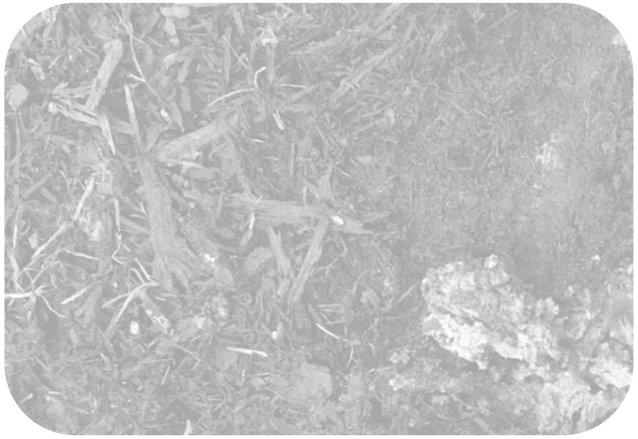
Older paint

Toys

Water

Juice

Spices



Soil and dust

Older paint

Toys

Water

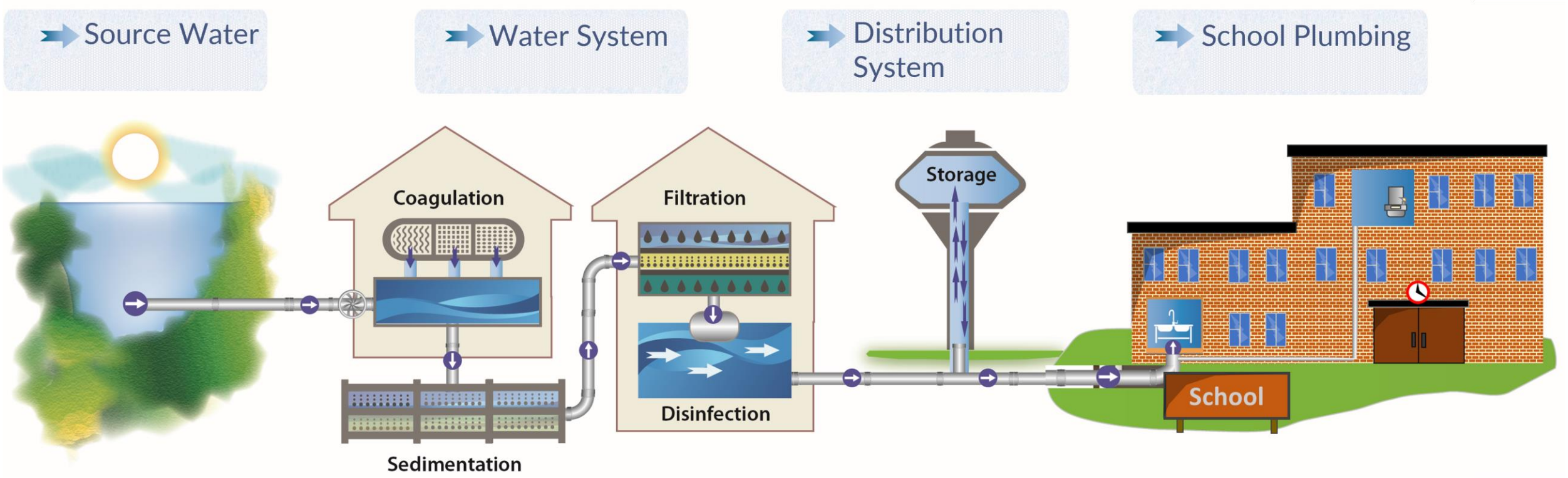
Juice

Spices

Lead in Water

Clean Water for Georgia Kids

Where does lead in water usually come from?



Usually Not Found in Source Water

Usually Not Found in the Water System

Usually Found in Distribution Piping and Facility Plumbing

Federal Efforts to Reduce Lead in Drinking Water

1988
Lead restrictions to <8% lead in plumbing and fixtures and <0.2% lead in solder and flux.

1990
Water fountains with lead-lined water tanks banned from schools.

1991
Treatment limit of **15 ppb** for public water supply systems and non-enforceable **goal of 0 ppb** of lead in drinking water set.

2014
Lead restrictions lowered to <0.25% lead in plumbing and fixtures and <0.2% lead in solder and flux.

2016
American Academy of Pediatrics recommends a drinking water limit of **1 ppb** in schools.

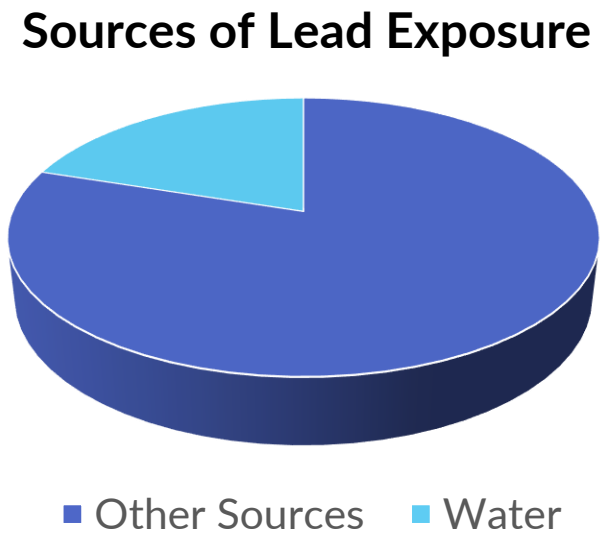
2024
Requires public water systems **test** taps at **schools and child care facilities**

Lead in Water

Fact

U.S. EPA estimates that drinking water can make up **20% or more** of a person's total exposure to lead.

Infants who consume mostly mixed formula can receive **40% - 60%** of their exposure to lead from drinking water.

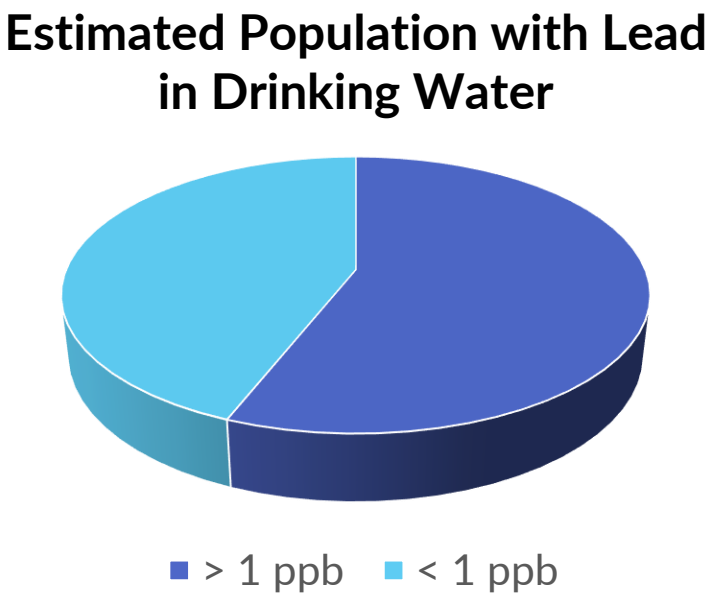


https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water#health

Lead in Water

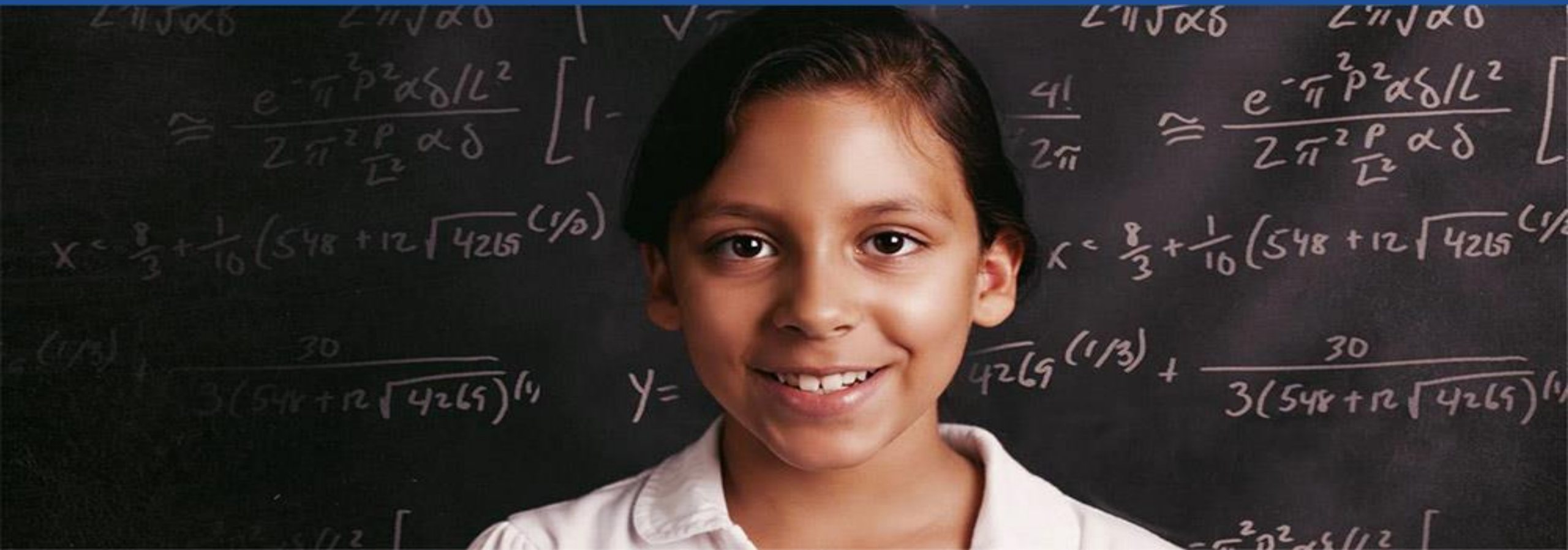
Fact

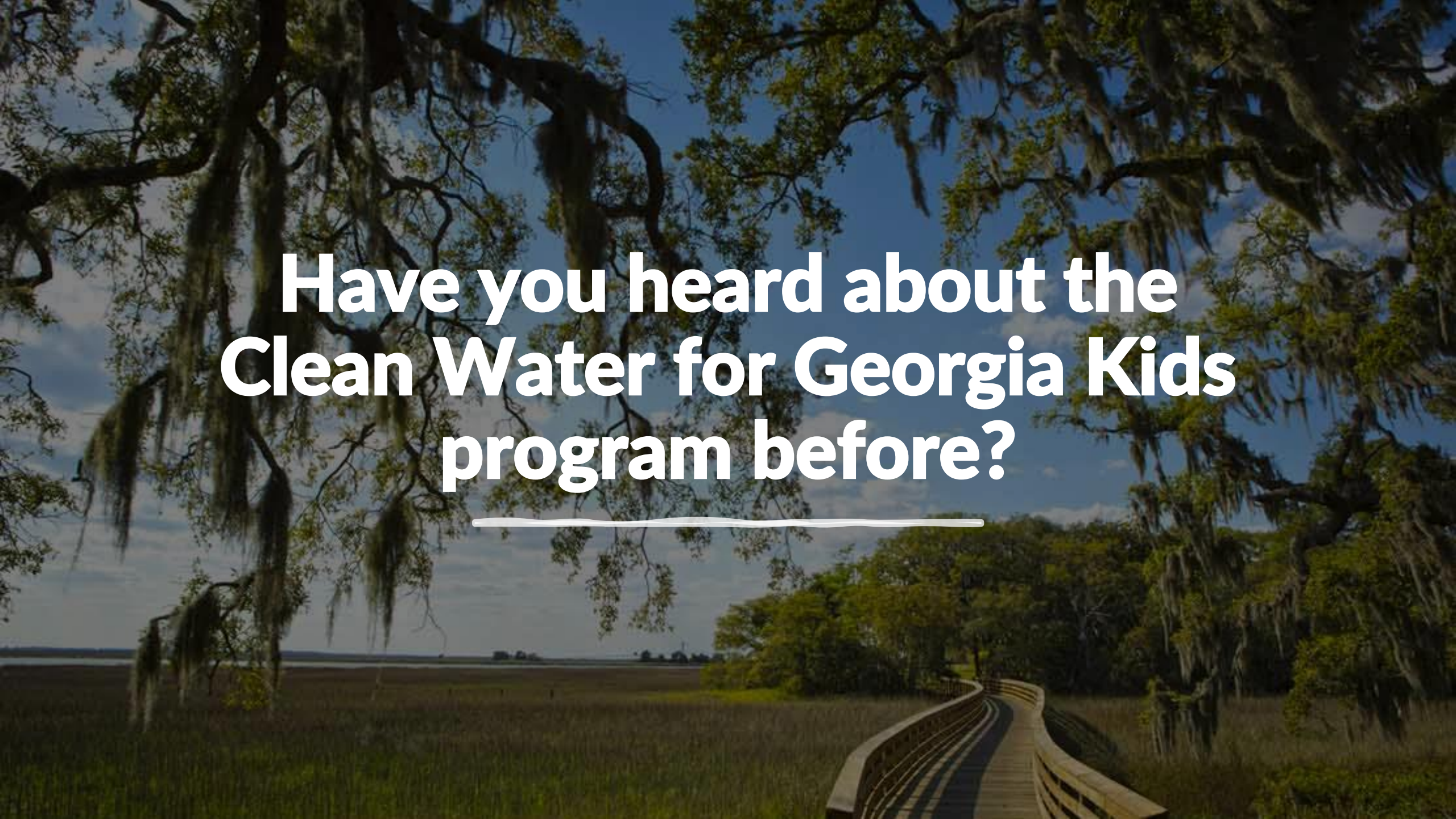
From January 2018 to December 2020, **186 million people** in the United States (56% of the country's population) drank water from drinking water systems detecting lead levels exceeding the level of 1 part per billion (ppb).

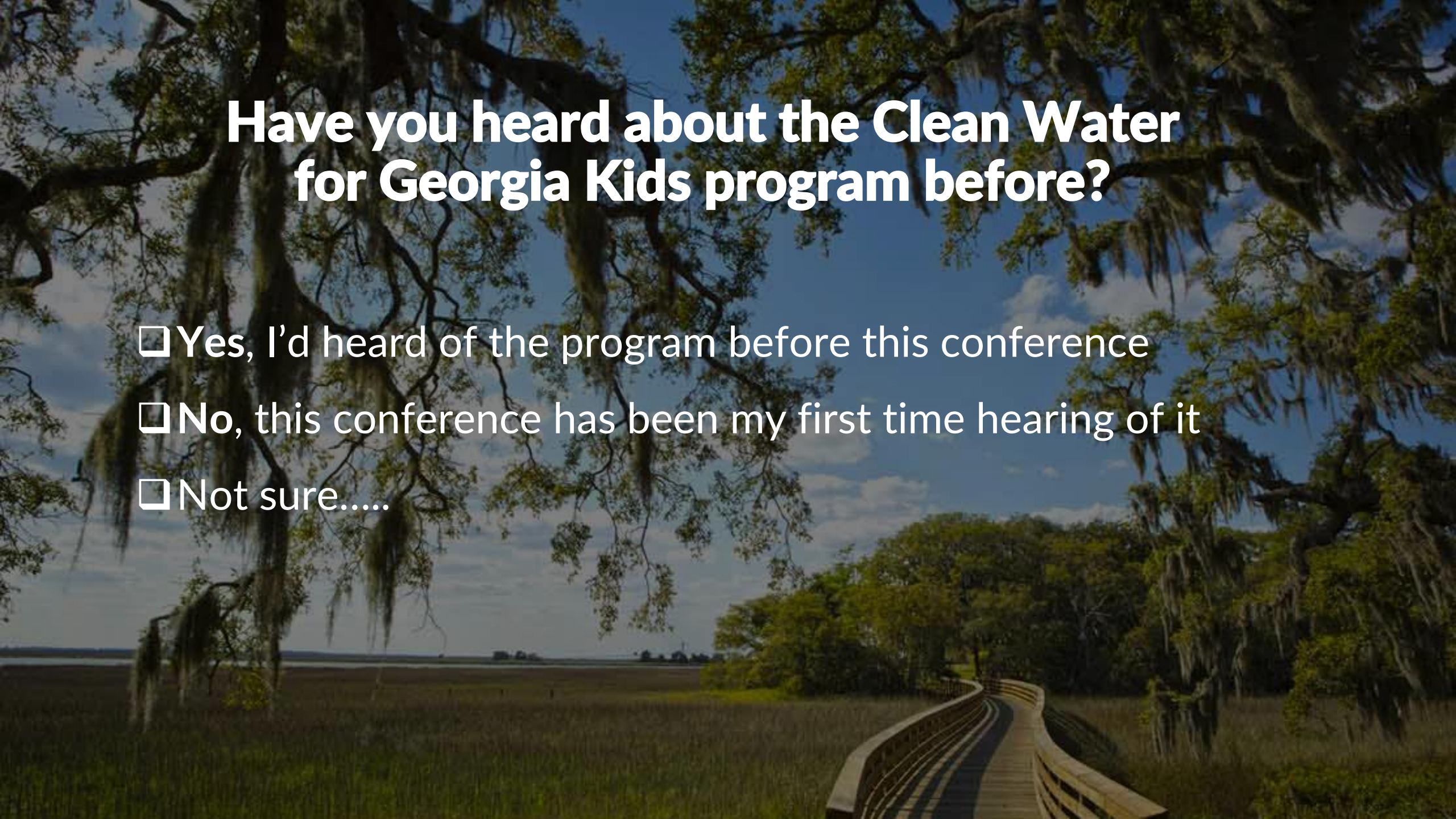


https://www.nrdc.org/resources/millions-served-water-systems-detecting-lead

The Clean Water for Georgia Kids Program




Have you heard about the Clean Water for Georgia Kids program before?



Have you heard about the Clean Water for Georgia Kids program before?

- ❑ **Yes**, I'd heard of the program before this conference
- ❑ **No**, this conference has been my first time hearing of it
- ❑ Not sure…..

About the Program

Our mission is to identify and eliminate lead in drinking and cooking water where Georgia children learn and play.

RTI International and GaDOE Partnership.

Funded by U.S. EPA Water Infrastructure Improvements for Nation (WIIN) Grant.

Testing with this program is **FREE** and protects children's health by testing every drinking and cooking tap.

Testing through the WIIN grant program can help identify where lead is, before testing under the Revised Lead and Copper Rule (LLCR), required by **October 2024**.

Enrollment is **currently open to public schools and licensed child care centers** through 2024.

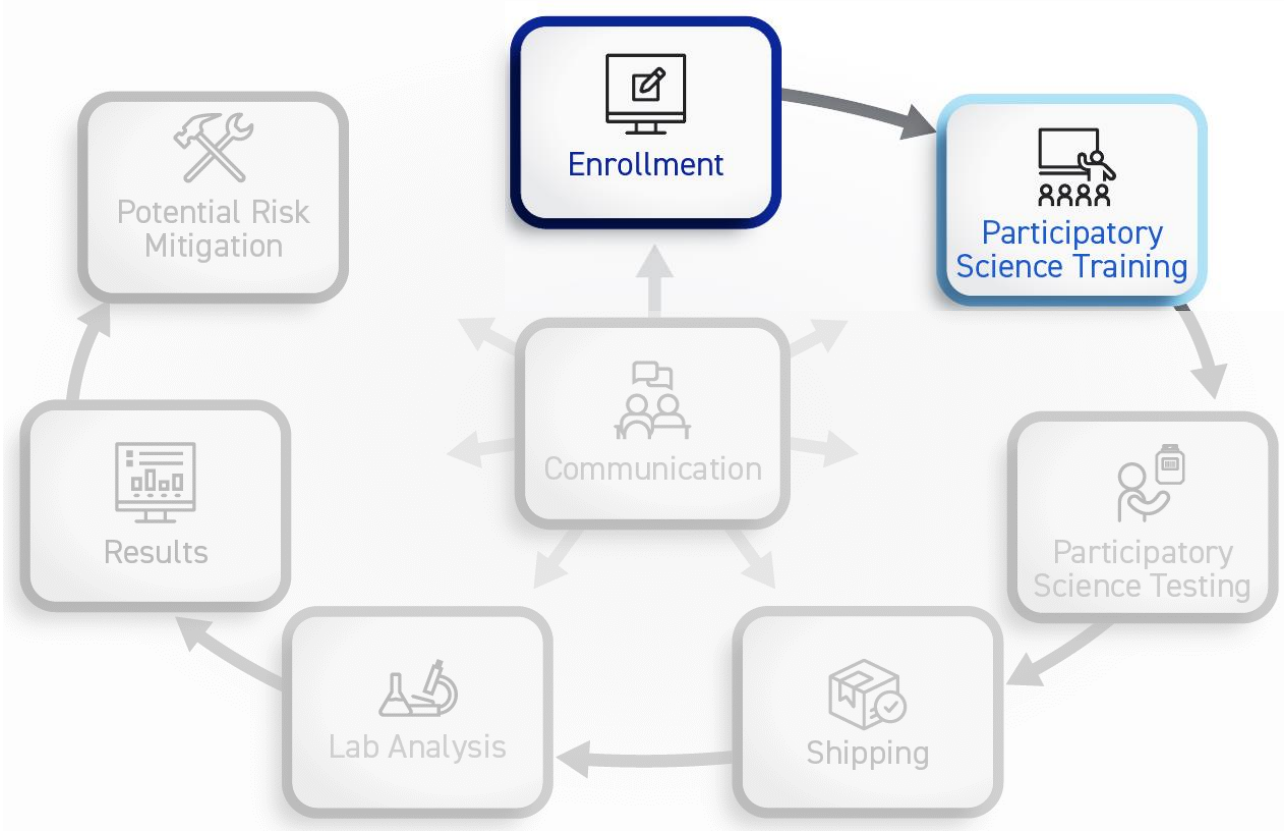
1. Train
2. Test
3. Take Action
4. Communicate

We virtually walk participants through the process with training support, a mail out test kit, laboratory analysis, and our online enrollment, report, and communication portal.

Clean Water for Georgia Kids

1 Train

- Pre-enrollment Webinar
- Enrollment Survey



1 Train

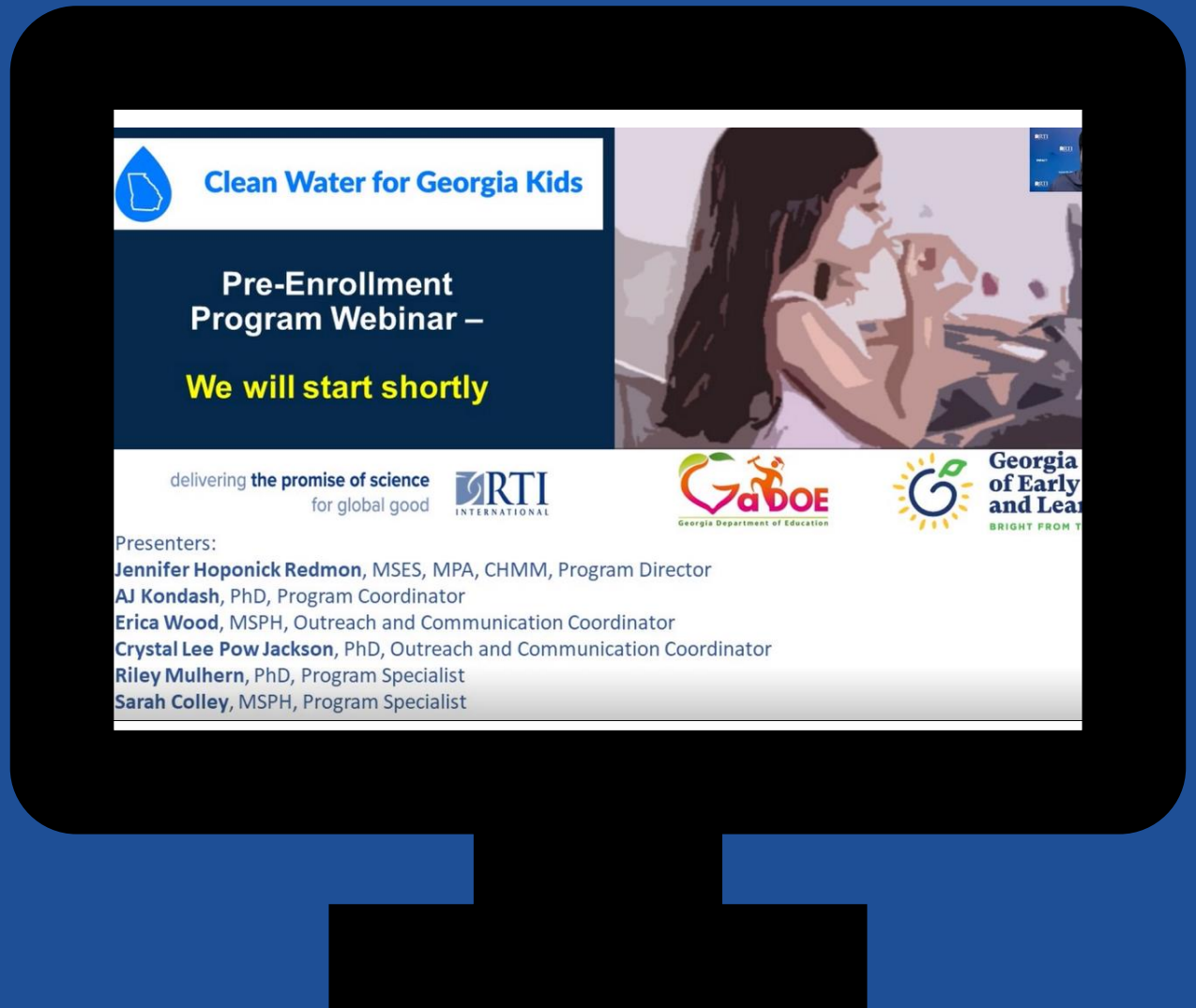
Webinar

→ Your first step!

Attend a required pre-enrollment training webinar, which provides information on:

1) how to enroll,
2) how to sample,
3) how to ship your samples back.

Our team will be available to answer any questions you might have after the webinar.



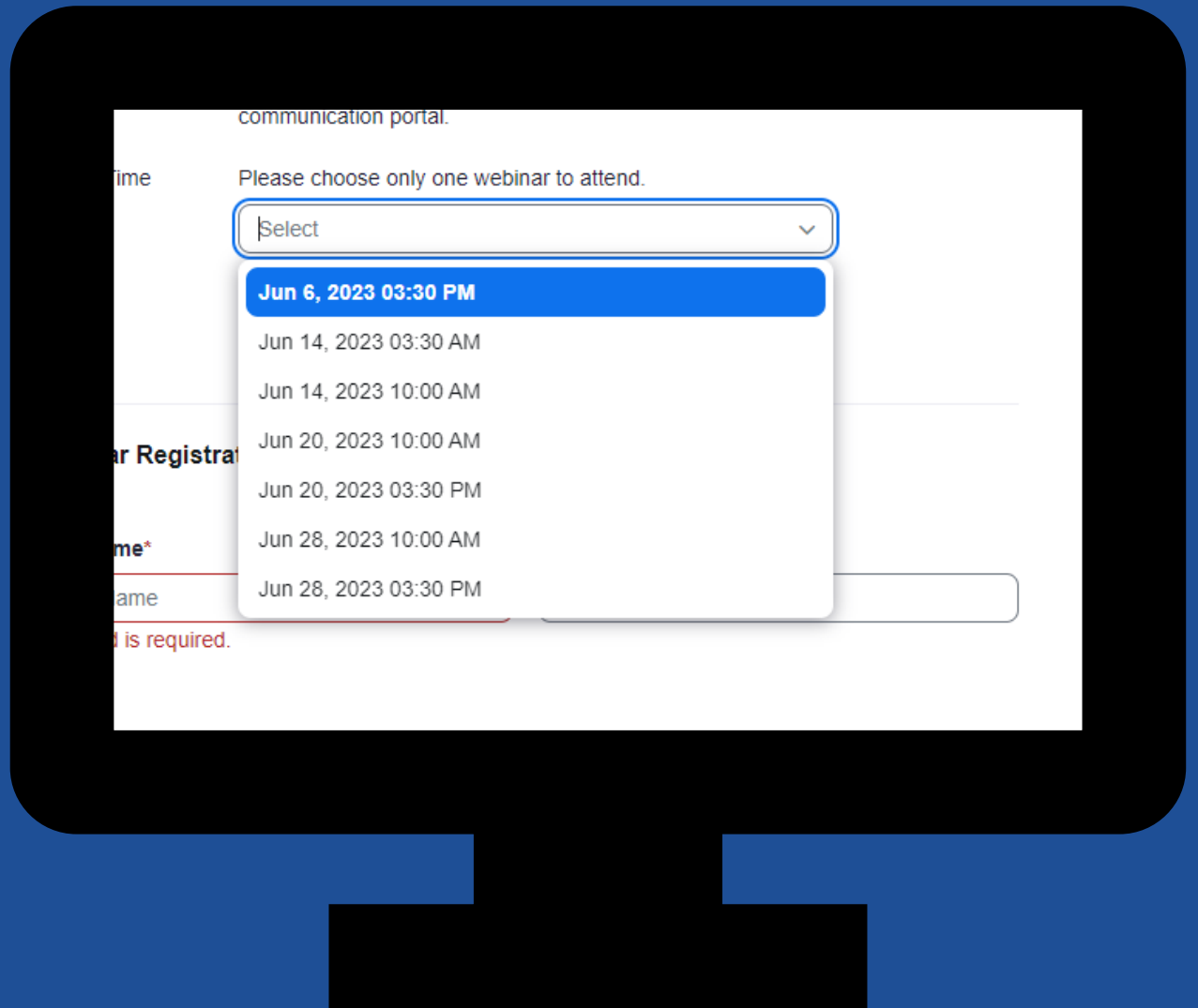
1

Train

Webinar

→ Your first step!

We offer multiple webinar sessions every week, and can work with your schedule if you'd like to enroll in the program, but can't attend a pre-scheduled session

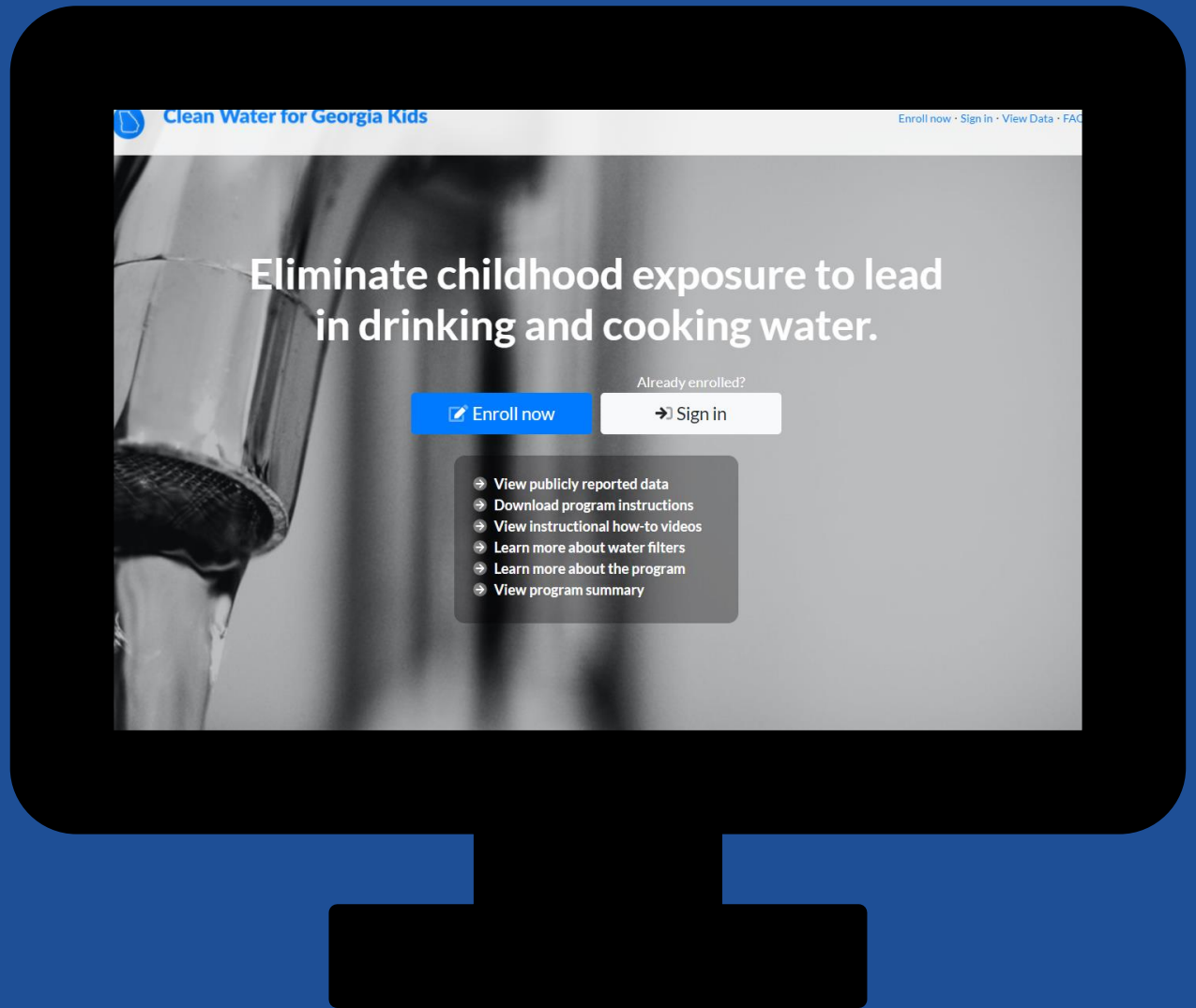


1

Train

Online Portal

The online portal is a **user-friendly hub** for facilities to complete all steps of the program, including enrollment, tracking facility progress, receiving results and next steps, and documenting participation.



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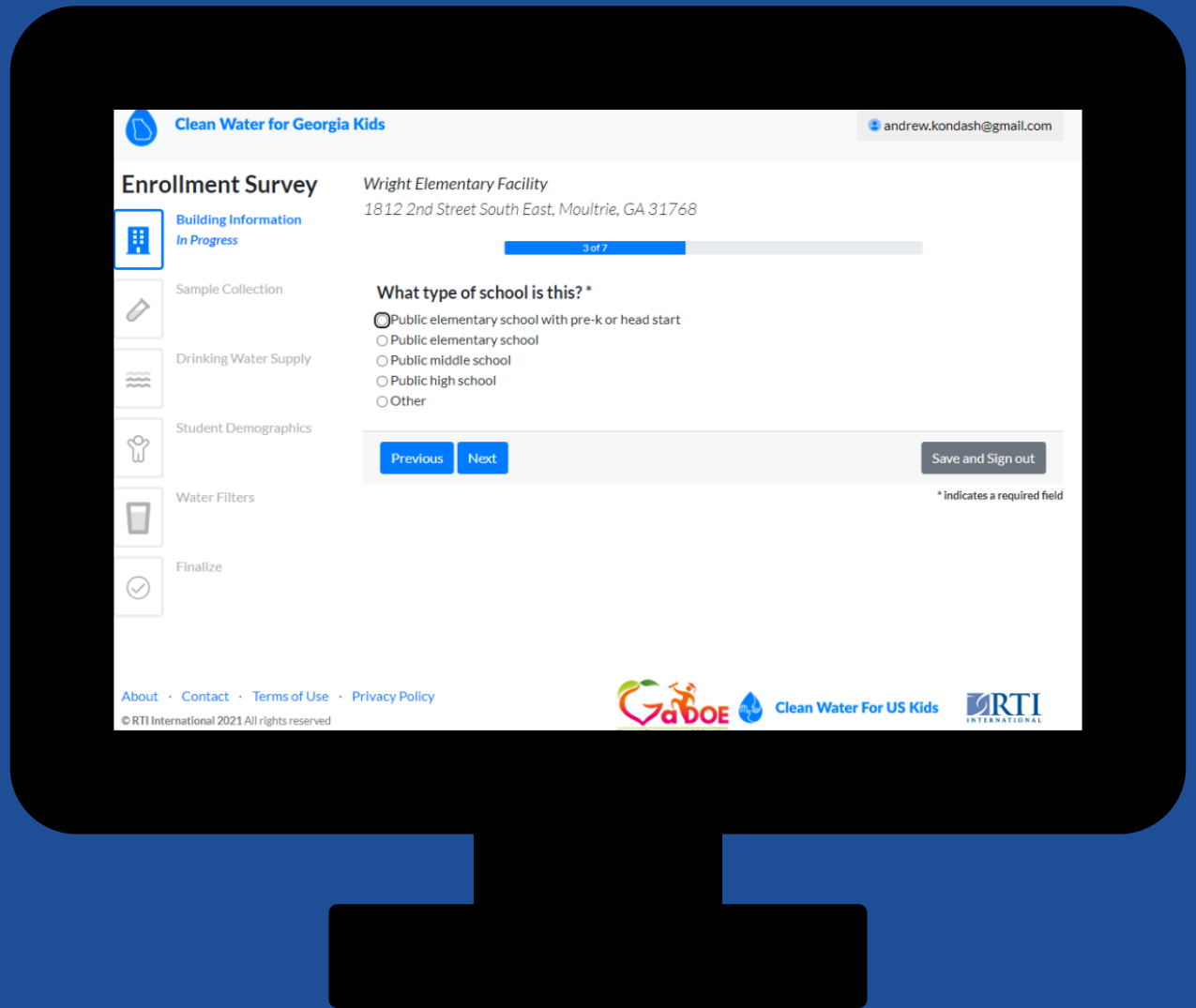
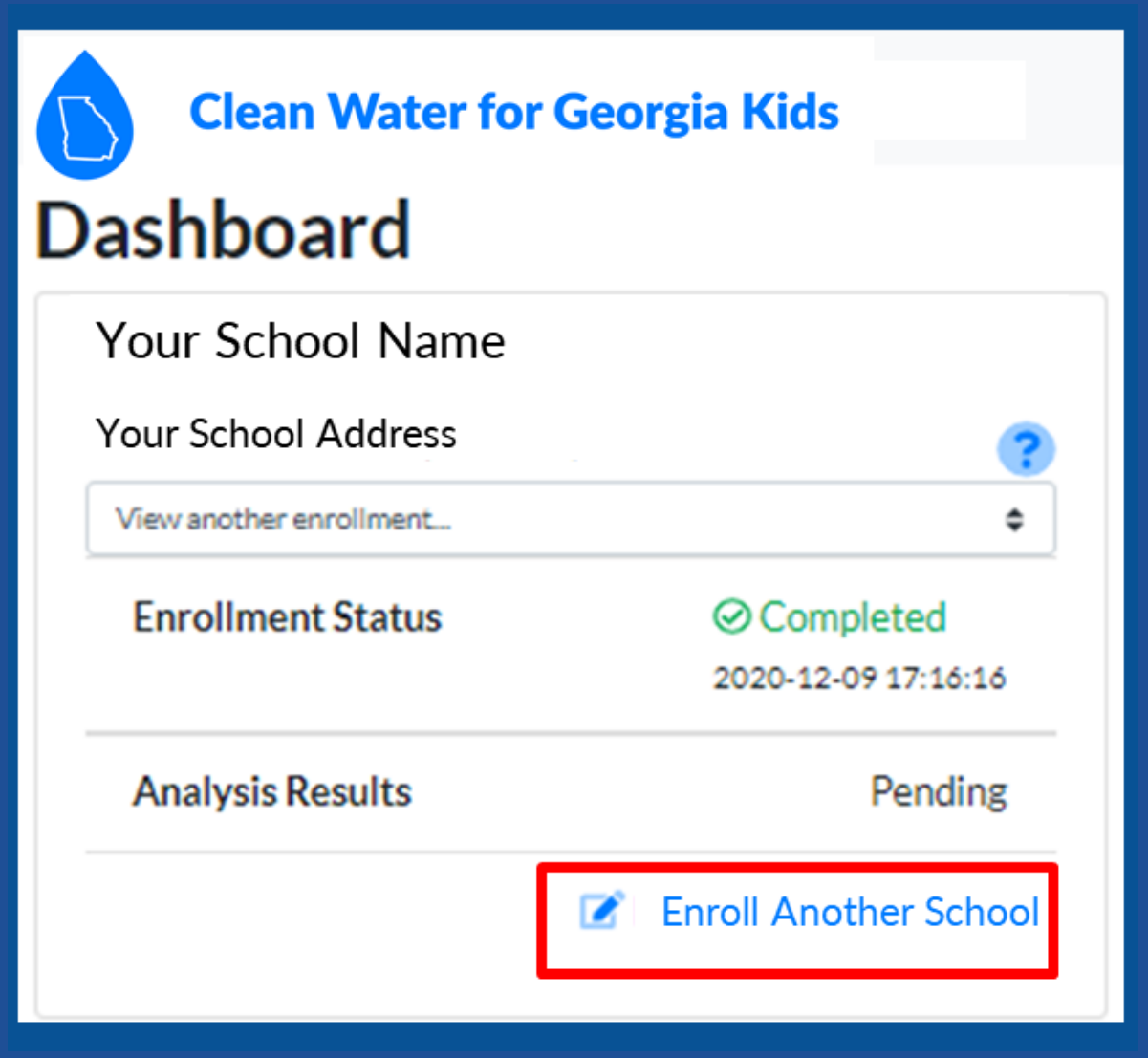


1 Train

Enrolling is Easy!

One person can enroll multiple facilities:

- Using 1 email address
- You only need to enter the PIN once
- Kit will be sent to each school or center's address

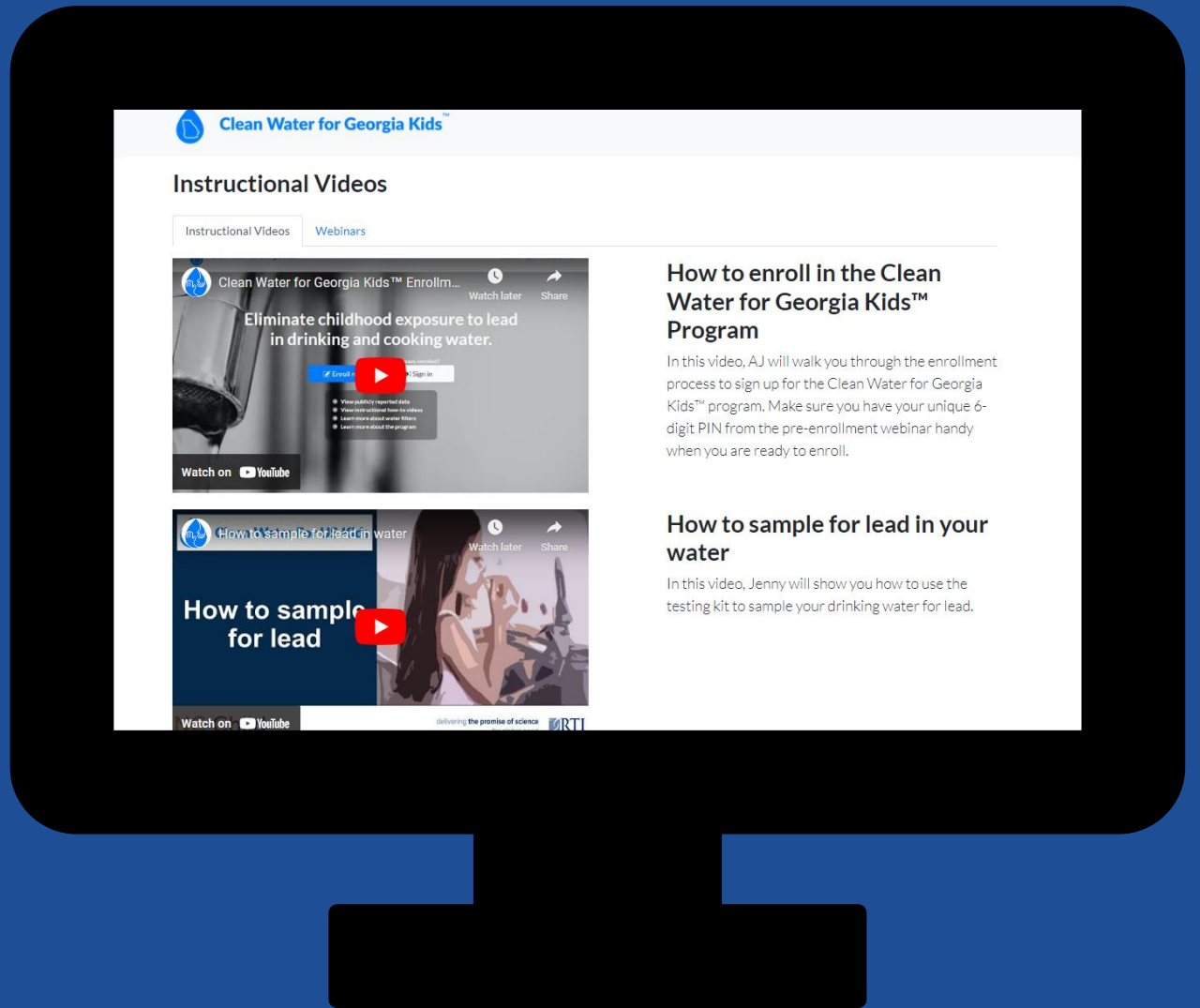


1

Train

Participant Support

For each step of the process, **participants have support** through instructional videos, program instructions, reference documents, and support staff to reach by **phone, text, or email.**



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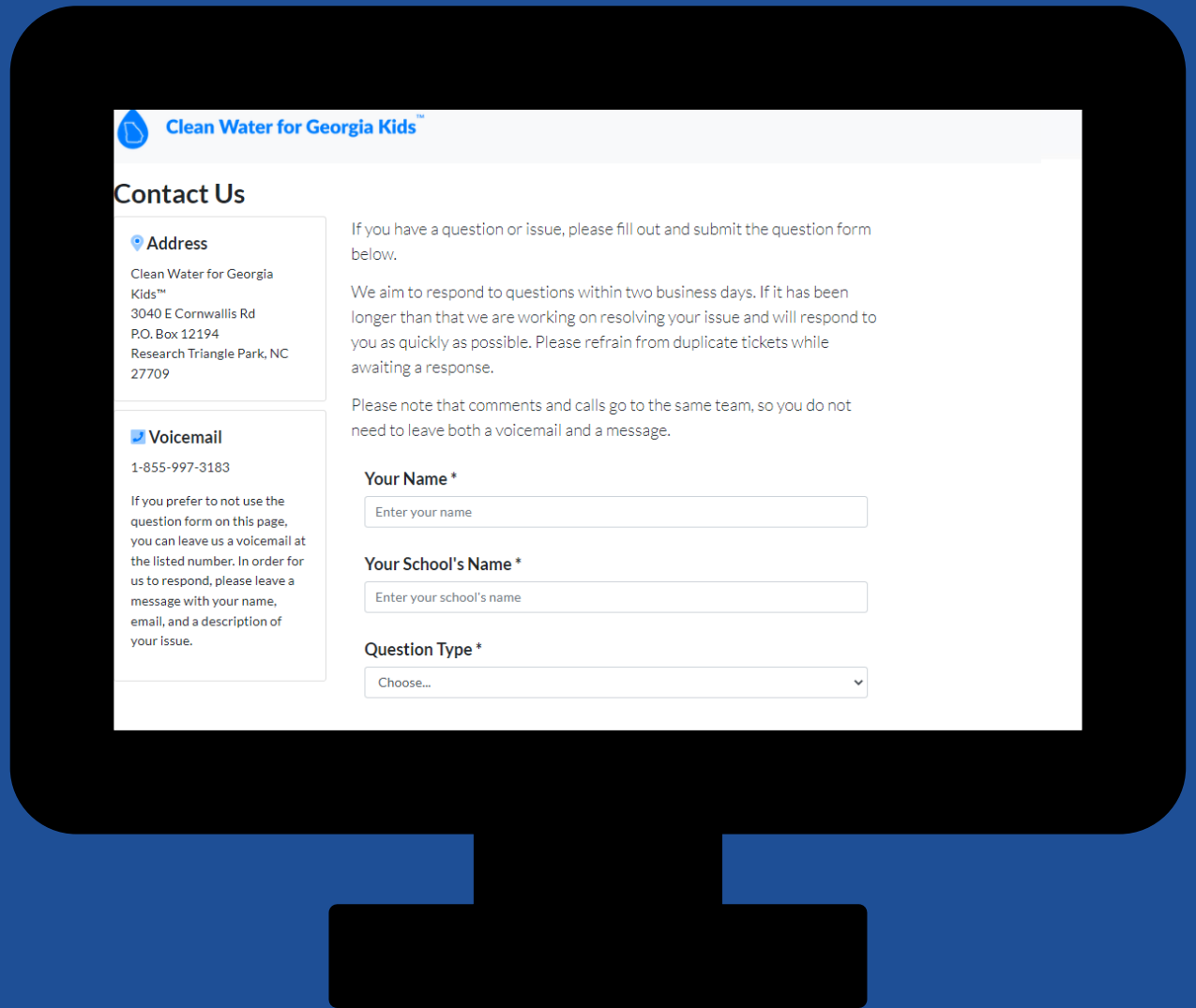

1 Train

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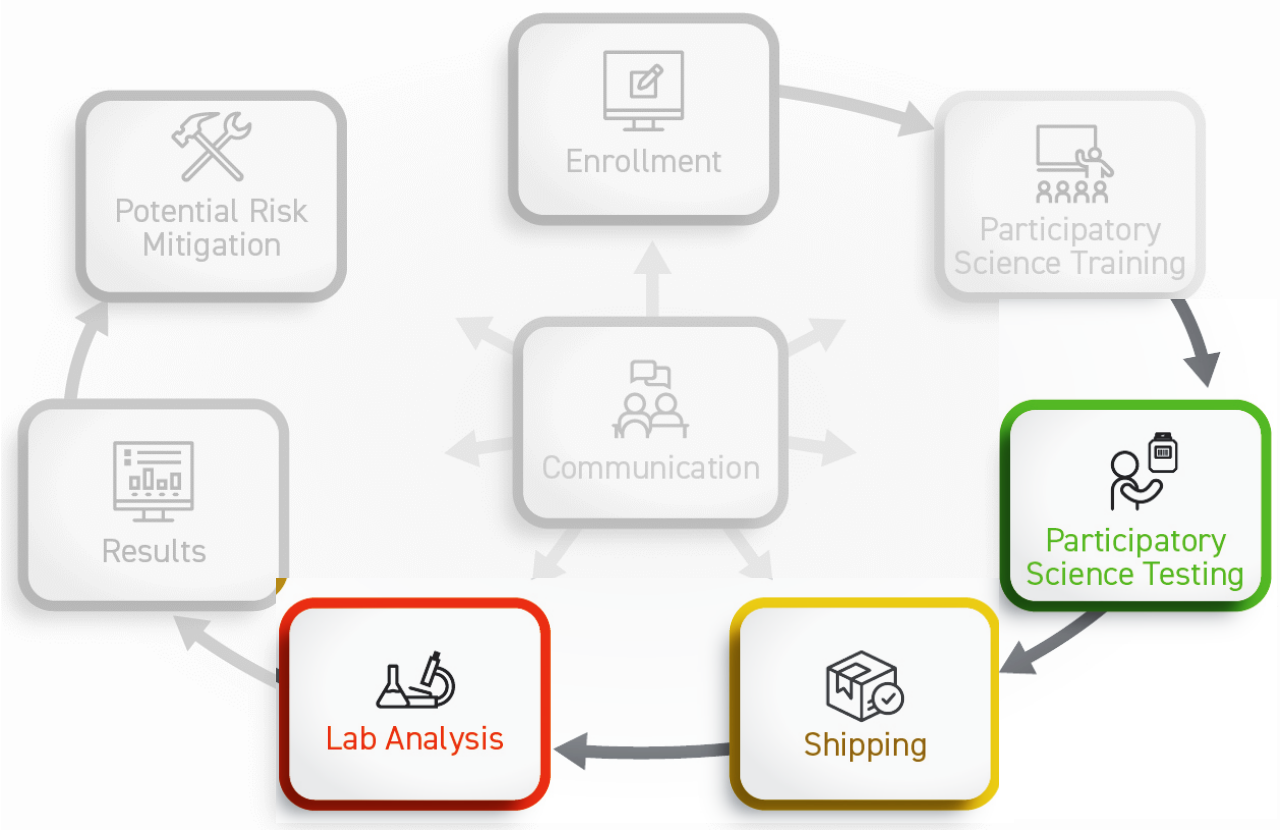
- Enrollment Survey

2 Test

- Sampling Kit Prepared & Shipped to Facility
- Participants Collect Samples & Ship Back to Laboratory



2 Test

Mail-out test kit is sent to facility

Participants collect and ship water samples back to the lab

2 Test

Kit is received for laboratory analysis

1 Train

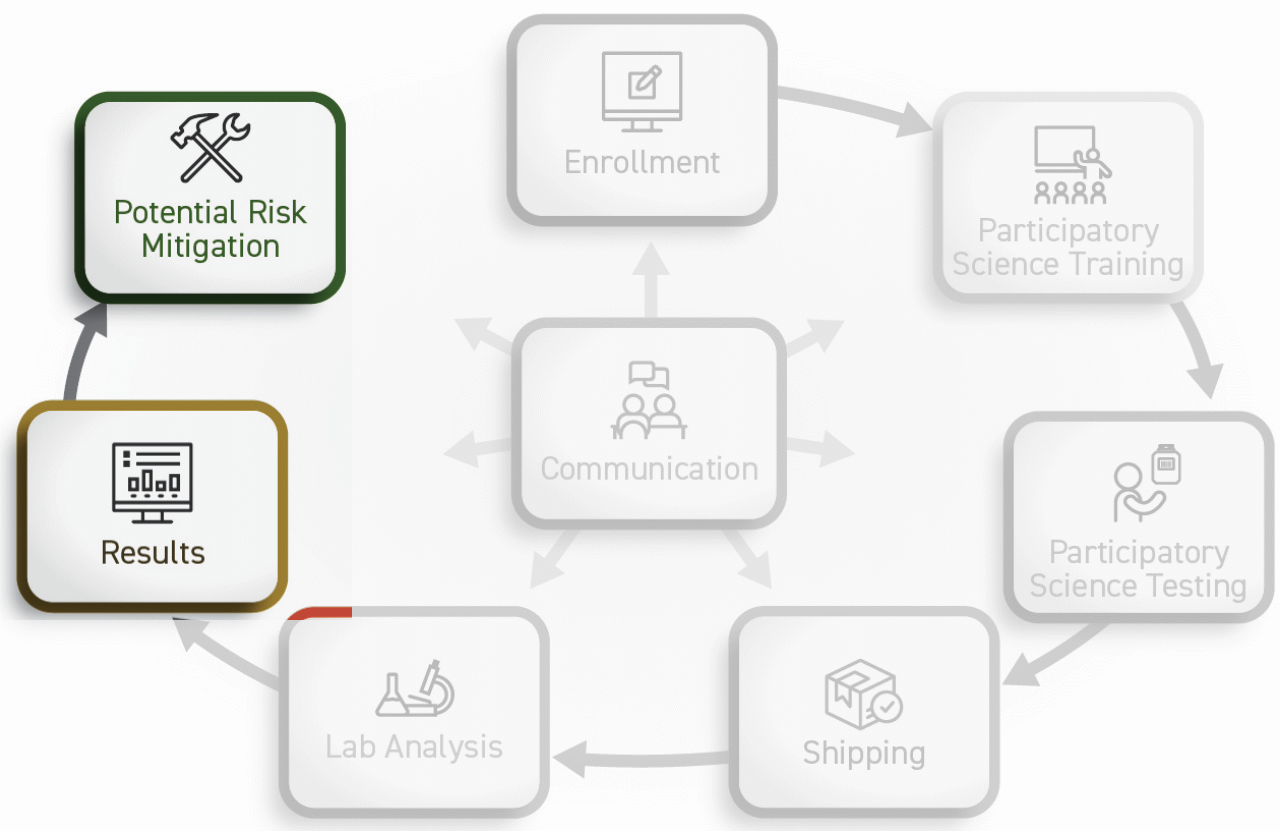
- Pre-enrollment Webinar
- Enrollment Survey

2 Test

- Sampling Kit Prepared & Shipped to Facility
- Participants Collect Samples & Ship Back to Laboratory

3 Take Action

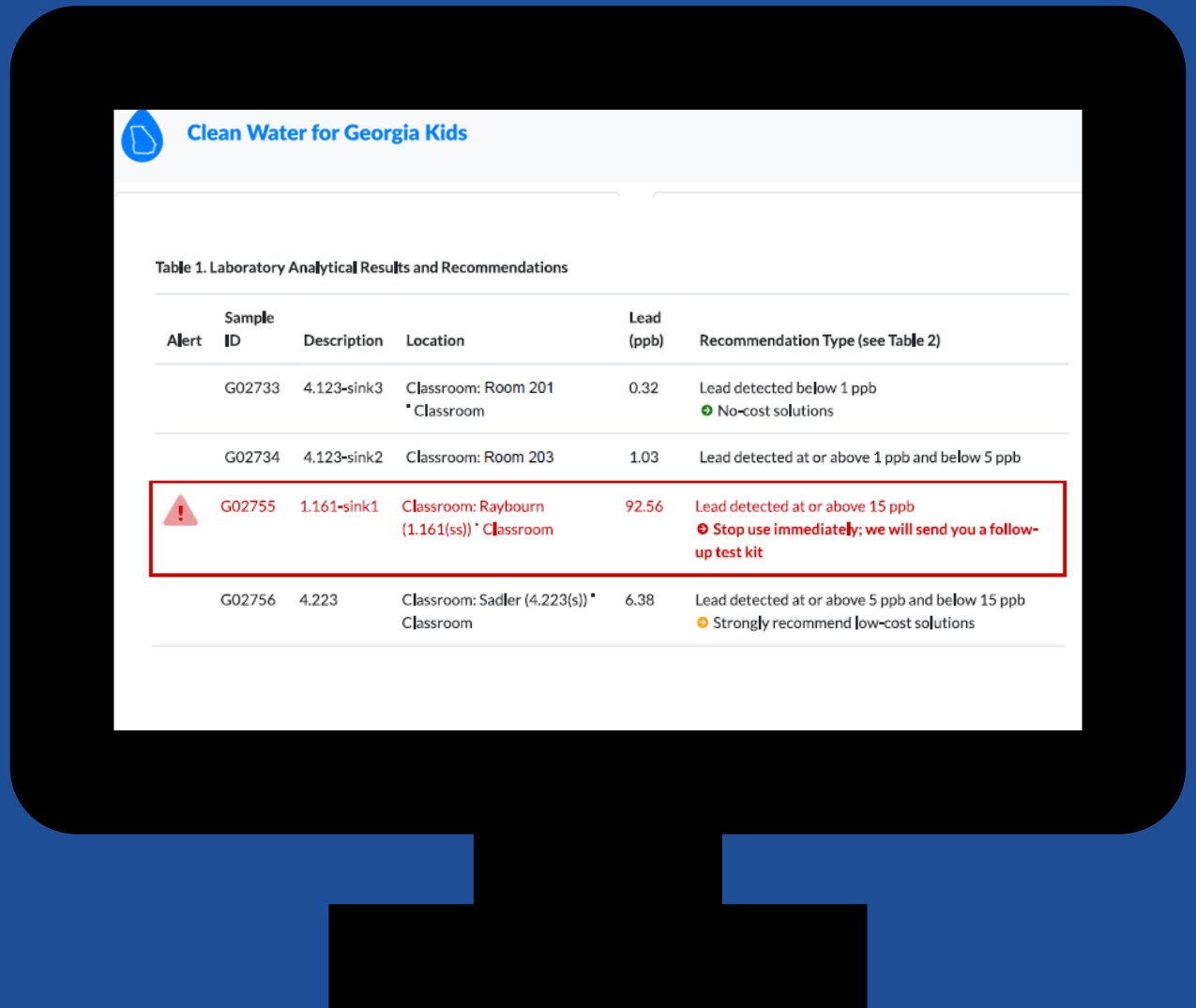
- View Results in Portal
- Select Mitigation Strategies

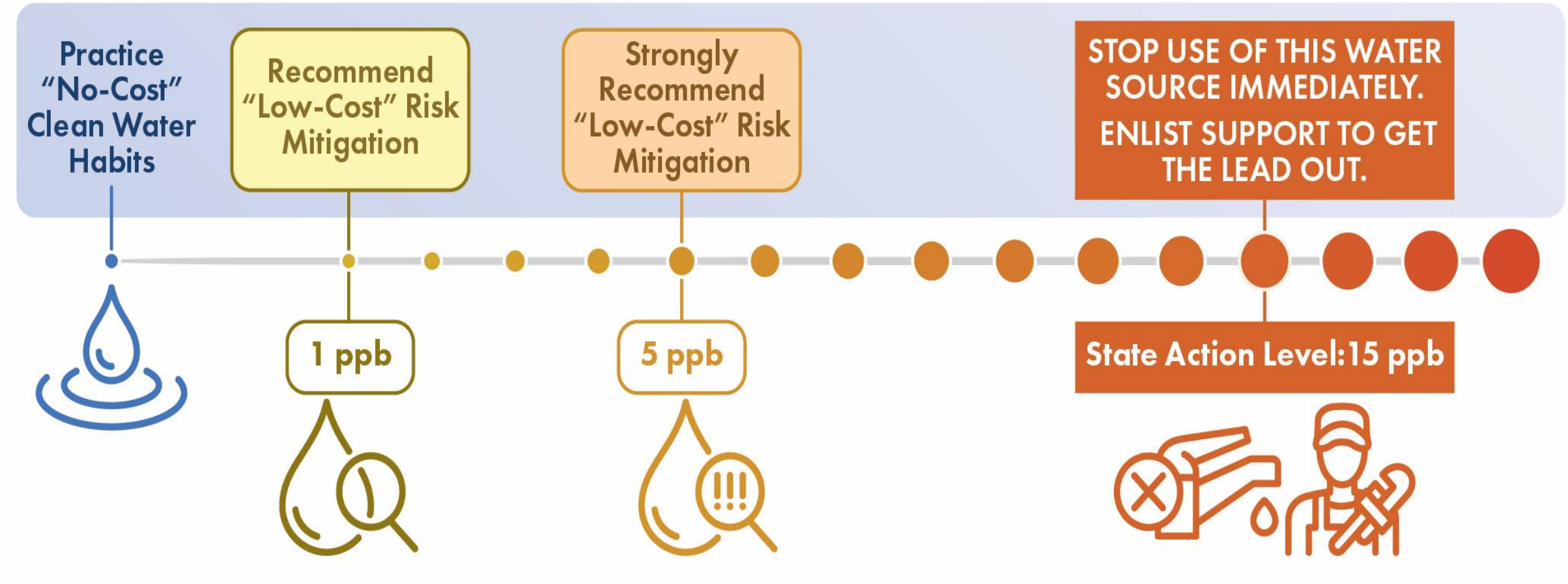


3 Take Action

Results

View your facility's results and recommendations directly in your online portal





Lead Concentration in Drinking Water (parts per billion or ppb)

Risk Mitigation

No-Cost Mitigation

Use Cold Water

Designate Taps for ‘Handwashing Only’

Flush Water Regularly

Low-Cost Mitigation

Faucet Fixture Replacement

Water Filters

Bottle Filling Water Fountain with Filter

*All faucets and filters should be certified lead-free or certified to remove lead.

Risk Mitigation Funding

- WIIN Grant
- Capital Outlay Fund
- Drinking Water State Revolving Fund
- Local School System's Facilities Budget

1 Train

- Pre-enrollment Webinar
- Enrollment Survey

2 Test

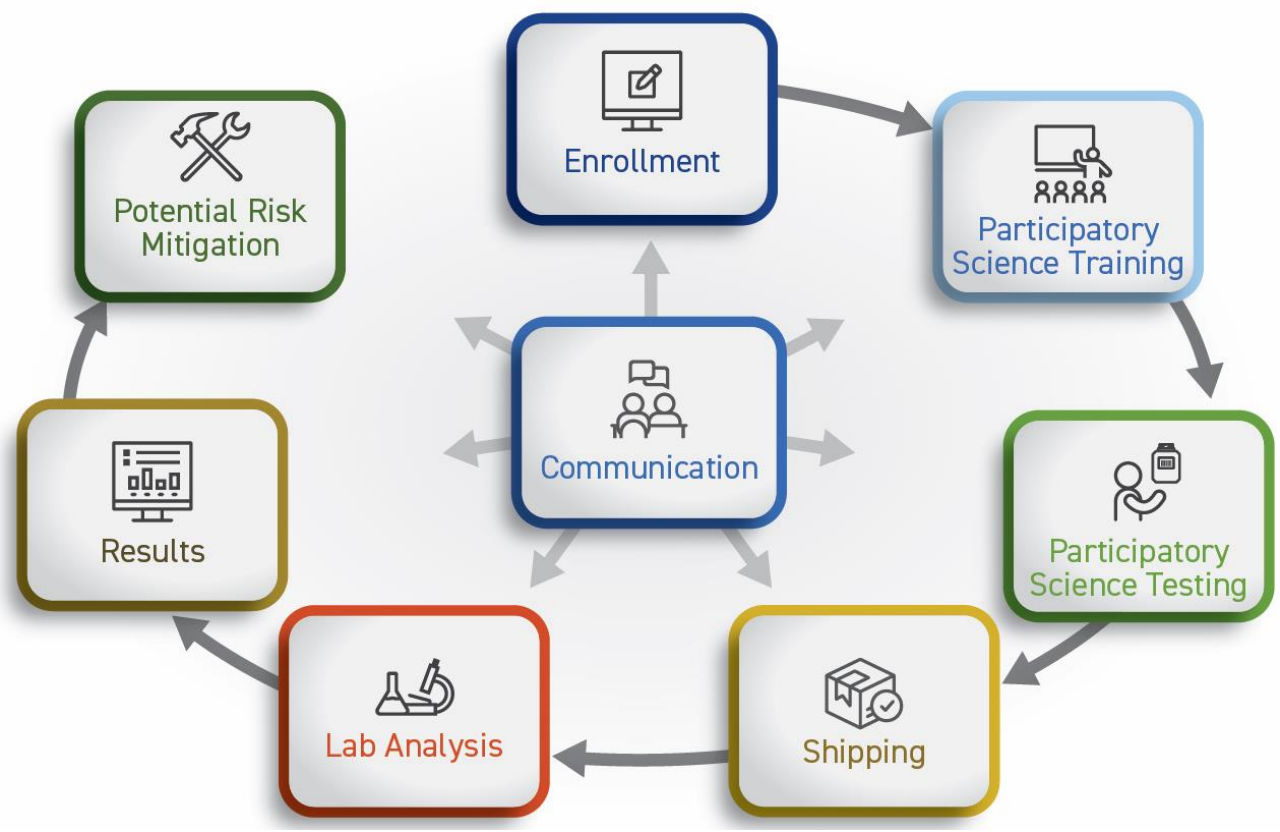
- Sampling Kit Prepared & Shipped to Facility
- Participants Collect Samples & Ship Back to Laboratory

3 Take Action

- View Results in Portal
- Select Mitigation Strategies

4 Communicate

- Facilities share results and actions with Staff, Parents, Students, & Other Stakeholders



4 Communicate

Before sampling

- Share information with the parents, staff and students
- Tell them about your lead testing program

After sampling

- You are required by the federal grant rules to share these test results with parents and staff
- Our public results page makes this step simple

Communicate early and often about your testing plans, results and next steps to support community engagement and trust in your commitment to provide a safe environment for students and staff

4

Communicate

Communication and Transparency

The federal grant supporting this program requires that test results are posted publicly for transparency and awareness.

Our online portal makes it easy to share your results and any mitigation actions you are doing!

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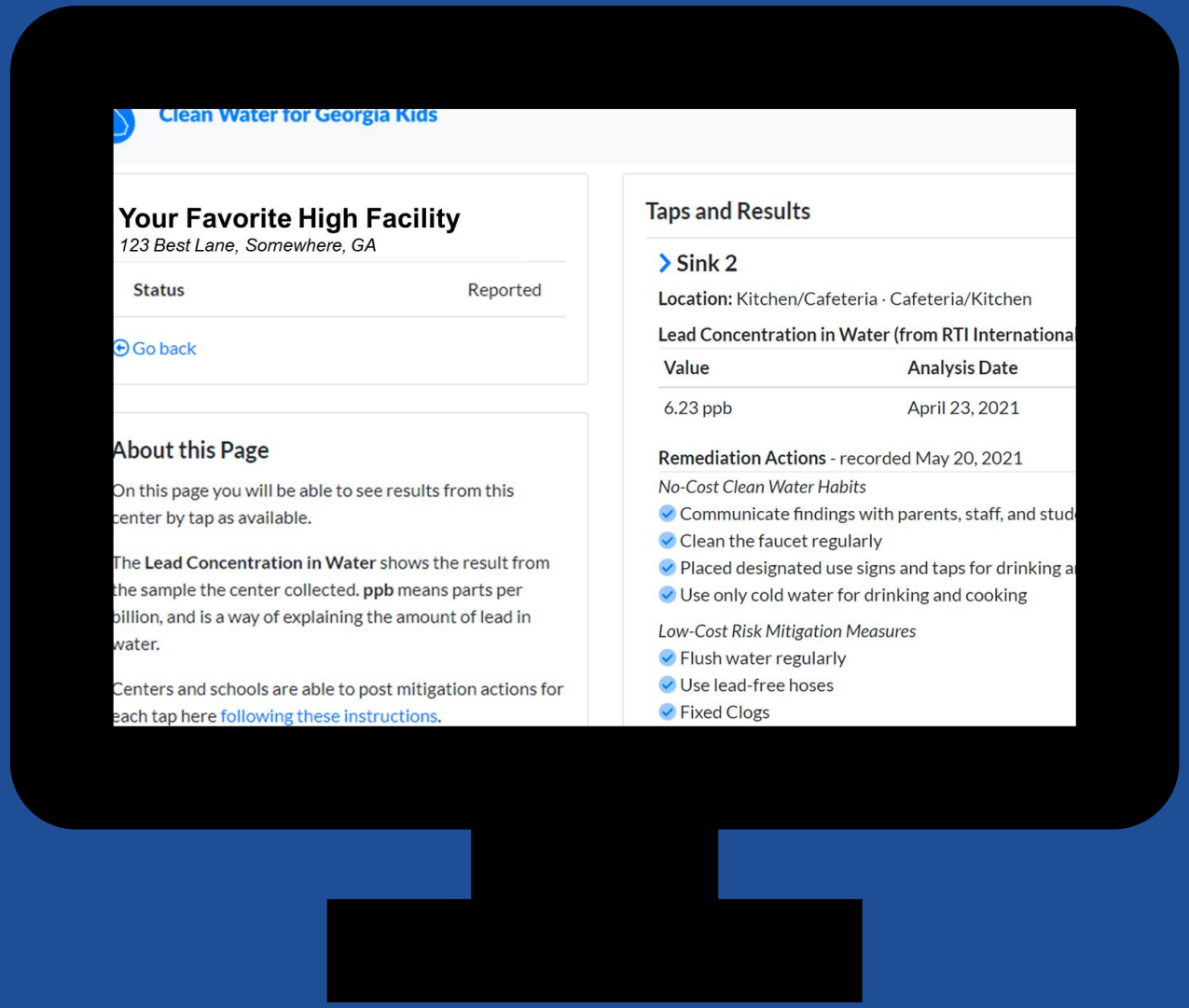


Program Results

Clean Water for Georgia Kids

Program Results for Schools

Georgia

Total Schools Completed Program: **66**

Total Child Care Centers Completed Program: **91**

Total Samples: **3,916**

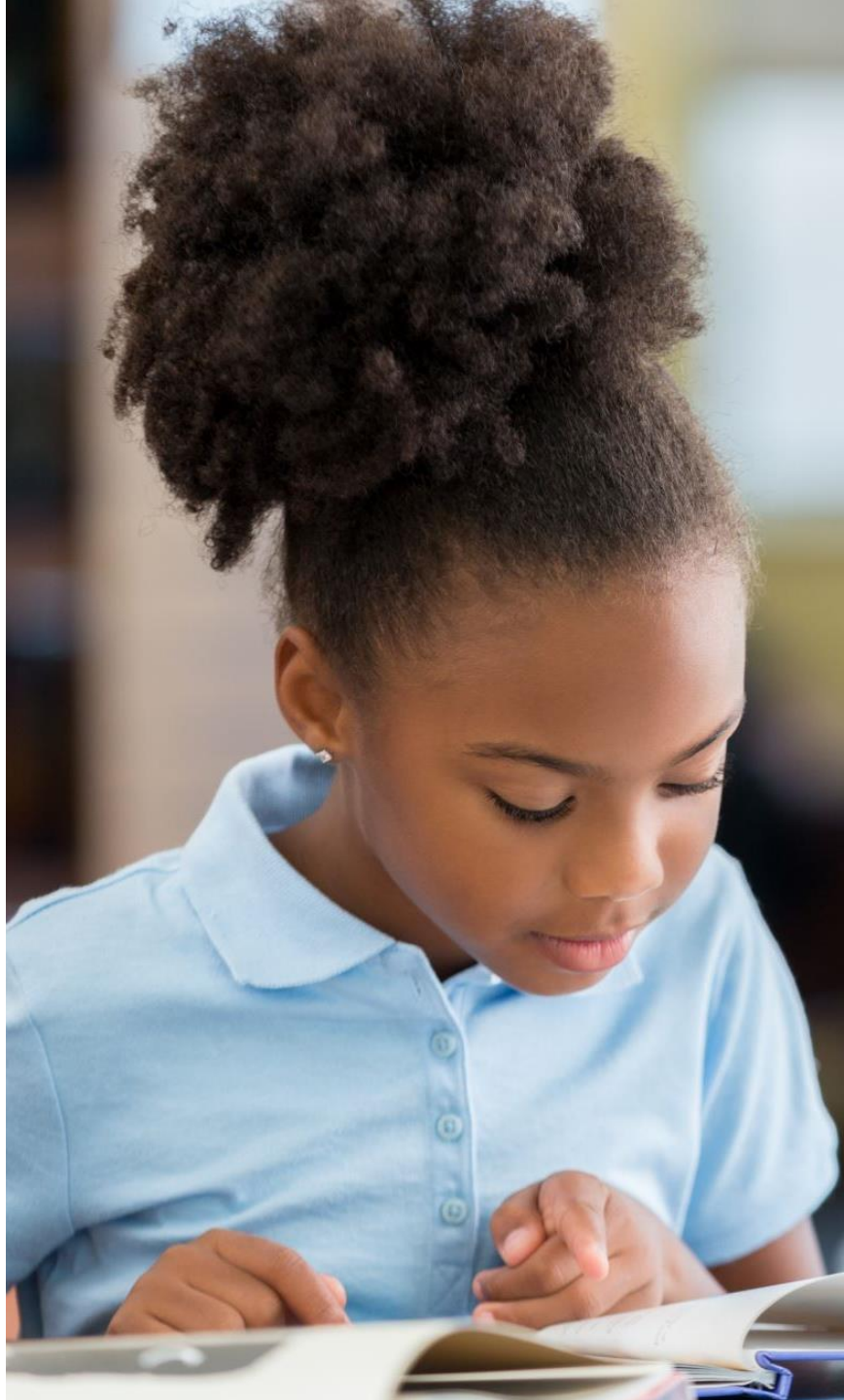
North Carolina

Total Schools Completed Program: **Launching Summer 2023**

Total Child Care Centers Completed Program: **4,625**

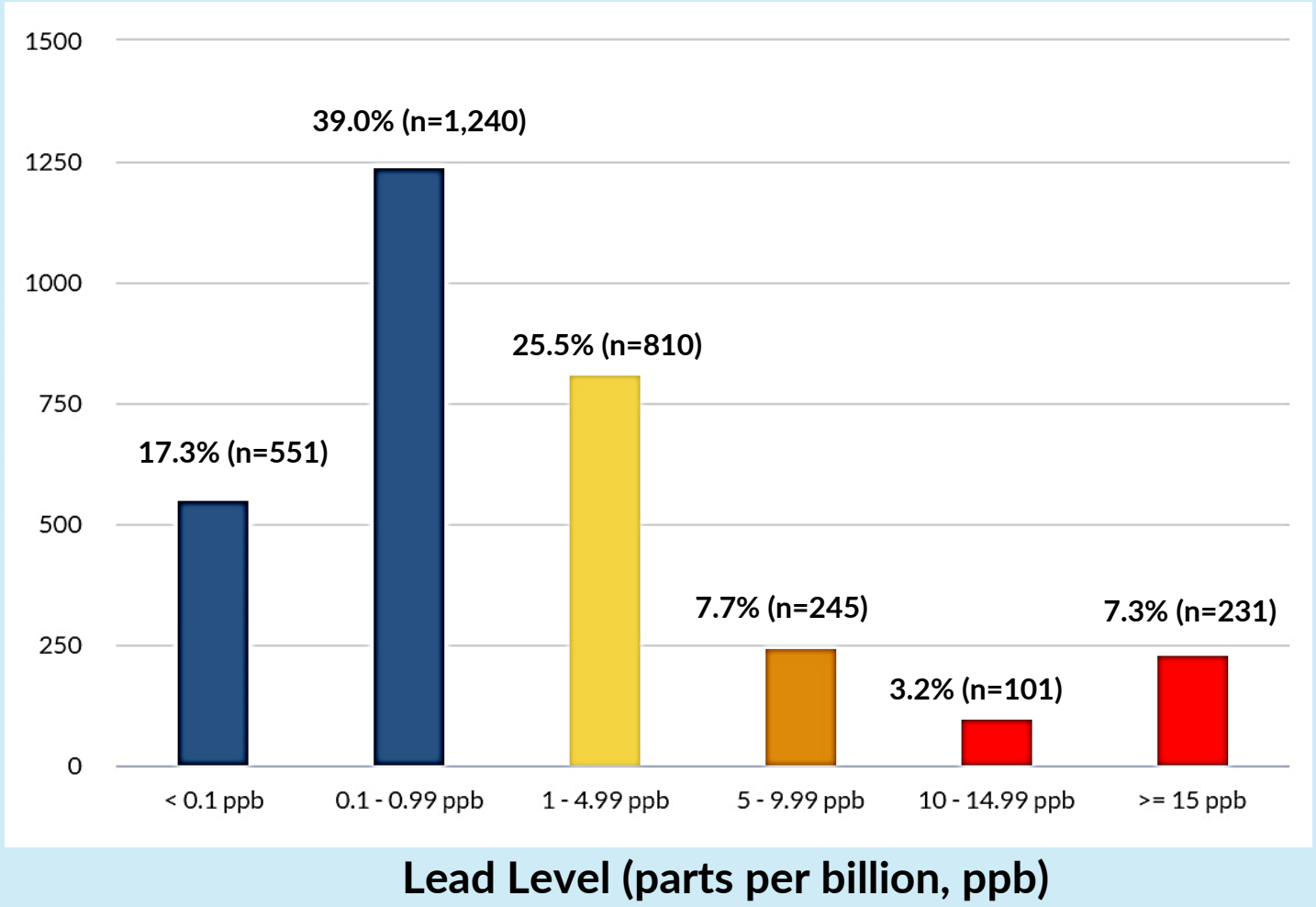
Total Samples: **25,405**

**Program Results as of June 15, 2023*



Program Results for Georgia Schools

Lead Level by Sample

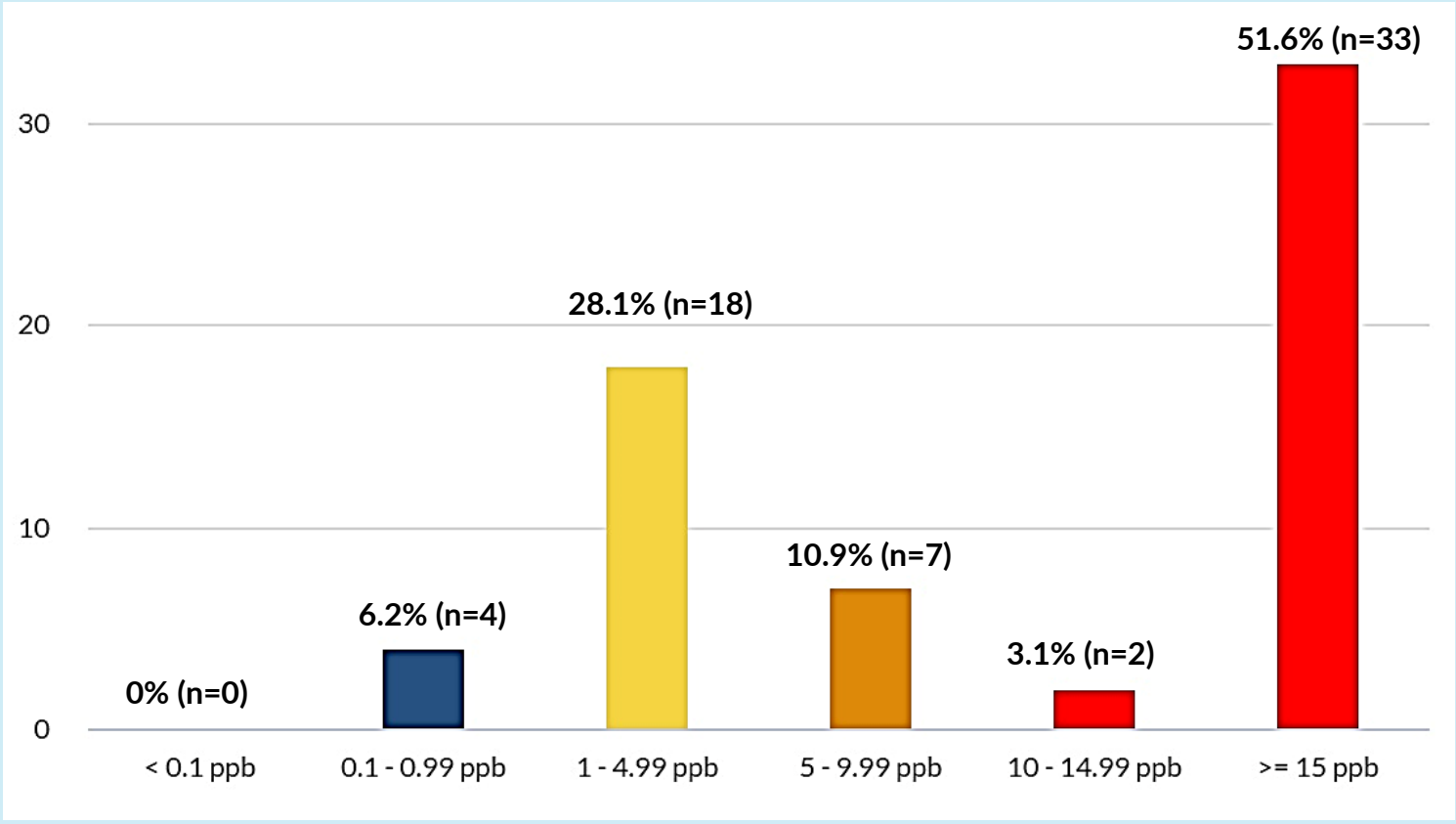


- **44%** samples **≥1 ppb**
- **7%** samples **≥15 ppb**

*Program Results as of June 15, 2023

Program Results for Georgia Schools

Maximum Lead Level by Facility



- **94%** facilities had at least one tap **≥1 ppb**
- **52%** facilities had at least one tap **≥15 ppb**

*Program Results as of June 15, 2023

Levels of lead can vary from tap-to-tap in a facility.

You cannot see, smell, or taste lead in water.

The only way to know is to test!

Risk Factors

Several factors are significantly associated with higher lead risk.

Reliance on Well Water

Building Age

Head Start Programs

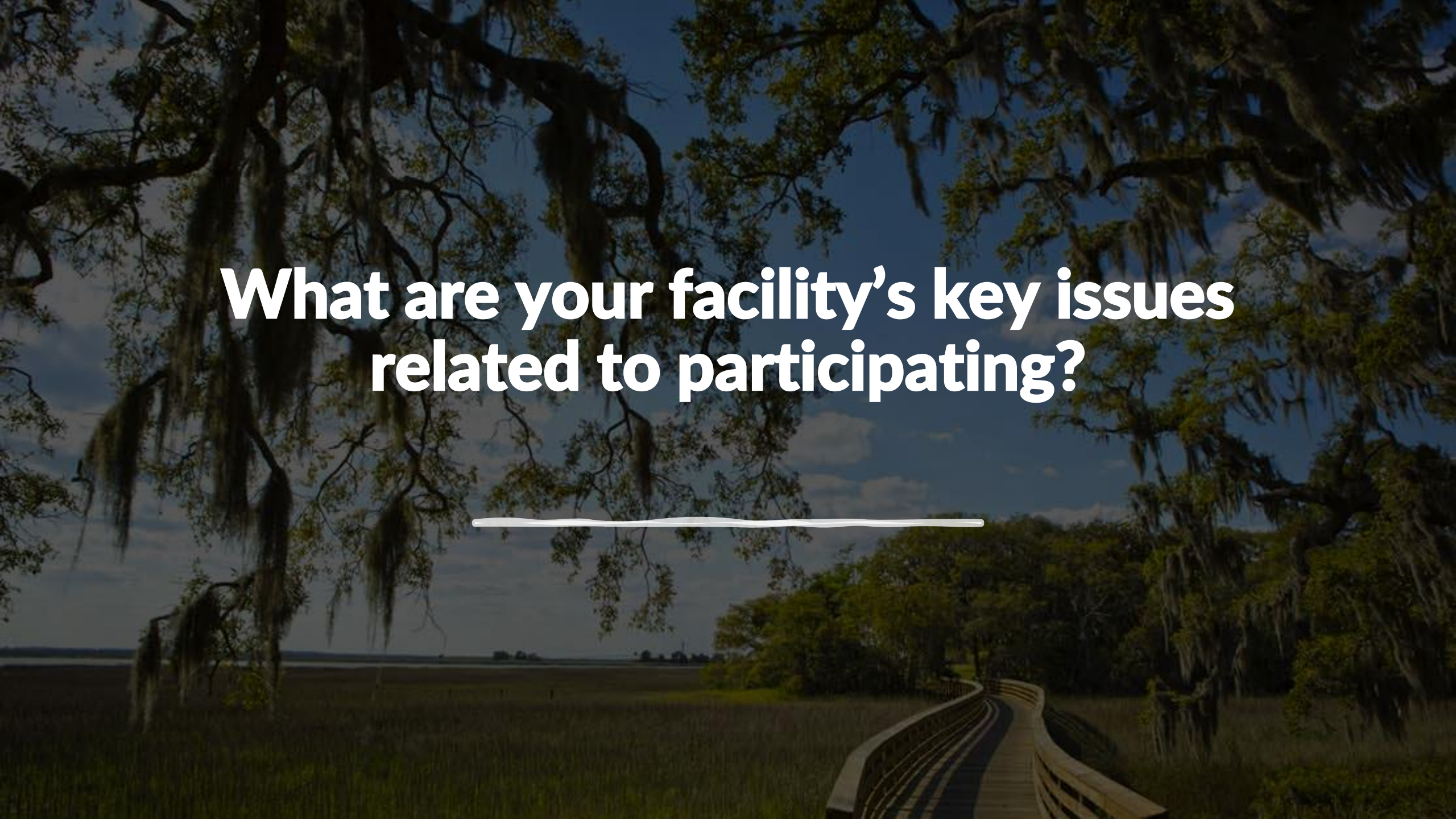
Compared to non-Head Start programs:

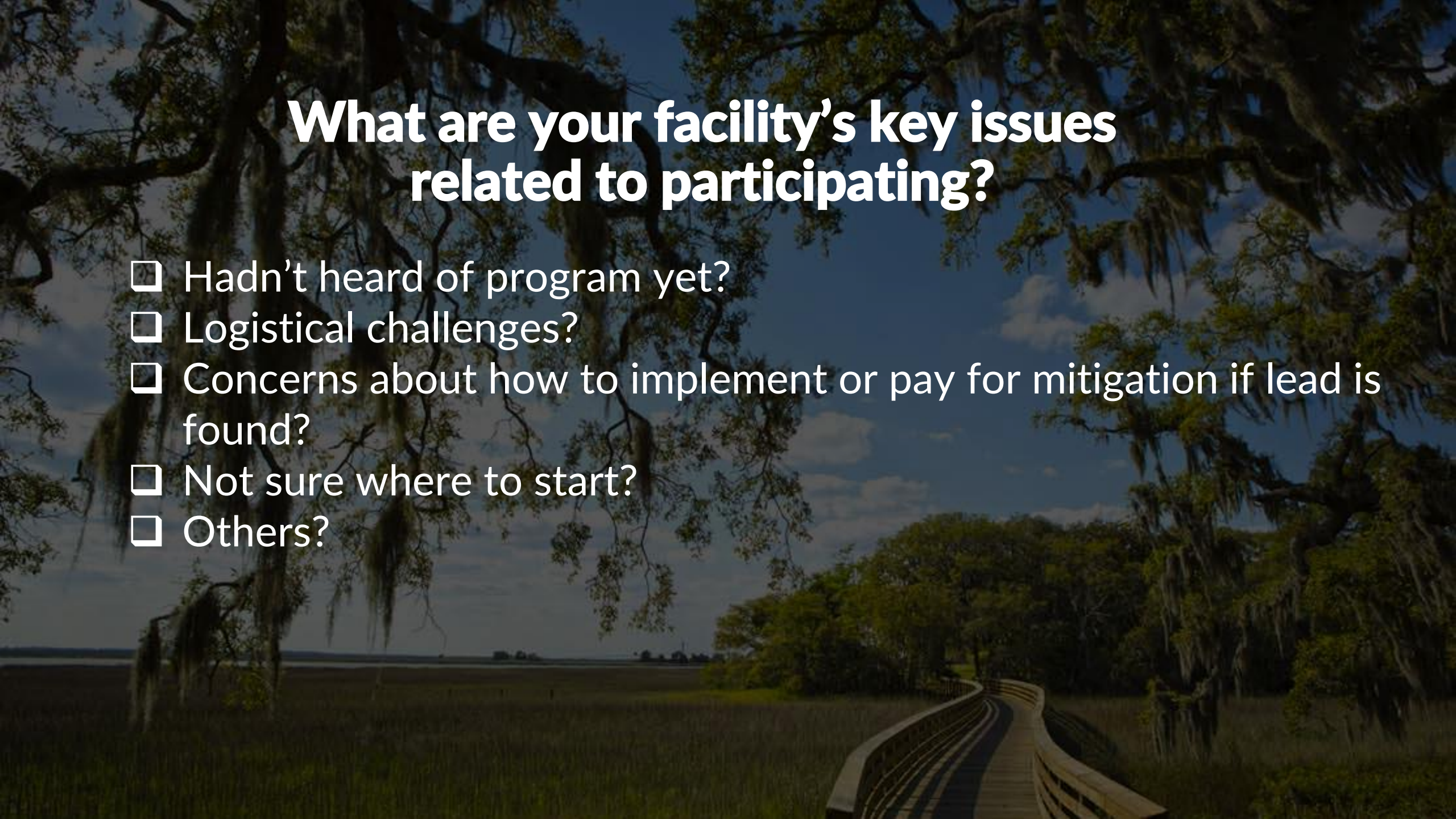
- Head Start programs were more than **2x** as likely to have at least one sample > 10 ppb.
- Head Start programs were found to serve a higher percentage of children of color and a higher percentage of children with free and reduced lunch.

Redmon et al., 2022, Lead Levels in Tap Water at Licensed North Carolina Child Care Facilities, 2020–2021
Mulhern et al., 2023, Improved Decision Making for Water Lead Testing in U.S. Child Care Facilities Using Machine-Learned Bayesian Networks

Getting Started: Myths and Facts

Clean Water for Georgia Kids


What are your facility’s key issues related to participating?



What are your facility's key issues related to participating?

- ❑ Hadn't heard of program yet?
- ❑ Logistical challenges?
- ❑ Concerns about how to implement or pay for mitigation if lead is found?
- ❑ Not sure where to start?
- ❑ Others?

Getting Started: Myths and Facts

"Wouldn't the utilities tell us if there were any concerns about our water?"

Utilities typically only sample 100 or less select taps across the entire distribution system.

Remember, lead levels can vary from tap-to-tap, even within the same building!

With this program, you can test ALL drinking and cooking water taps for FREE.

- **94%** facilities had at least one tap **>1 ppb**
- **52%** facilities had at least one tap **>15 ppb**

Getting Started: Myths and Facts

"There are too many competing priorities for staff; the logistics of early morning sampling are too challenging to coordinate."

- Some time is needed upfront to enroll and plan the sampling, but support is available! Also think about your resources: science teachers/student volunteers, PTA, administrative staff, or others?

  The program is easy to do, with plenty of instructions and support.

- Sample collection usually takes 1-3 minutes per tap.

- Some facilities collect samples on teacher work days or at the beginning of school breaks and weekends.

Getting Started: Myths and Facts

"I'd rather my facility's results not be shown on the public-facing webpage."

- Demonstrate to parents, staff, and community stakeholders that you prioritize children's health and educational potential.
- Your facility has proactively gone above and beyond to understand if there are any issues so you *can* take action, rather than potentially having a problem exist for years without knowing, while this free opportunity has been available.
- Facilities can also publicly post the actions they have taken to reduce exposure to lead from water, to continue building public trust.
- No major news articles stemming from results on the public mapper.

Getting Started: Myths and Facts

"If lead was detected, I don't know what we would do or how we would pay for it."

- If lead is detected, we provide recommendations based on your results. There is support to help you take action.
- There are scientifically rigorous, low- and no-cost actions you can take.
- We provide guidance if more advanced support is needed, funding options are potentially available.

Facility and District Support and Troubleshooting

We have supported facilities and districts facing **these perceived barriers and more**, throughout GA and NC

Our team of experts is excited to help your schools take this proactive step to protect children's health!

Recent Support Examples

- Individual meetings with district staff to answer questions during the planning phase and help plan logistics

- Support district staff in meeting with their water utility, following detection of lead at multiple taps

Together, we can make a difference in the health and wellbeing of Georgia's next generation.

Scan the QR code or visit our website to take the first step – **sign up for our pre-enrollment webinar!**

bit.ly/CWGK-webinar

Acknowledgements

Schools, child care centers, staff, and associations who have participated or supported this program

RTI Staff Include:

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Georgia Department of Education (GaDOE):

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EPA Office of Water and Region 4

Community Groups, Nonprofits, and Foundations such as the Southern Education Foundation

Questions?

Thank you for joining!

For additional Q&A, reach us by phone or email, or stop by our booth!

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For more information, go to www.cleanwaterforUSkids.org/Georgia

Clean Water for Georgia Kids

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BRIGHT FROM THE START

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Georgia Department of Education