



Final Report
Private Well Water Testing Initiative
Pilot Project
New Hampshire
Choose Safe Places for Early Care & Education



Executive Summary

Overview


Almost half of New Hampshire (NH) residents get their drinking water from a private well. High levels of naturally occurring contaminants (including arsenic, manganese, uranium, radon) and contaminants made or caused by human activity, such as lead from plumbing fixtures, volatile organic compounds (VOCs) and per- and polyfluoroalkyl substances (PFAS), are found in water across NH. Therefore, the NH Choose Safe Places (NHCSPP) Program organized a pilot project for testing private well water in 2022, with the goal of providing free water testing for the approximately 75

Early Care and Education (ECE) providers identified at that time who received their drinking water from a private well.


Contaminants in Drinking Water	CCLU Required Testing	Choose Safe Places Testing
Arsenic	Yes	Yes
Nitrate/Nitrite	Yes	Yes
Stagnant Lead* and Copper	Yes	Yes
Fluoride	Yes	Yes
Bacteria	Yes	No
Chloride, Hardness, Iron, Manganese, pH, Sodium, Radon, Uranium	No	Yes
VOCs (approximately 70 compounds)	No	Yes
PFAS (approximately 25 compounds)	No	Yes



Form Technical Advisory Team to provide input on sampling process, promotion and tracking.




Determine funding sources for testing, treatment and accounting protocol.



Create and mail invitation to participate and include FAQ. Develop and distribute Water Testing Toolkit to leave behind.



Sample well water and send results to providers using Health Literacy and Numeracy best practices.



Analyze results for trends. Report out on gaps and opportunities.

Working with a NHCSPP Advisory Team and a Technical Advisory team, multiple protocols and processes were developed to successfully manage the implementation of the pilot. Identified ECE providers were invited to participate in early May 2022 and received a [Private Well Water Testing Toolkit](#). The

toolkit served as an additional reminder to ECE providers to register for the initiative as well as a resource for future well water testing and well water best practices after the pilot's conclusion.

Results

Overall, 23 ECE providers participated in the free private well water testing initiative. Of those, 18 were informed that their results indicated one or more contaminants exceeded NH applicable drinking water limits. Funds for remediation were made available by the NH Department of Health and Human Services (NH DHHS) Bureau of Child Development and Head Start Collaboration (BCDHSC) through the American Rescue Plan Act or other sources. At least four facilities received funds to pay directly for water treatment systems or lead mitigation. Results indicated that 78% of facilities had at least one exceedance over NH applicable drinking water limits for the eight contaminants listed below. Twelve facilities had at least one exceedance of lead or manganese, which prompted immediate notification due to short-term health risks. No exceedances were found for the following NH DHHS Child Care Licensing Unit (CCLU) regulated contaminants: arsenic, nitrate/nitrite, or fluoride. Additionally, there were no exceedances for PFAS or VOCs.

Summary of Contaminants Exceeding Applicable Drinking Water Limits

Contaminant	Applicable Drinking Water Limits	Number of Facilities Tested	Exceedance Rate (%)*
Chloride	250 mg/L	23	4%
Copper, Stagnant	1.3 mg/L	23	9%
Iron	0.3 mg/L	23	22%
Lead, Flushed	0.005 mg/L	23	4%
Lead, Stagnant	0.005 mg/L	23	17%
Manganese	0.1 mg/L	23	22%
Radon	2000 pCi/L	23	43%
Uranium	30 µg/L	23	9%

*Exceedance rates for primary drinking faucets only. Primary faucets were tested for all contaminants (see Appendices for contaminant lists); secondary faucets had additional Stagnant Lead testing. Hardness and pH results were not included in this analysis.

Accomplishments

This initiative raised awareness of the need to address water quality and other environmental health issues for ECE facilities in NH, particularly for the state agencies involved with ECE regulation and management. Adding additional contaminants of concern to the NH Child Care Licensing Rules as required testing for ECE facilities with private wells is also being considered. All providers with a well, regardless of participation in the well water testing initiative, received a [22-page toolkit](#) to assist them with testing and treating their well water for future use.

Other accomplishments include:

- ✓ Twenty-three providers were able to count the pilot test results for their CCLU required testing and received a more complete picture of their well water quality.
- ✓ CCLU, BCDHSC and NH Child Care Aware have updated resources about the importance of water quality improvements as part of the licensing and inspection process for ECE facilities.
- ✓ Lead data was provided to the Get the Lead Out of Drinking Water program at the NH Department of Environmental Services (NHDES) for 23 facilities, including exceedances.
- ✓ Informed 18 ECE providers about contaminant exceedances and provided best practices to reduce future exposures to both children and staff.
- ✓ Educated one ECE facility about the risks of using spring water.
- ✓ Provided funding at four ECE facilities for remediation measures via BCDHSC funds
- ✓ Provided a summary of PFAS data detected at ECE facilities to NH Legislators.
- ✓ Established a process for ECE well water sampling projects to serve as a model state-wide and nationally.
- ✓ Created a baseline summary of water sources for all ECE facilities identified at the start of this project that can be used in future work.

Gaps and opportunities include:

- Identifying and including a water source for the ECE facility intake and licensing process.
- Addressing the use of spring water/bottled water in ECE facilities.
- Clarifying requirements for facilities with fluctuating enrollment/licensing that results in changing between a public water system and private well.
- Improving communication between NH DHHS, Division of Public Health Services, NHDES and CCLU.

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I. Overview

1. Goals and Objectives

The [New Hampshire Choose Safe Places for Early Care and Education](#) (NHCSPE) is a grant-funded program to promote practices and policies to protect children from harmful chemicals in child care settings. Our goal is to help early care and education professionals, child care licensing and inspection staff, local government officials, and environmental public health professionals, work together to create best practices to ensure children are learning and growing in the safest places possible. NHCSPE focuses on lowering the risk of exposure to naturally occurring contaminants like arsenic, uranium, manganese and radon, as well as contaminants from manufactured sources such as lead in fixtures and plumbing, and pesticides and other chemicals that can be found in air, water, soil and dust.

Specifically, NHCSPE is working to protect children from harmful chemicals in child care facilities by:

- Identifying opportunities for professional development for child care providers to increase awareness of environmental health;
- Working with state child care licensing and child development agencies to identify best practices to improve the inspection and siting process;
- Connecting with local public health partners and health officers to identify gaps and opportunities in current processes and policies;
- Developing a free private well water testing initiative to promote well water testing and support well water treatment where necessary.

NHCSPE is implemented by the New Hampshire Department of Health and Human Services (NH DHHS) and is a part of the [APPLETREE Program](#), a collaboration with the NH Department of Environmental Services (NHDES). The APPLETREE Program is the Agency for Toxic Substances and Disease Registry's (ATSDR's) Partnership to Promote Local Efforts to Reduce Environmental Exposures and receives funding from the Centers for Disease Control and Prevention. The NH APPLETREE and NHCSPE work in concert to reduce exposures for local communities and vulnerable populations in New Hampshire.

2. Motivation for Targeting Private Well Water

Almost half (46%) of New Hampshire (NH) residents obtain their drinking water from a private well. High levels of naturally occurring contaminants (arsenic, manganese, uranium, radon) and contaminants made or caused by human activity, such as lead from plumbing fixtures, volatile organic compounds (VOCs) and per- and polyfluoroalkyl substances (PFAS), are found in water across NH. Since no federal or state legislation requires water testing or treatment for private drinking water wells, homeowners in NH with wells are responsible for maintaining their own water quality. Early Care and Education (ECE) facilities using private wells as a drinking water source are regulated by the NH DHHS Child Care Licensing Unit (CCLU) Rules requiring water testing for certain contaminants on a specific testing schedule (see Table 1).

Table 1. CCLU Required Water Quality Testing Contaminants and Those Included in the NHCSF Initiative

Contaminants in Drinking Water	CCLU Required Testing	Choose Safe Places Testing
Arsenic	Yes	Yes
Nitrate/Nitrite	Yes	Yes
Stagnant Lead* and Copper	Yes	Yes
Fluoride	Yes	Yes
Bacteria	Yes	No
Chloride, Hardness, Iron, Manganese, pH, Sodium, Radon, Uranium	No	Yes
VOCs (approximately 70 compounds)	No	Yes
PFAS (approximately 25 compounds)	No	Yes

*The state of NH's drinking water statute has a more stringent lead testing requirement

Previous sampling of private wells across NH by NHDES and NH DHHS have shown high levels of radon, uranium, manganese, and PFAS in certain areas of the state. These contaminants are a known problem in NH groundwater but are not included in the CCLU required list of testing parameters (see [NHDES PFAS website](#) and [NH DHHS well water data portal](#)). Additionally, it is not clear that the inspection process for ECE facilities, responsible for our most vulnerable populations ([American Academy of Pediatrics, Drinking Water from Private Wells and Risks to Children](#)) is adequately rigorous to ensure water quality exceedances are being addressed.

The ECE community was one of the hardest hit by the COVID-19 pandemic. This community already shoulders testing and remediation cost for its private wells; therefore this project also sought to help these providers ensure water quality safety at no-cost or low-cost. Working closely with our NHCSF Advisory Team for input on the efficacy of a pilot project of this type, the Team agreed unanimously to launch the pilot. The NHCSF Program worked with partners from the NHDES MtBE Remediation Bureau to identify ECE providers on private wells. The Private Well Water Testing Initiative was officially launched in May of 2022.

3. NH ECE Facility Landscape

Table 2 shows the number of licensed providers in NH from 2019 through 2022. Using the ECE facility list provided to us from the CCLU as of March 2022, the NHCSF team geocoded all the facilities and provided that information to our partners at NHDES to estimate the number of ECE facilities using private wells. This team overlaid its Geographic Information System (GIS) map layer of known public water systems with the geocoded ECE facilities to obtain an approximate number of ECE facilities using public water for their drinking water based on their proximity to a water system's water main. All facilities not identified as using public water were identified as using a private well.

Table 2. Summary of licenses and child capacity by facility type for 2019 - 2022.

	2019 Licenses (capacity)	2020 Licenses (capacity)	2021 Licenses (capacity)	2022 Licenses (capacity)
Center Based	623 (41,951)	615 (42,317)	616 (43,440)	609 (43,423)
Family Home Based	152 (2,293)	146 (2,225)	140 (2,139)	125 (1442)
Total	775 (44,244)	761 (44,542)	756 (45,579)	734 (44,865)

There were 75 ECE providers initially identified as using a private well for their drinking water source. These ECE providers were invited to participate in the Private Well Water Testing

Initiative. The Team also sent letters of invitation to the 77 ECE providers whose water source was uncertain and to over 500 ECE providers on a public water system to verify that their water source information was correct. Seventy-nine providers were ultimately identified as being on a private well and were offered the opportunity to participate in the program.

4. Rules for Water Testing

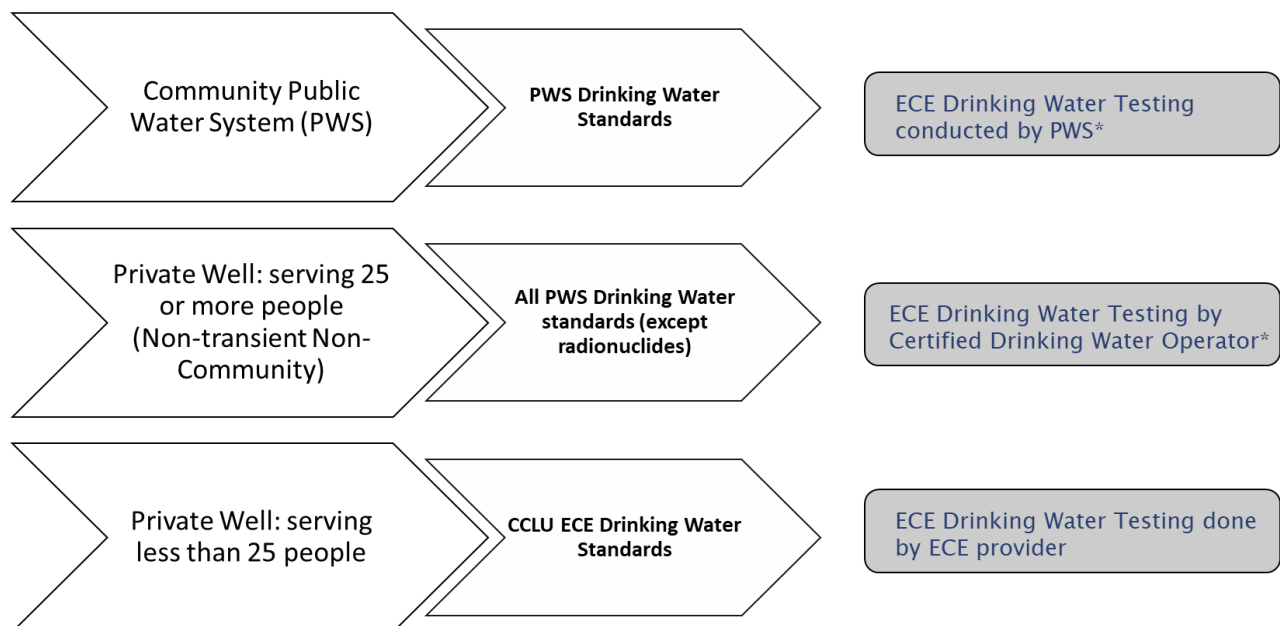
Figure 1 below depicts general water testing requirements and the entity responsible for sampling at ECEs based on facility size and type of water supply. Overall, approximately 71% of child care facilities are served by a community public water system, such as a City or Town that bills their customers for water. The remaining 29% are served by private wells. Depending on the number of people served, those served by private wells can fall into one of two different categories for water testing requirements: Non-Transient Non-Community (NTNC) Wells and Private Wells. Approximately 18% of child care facilities served by private wells are served by NTNC Wells. NTNC Wells serve 25 or more staff and children for at least 60 days per year, are also regulated as public water systems and are required to perform regular testing to meet federal and state health-based drinking water standards. Therefore, any child care facility that is licensed for 20 children or more and is served by a NTNC well is [regulated by NHDES](#) because minimum staffing brings the total water service population to 25 or more people. Approximately 11% of child care facilities are served by their own private well. This was the primary target audience for the NHCSP Private Well Water Testing Initiative. These facilities serve fewer than 25 staff and children, or are open less than 60 days per year, are not considered public water systems and are therefore not regulated by NHDES. ECE facilities with private wells are not required to follow state or federal requirements for maintaining drinking water quality, as is also the case for homeowners. However, ECE facilities with private wells must follow water testing requirements as outlined in the CCLU Rules, as shown in Table 1 above.

Figure 1. NH Early Care and Education Facility Water Source Testing Requirements.

Drinking Water Regulations for Early Care and Education (ECE) Facilities

NH Childcare Licensing Rules 2017-2027: ECE Drinking Water Testing

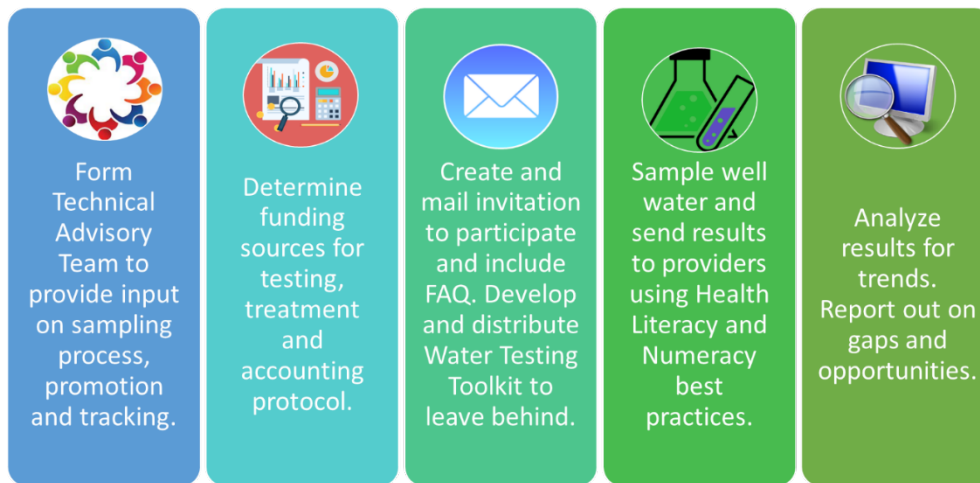
He-C 4002.27: Water Testing and Sewage Disposal



*Lead and Copper stagnant sampling is responsibility of ECE.

II. Process

Working with the NHCSP Advisory Team, as well as a Technical Advisory team (which included members from the NHDES Drinking Water and Groundwater Bureau, MtBE Remediation Bureau, APPLETREE Program and the NH DHHS Environmental Public Health Tracking Program and Public Health Laboratories), multiple protocols and processes were developed to successfully manage the implementation of the pilot. These included: 1) determining the contaminants to be included in the pilot; 2) identifying funding sources outside of NHCSP to pay for testing and remediation should it be needed; 3) soliciting support of the CCLU to allow the testing to count for their required water quality testing; 4) identifying a dedicated water sampler to collect water samples and deliver them to the water analysis lab; 5) creating a tracking system for managing the sampling appointments and follow-up; 6) coordinating with the NHDES Get the Lead Out of Drinking Water Program, including sending water bottles for stagnant lead samples to each participating ECE facility; 7) implementing a notification system to contact the child care provider and share the test results for exceedances of contaminants of particular concern for children such as lead, manganese, and nitrate/nitrite.



An invitation and Frequently Asked Questions (FAQ) document were mailed to the identified ECE providers on May 6, 2022. Additional promotion of the free water testing initiative occurred via the NH Child Care Aware newsletter and social media page as well as through multiple presentations to child care providers.

A [Private Well Water Testing Toolkit](#) was mailed in July to all ECE providers identified as having a well, including those considered a Non-Transient Non-Community (NTNC) public water system serving 25 or more people from a well. The 22-page toolkit served as an additional reminder to ECE providers to register for the initiative, as well as a resource for future well water testing and well water best practices after the conclusion of the pilot. It was mailed to 142 ECE providers who were identified as having wells as a water source. The toolkit included three sections: 1) a step-by-step pathway for providers to follow if they participated in the free testing initiative; 2) a step-by-step pathway for providers to follow if they are testing well water on their own or if the initiative is over (2023 and beyond); 3) information pages to answer most questions on testing, treatment and costs, as well as a checklist and contact information for help.

III. Participation

Overall, 23 ECE providers participated in the private well water testing initiative. The process established with the assistance of the NHCSP pilot project technical advisory team worked smoothly, and the NHDES water sampler went above and beyond to ensure that the sampling and follow-up was easy. Reaching the providers to set-up the sampling appointment was the most challenging part of the process. While the [Private Well Water Testing Toolkit](#) was developed as a means to provide additional information that ECE provider private well owners could keep

beyond the project timeframe, additional training and in-person connection might have been needed to enroll more ECE providers using private wells as their drinking water source in the ECE free sampling initiative. Five providers registered and ultimately declined to participate. Providers who declined cited reasons such as:

- Bacteria testing was not being offered.
- Concern that it would interfere with their normal testing routine.
- Timing issues and confusion over the process.

By testing for drinking water quality, this initiative allowed us to examine a known route of possible contamination exposure for private well users. As a result, we focused efforts on the risks posed by common drinking water contaminants that lack regulation as well as the quantified barriers to well water testing among private well users.

IV. Results

1. Water Test Results Summary

Of the 23 child care facilities that participated in the NHCSP Private Well Water Testing Initiative, 18 had at least one exceedance over applicable drinking water limits. Table 3 below contains information on: 1) contaminants included in the testing; 2) CCLU requirements for licensing and inspection; 3) the applicable drinking water limit for each contaminant; 4) number of facilities with primary drinking water faucets tested; and, 5) percentage of those primary faucets that exceeded the applicable drinking water guidance limit. See Appendix B for more details about the results of all faucets tested for stagnant lead and more information on PFAS and VOCs results.

Table 3. NHCSF Private Well Water Testing Results for Primary Faucets

Contaminants in Drinking Water	CCLU Required Testing	Applicable Drinking Water Limits *	Number of Facilities Tested (n)	Exceedance Rate (%)**
Arsenic	Yes	0.005 mg/L	23	0%
Bacteria	Yes	Absence/Presence	0	---
Copper	Yes	1.3 mg/L	23	0%
Copper, Stagnant	Yes	1.3 mg/L	23	9%
Fluoride	Yes	4 mg/L	23	0%
Lead	Yes	0.005 mg/L	23	4%
Lead, Stagnant	Yes	0.005 mg/L	23	17%
Nitrate	Yes	10 mg/L	23	0%
Nitrite	Yes	1 mg/L	23	0%
<hr/>				
Chloride	No	250 mg/L*	23	4%
Hardness	No	---	23	---
Iron	No	0.3 mg/L*	23	22%
Manganese	No	0.1 mg/L*	23	22%
PFAS (approximately 25 compounds)	No	Various	22	0%
pH	No	6.5-8.5	23	17%
Radon	No	2000 pCi/L*	23	43%
Sodium	No	250 mg/L*	23	0%
Uranium	No	30 µg/L	23	9%
VOCs (approximately 70 compounds)	No	Various	23	0%

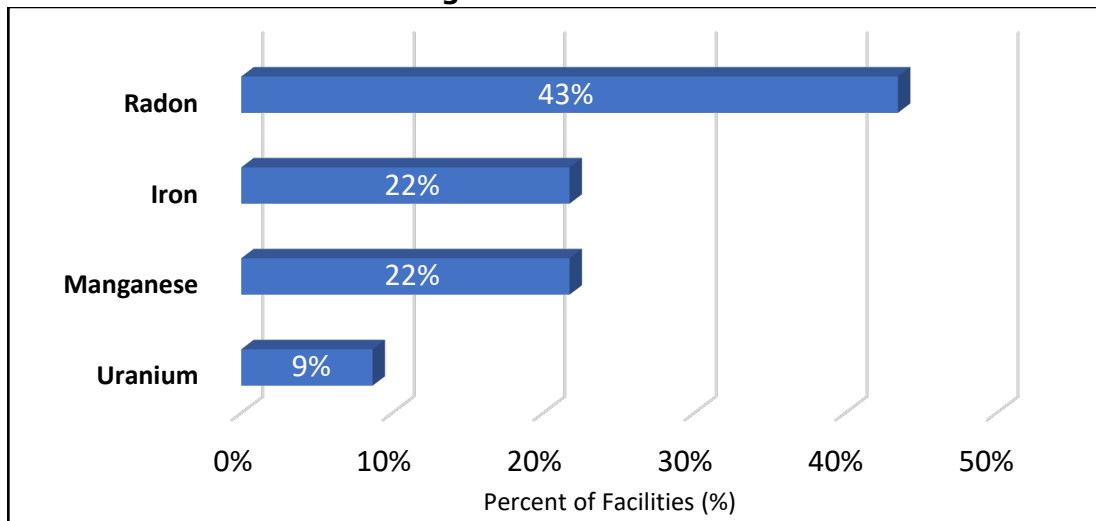
Note: *These standard values are for guidance and are not regulatory limits in NH. Hardness was tested but has no applicable drinking water limit.

Note: **Exceedance rates for primary faucets tested. Bacteria not included due to sampling/analysis time constraints. Includes CCLU required testing along with expanded testing done by NHCSF.

For those contaminants included in the required CCLU testing, flushed lead, stagnant lead, and stagnant copper were shown to have exceedances. The source of lead and copper in the drinking water is not from the water itself, but instead is usually from the home or building's water pipes or faucets leaching these metals into the water. The primary faucet used for drinking water was sampled and tested for each contaminant. Stagnant lead testing was conducted on primary and secondary faucets (bathroom sinks, hand washing sinks, etc.) with an additional 36 secondary faucets being tested for lead. The stagnant lead exceedance rate for primary faucets was 17% and for secondary faucets was 22% (See Appendix B). This expanded stagnant lead testing was conducted in coordination with the [NH Get the Lead Out of Drinking Water](#) program run by NHDES, and fulfilled the [2022 NH law](#) requiring all child care facilities to test every outlet in each facility.

While arsenic is ubiquitous in NH groundwater (with approximately 20% of private wells statewide exceeding the drinking water guidance limit) none of the tested samples had an arsenic exceedance. However, as shown in Figure 2 below, radon, manganese and uranium, currently not included in the CCLU required testing, had high exceedance rates. This seems to be a clear indication of the effectiveness of the CCLU testing requirements: exceedances may occur less frequently for regulated contaminants compared to non-regulated contaminants. Therefore, we recommend that the CCLU add the non-regulated naturally occurring contaminants (manganese, radon and uranium) to the list of contaminants required for testing as part of the licensing process.

Figure 2. Percentage of Participating Facilities Exceeding Applicable Drinking Water Limits for Non-Regulated Contaminants



2. CE Provider Survey Summary

The survey was mailed to the 75 ECE providers originally identified as using a private well as the drinking water source for their facility. We received 22 survey responses, for a response rate of 29%. The primary findings are listed below and the full survey results are included in Appendix E.

Finding: Respondents learned about the survey through mailings or the NH Connections newsletter.

Of the 20 respondents who had heard about the Choose Safe Places Private Well Water Testing Initiative, the majority received the invitation in the mail, and one quarter read about it on the NH Connections newsletter or website. Fifteen of the respondents (68%) participated in the initiative.

Finding: Initiative participants found the process easy.

One hundred percent of the testing initiative participants answered that it was easy to set up the water sampling appointment and have the NHDES water sampler take the sample on-site. They also agreed that the information provided to them to take their own stagnant lead samples was clear.

With respect to the test results that were provided to survey respondents who participated in the initiative, all indicated the results were understandable and that the action recommendations were easy to understand. Eighty-seven percent felt the amount of information with the results was "just right." Most (80%) were able to use the results for their CCLU required testing.

Of the six respondents who did not participate in the initiative, three indicated they did so because they have a water testing process in place. Three of the six respondents said they would be more likely to participate in future free water testing if they 1) knew there would be no costs and 2) if they received sampling bottles at their facility.



Collecting the water samples

Finding: About half of survey respondents who participated in the initiative learned something new about their well or well water.

Fifty-three percent of participants learned something new about their water or well during the sampling process including:

- How to bring down the iron level.
- That lead and copper were leaching into the water.
- That a filter was needed.
- What the safety limits are [for] lead and bacteria in drinking water.
- That the manganese level in their water was unsafe for infants

Finding: For most survey respondents, water testing is not a significant challenge for their business.

Most participants (80%) said that water testing requirements for ECE facilities are not too difficult. A small number of participants (33%) said that well water testing requirements have made an impact on their business decisions.

Overall, comments received for general feedback on water testing requirements were positive and reflected action taken:

"I got a lot of support on when to retest and how we can solve the issue."

"I am really grateful for the Choose Safe Places program. All of the staff were extremely helpful and quick to respond through the process of testing all the way through treatment."

"We appreciate the funding for the service."

Other comments received pertaining to CCLU water testing requirements include:

"I wasn't sure where or how to get the free testing done. Also, I find every 3 months for testing is a bit much. Not that I don't do it, I just think it doesn't have to be done that often."

"I think anyone who has treated water like a filtration system in their home should not have to get yearly testing. It should be every 2-3 years."

"Every three months is a bit much."

"Every 3 months for bacteria is tough by the time we get results we need to retest."

Comments on improving the program or promoting participation in future initiatives:

"It will be helpful if they can provide free water testing annually."

"Thoughtfully done. Thanks!"

"Your program is great, you came to me and paid for it. It would have cost me almost \$200 so thank you so much."

"This was a great program and I really enjoyed the results. I received an email saying our magnesium levels were a bit high for infants but still within the state level. I was given suggestions on how to fix it."

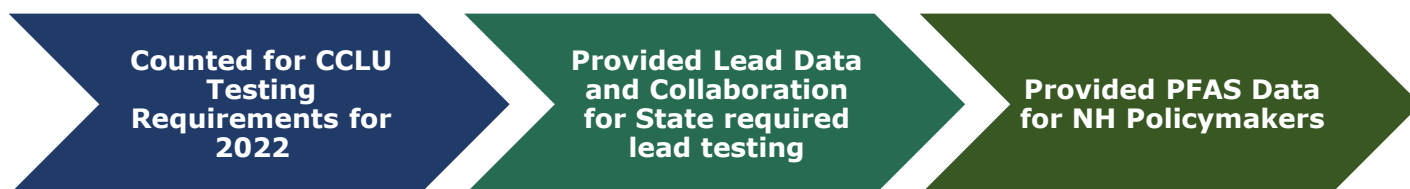
V. Accomplishments

This pilot project successfully raised awareness of the need to address water quality and other environmental health issues for ECE facilities in NH, particularly for the state agencies involved

with ECE regulation and oversight. Adding additional contaminants of concern to the CCLU Rules as required testing for ECEs with private wells is being considered. All providers served by a private well, regardless of participation in the well water testing initiative, received a [22-page toolkit](#) to assist them with all aspects of testing and treating their well water for future use.

Other accomplishments from the private well water testing initiative include:

- ✓ Twenty-three providers were able to count the initiative test results for their CCLU required testing and received a more complete picture of their well water quality.
- ✓ CCLU, BCDHSC and NH Child Care Aware now have updated resources about the importance of water quality improvements as part of the licensing and inspection process for ECEs.
- ✓ Lead data were provided to the Get the Lead Out of Drinking Water program at NHDES for 23 facilities.
- ✓ Eighteen ECE providers were informed about exceedances and potentially took steps to reduce exposure for the children and staff.
- ✓ Educated one ECE facility about the risks of using spring water.
- ✓ Provided funding to at least four ECE facilities for remediation measures via BCDHSC funds.
- ✓ Provided a summary of PFAS data detected at ECEs to NHDES based on NH Legislative priorities.
- ✓ Created a baseline summary of water sources for all ECE facilities identified at the start of this project that can be used in future work.
- ✓ Established a model and process for ECE well water sampling projects state-wide and nationally.



VI. Recommendations

Implementation of the Private Well Water Testing Initiative identified gaps and opportunities for improvement of best practices around the protection of water quality for ECE facilities that utilize private wells as a drinking water source. The following recommendations are suggestions for changes and improvements that would enhance the ability of state and local officials to ensure that ECE facilities are providing water that is safe to drink to the children in their care:

1. Create a Child Care Water Testing Package for water testing labs:

Based on suggestions from Family-Based ECE providers, conversations are underway with the Public Health Water Analysis Lab on the efficacy of creating a well water testing package for Early Care and Education facilities. This would be modeled after the NH Well Water Test for Home Buyers water testing package and would allow the provider to simply ask for the name of the package without needing to know which contaminants are required at which time interval. Private Labs in the state would be invited to add the "Child Care Testing Package" to their water testing offerings to create a consistent water test package to facilitate easier water testing for ECE providers.

2. Revise the Health Officer Inspection Report for Child Care Programs to include more specifics on water testing. Several additional questions or actions could be included on the health officer inspection form which would provide a clearer picture of each facility's actual water quality:
 - ✓ Add a question asking what the facility's water source is - this would provide valuable information and save considerable time and effort if this information was gathered at the time of inspection and linked to the facility license information.
 - ✓ Review the water quality testing results for ECE facilities with private wells and discuss the results with the provider, including: asking if there were any exceedances, asking what the plan is to address the exceedances and asking if the water has been re-tested after any necessary remediation.
 - ✓ Send a copy of water test results to CCLU and NHDES to be stored with the file
 - ✓ Follow-up on test results with the ECE provider at a later date if exceedances were present.
 - ✓ Add a question about long-term use of bottled water and/or use of spring water.

3. Revise the NH Child Care Program Licensing Rules pertaining to which contaminants are included for required testing for ECE facilities on private wells:

The results of this initiative make it clear that adding additional contaminants of concern to the Child Care Licensing Rules as required testing for ECEs with private wells should be considered. With the exception of lead, the remaining contaminants with high numbers of exceedances are not included in the current CCLU recommended testing list. Exposures to contaminants like uranium, manganese, and radon can put children at risk and should be included as required testing parameters for the CCLU facilities served by a private well.

4. Include NHDES point of contact when an ECE provider works with the CCLU to develop a water quality exceedance remediation plan:

As stated in the CCLU Rules, "If your test results show that you have a contaminant above the safe standard, contact the CCLU to let them know and to develop a plan to bring your water back to safe standards." In order to develop a planned course of action to lower exposure and address an exceedance effectively, the CCLU should consult with a point of contact from the NHDES Drinking Water and Groundwater Bureau to provide input on the remediation plan.

5. Acknowledge and address feedback from ECE providers:

Of the 23 participating providers, at least five mentioned to the sampling staff that all of the additional requirements for them (including, but not limited to, water testing) might mean they close in the next year. However, as noted above and in Appendix E, the results of the survey to evaluate the well water testing initiative indicate that for most survey respondents, water testing is not a significant challenge for their business.

6. Include relevant recommendations as part of a safe-siting checklist for ECE facilities that are opening and need help ensuring they are following water quality and other environmental health best practices.

Several additional opportunities were identified during implementation of the initiative: 1) identifying a water source as part of the ECE provider intake and licensing process would provide concrete and important data for addressing water quality issues for ECE facilities; 2) creating a policy on the use of spring water/bottled water in ECE facilities as well as additional education on why long-term use of bottled water is not ideal and why use of spring water should be avoided; 3) clarifying requirements for facilities with fluctuating enrollment/licensing that result in changing between a public water system and private well; and, 4) continue to improve communication between NH DHHS, Division of Public Health Services, NHDES and CCLU.



Successful well water sampling.

VII. Conclusion

This pilot project built trusted relationships, educated partners and the ECE workforce about water quality concerns, provided data to show the need for additional CCLU Rule changes to address contaminants of concern for vulnerable populations and provided the structure and framework for partners to sustain water quality testing and remediation for ECE facilities through other grant mechanisms. An additional recommendation which could be pursued in the future includes addressing the schools or daytime programs for children that may receive drinking water from a private well and may be exempt from CCLU Rules for water testing.

Appendices

Appendix A. Choose Safe Places Private Well Water Testing Toolkit Cover and interior page.



Appendix B: NH CSP Water Testing: Standard Analysis Contaminants*

Chemical Type	Chemical Name	DW Guidance Limits	DW Guidance Limits Units	Number of Faucets Tested (n)	Detectable Results (n)	Frequency of Detection (%)	Number of Faucets Above DW Guidance Limits (n)	Frequency of Faucets Above DW Guidance Limits (%)
Standard Analysis	Arsenic	0.005	mg/L	23	2	9	0	0
Standard Analysis	Bacteria	Absence/Presence	P-A/100mL	0	--	--	--	--
Standard Analysis	Chloride	250	mg/L	23	19	83	1	4
Standard Analysis	Copper	1.3	mg/L	23	2	8.7	0	0
Standard Analysis	Copper, Stagnant	1.3	mg/L	24	8	33	2	8
Standard Analysis	Fluoride	4	mg/L	23	10	43	0	0
Standard Analysis	Hardness	--	--	23	17	74	--	--
Standard Analysis	Iron	0.3	mg/L	23	11	48	5	22
Standard Analysis	Lead	0.005	mg/L	23	1	4	1	4
Standard Analysis	Lead, Stagnant: Primary Faucets	0.005	mg/L	23	11	55	4	17
Standard Analysis	Lead, Stagnant: Secondary Faucets	0.005	mg/L	36	20	56	8	22
Standard Analysis	Manganese	0.1	mg/L	23	12	52	5	22
Standard Analysis	Nitrate-Nitrogen	10	mg/L	23	9	39	0	0
Standard Analysis	Nitrite-Nitrogen	1	mg/L	23	0	0	0	0
Standard Analysis	pH	6.5-8.5	--	23	23	100	4	17
Standard Analysis	Radon	2000	pCi/L	23	22	96	10	43
Standard Analysis	Sodium	250	mg/L	23	22	96	0	0
Standard Analysis	Uranium	30	µg/L	23	9	39	2	9

*Note: Appendix B includes one extra test for stagnant copper (sampled both the primary faucet and reverse osmosis tap at same sink). Confirmation retests for flushed and stagnant lead were excluded from the appendix data results tables. DW= drinking water

Appendix C: NHCS Water Testing: Detected Per-and Polyfluoroalkyl Substances (PFAS) compounds*

Chemical Type	Chemical Name	DW Guidance Limits	DW Guidance Limits Units	Number of Faucets Tested (n)	Detectable Results (n)	Frequency of Detection (%)	Number of Faucets Above DW Guidance Limits (n)	Frequency of Faucets Above DW Guidance Limits (%)
PFAS	6:2 FLUOROTELOMER SULFONIC ACID - 6:2 FTSA	--	--	22	4	18	--	--
PFAS	8:2 FLUOROTELOMER SULFONIC ACID - 8:2 FTSA	--	--	22	4	18	--	--
PFAS	PERFLUOROBUTANE SULFONIC ACID - PFBS	--	--	22	11	50	--	--
PFAS	PERFLUOROBUTANOIC ACID - PFBA	--	--	22	11	50	--	--
PFAS	PERFLUOROHEPTANE SULFONIC ACID - PFHPS	--	--	22	2	9	--	--
PFAS	PERFLUROHEPTANOIC ACID - PFHPA	--	--	22	6	27	--	--
PFAS	PERFLUROHEXANE SULFONIC ACID - PFHXS	18	ng/L	22	6	27	0	0
PFAS	PERFLUROHEXANOIC ACID - PFHXA	--	--	22	7	32	--	--
PFAS	PERFLURONONANOIC ACID - PFNA	11	ng/L	22	1	4.5	0	0
PFAS	PERFLUROOCTANE SULFONIC ACID - PFOS	15	ng/L	22	6	27	0	0
PFAS	PERFLUROOCTANOIC ACID - PFOA	12	ng/L	22	8	36	0	0
PFAS	PERFLUROPENTANE SULFONIC ACID - PFPEP	--	--	22	3	14	--	--
PFAS	PERFLUROPENTANOIC ACID - PFPEA	--	--	22	4	18	--	--

*Note: 12 out of the 25 PFAS compounds tested for were all non-detectable, only detectable PFAS results are shown.

Appendix D: NHCS Water Testing: Detected Volatile Organic Compounds (VOCs)*

Chemical Type	Chemical Name	DW Guidance Limits	DW Guidance Limits Units	Number of Faucets Tested (n)	Detectable Results (n)	Frequency of Detection (%)	Number of Faucets Above DW Guidance Limits (n)	Frequency of Faucets Above DW Guidance Limits (%)
VOC	Methyl-t-butyl ether (MTBE)	13	µg/L	23	1	4	0	0
VOC	Tetrachloroethene	5	µg/L	23	1	4	0	0

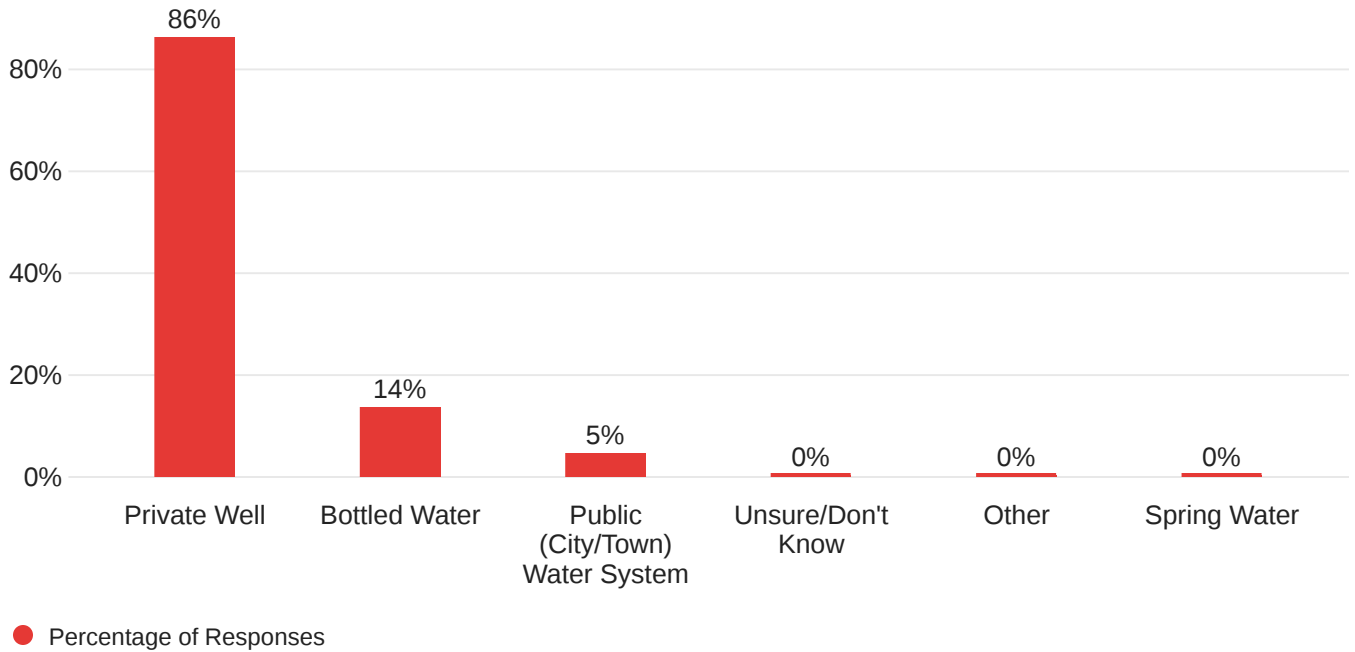
*Note: 71 out of 73 VOCs tested for were all non-detectable, only the VOCs with detectable results are shown.

Appendix E: Full Results for NHCS Private Well Water Testing Initiative Follow-up Survey

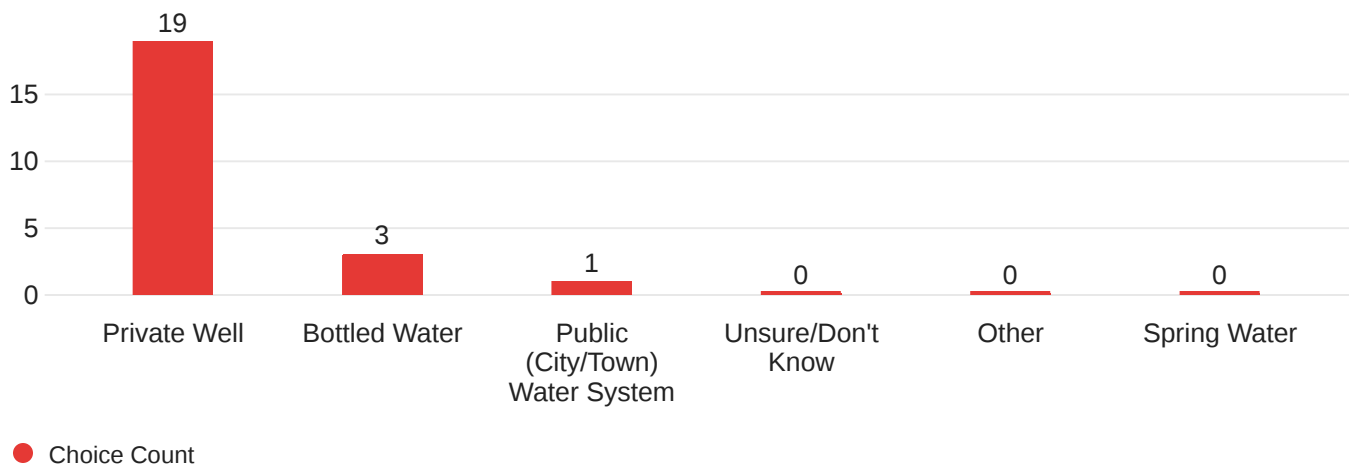
Below are voluntary responses from a survey of Initiative participants aimed to improve and prioritize future NHCS efforts:

Where does your Early Care and Education Facility get its drinking water? (choose all that apply)

22 Responses



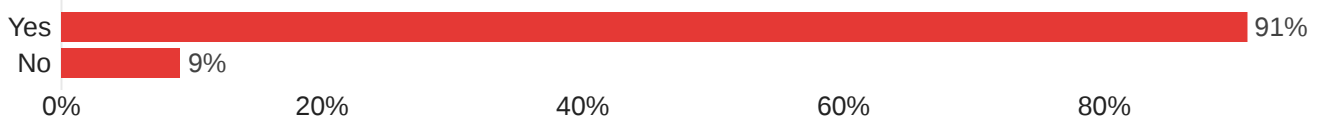
Where does your Early Care and Education Facility get its drinking water? (choose all that apply)



Percentages may sum to >100% on "choose all that apply" questions, as they reflect the percent of respondents who chose each answer, not the percent of choices.

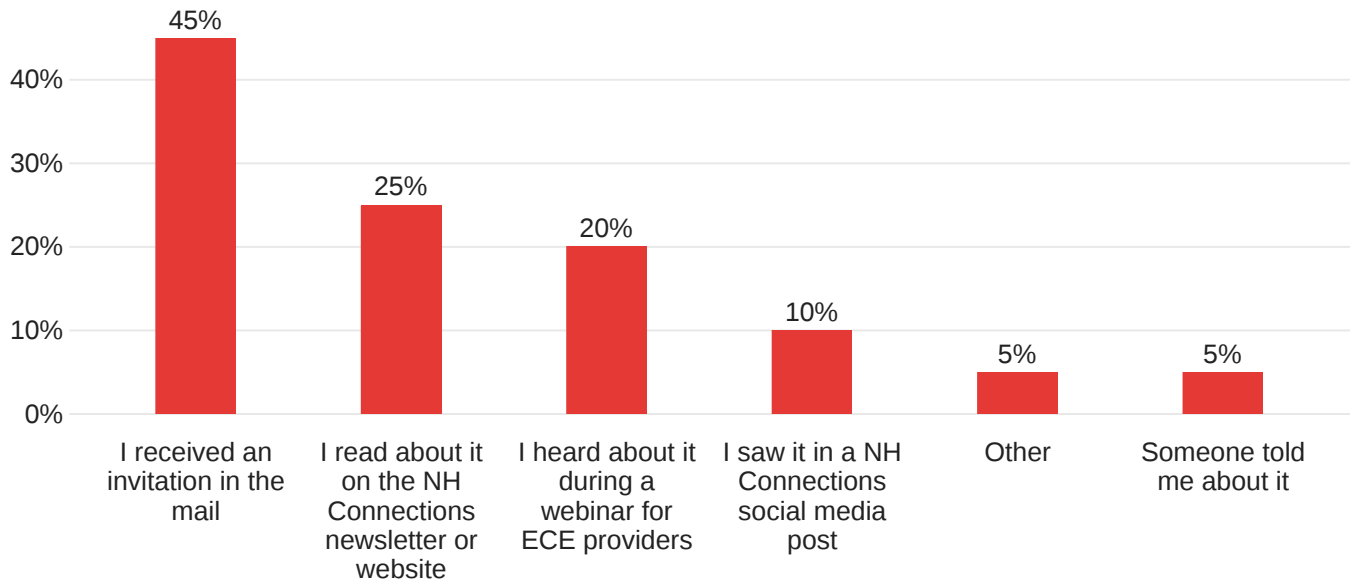
Did you hear about the free Choose Safe Places Private Well Water Testing Initiative?

22 Responses



How did you hear about the Choose Safe Places Private Well Water Testing Initiative? (choose all that apply)

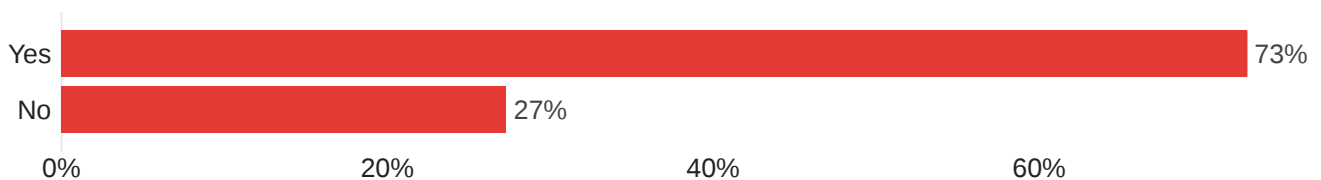
20 Responses



● Percentage of Responses

Did you participate in the free Choose Safe Places Private Well Water Testing Initiative?

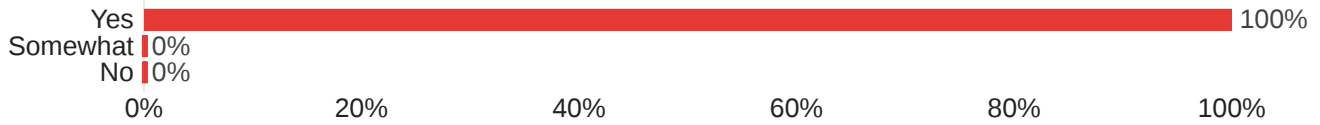
22 Responses



● Percentage

Was it easy to set up an appointment and have the NHDES water sampler come to perform your free water sampling?

15 Responses



● Percentage

Was the information provided on how to take the stagnant lead water samples clear?

15 Responses



● Percentage

Did you learn anything new about your water or your well during the water sampling process?

15 Responses



● Percentage

What did you learn?

What did you learn?

How to bring down the iron level in the water . It has been tested and will be testing again soon.

That it was out of date and needed to be expanded

Bathroom Faucet needs to

I learned that I did in fact have lead and copper in my drinking water.

We need a filter installed

The safety limits of lead and bacteria that are present in the water.

Arsenic in the water

Our magnesium level is one that infants should not consume.

Were the test results you received understandable?

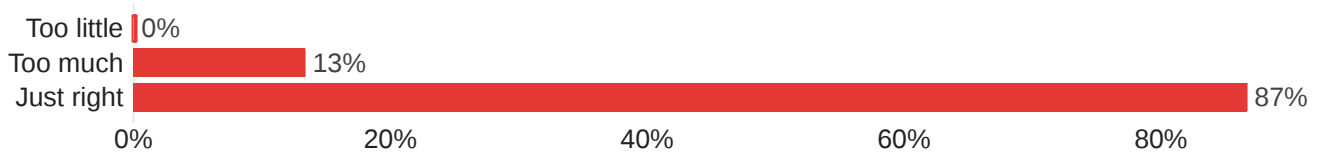
15 Responses



● Percentage

Was the amount of information you received with the results:

15 Responses



● Percentage

Were the recommendations provided with the test results easy to understand?

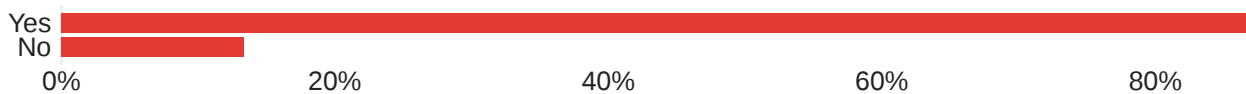
15 Responses



● Percentage

Were you able to use the results to count for your CCLU required testing?

15 Responses



● Percentage

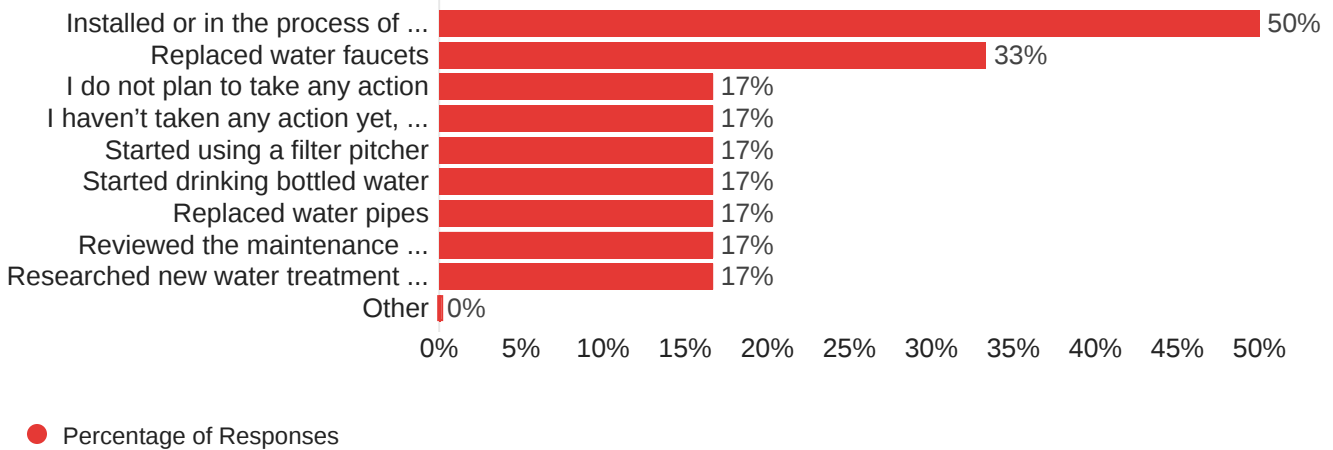
Did your results show any contaminants over the guidance limit that required you to take action to make your water safer to drink?

15 Responses



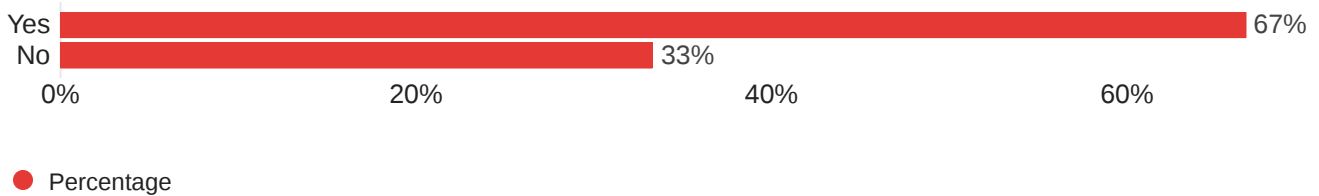
What action did you take? (Select all that apply)

6 Responses



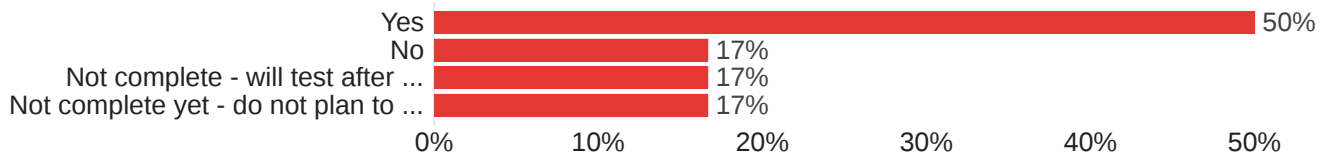
Did you look for funding to help pay for any recommended water treatment?

6 Responses



Have you re-tested your water to be sure the water treatment is working?

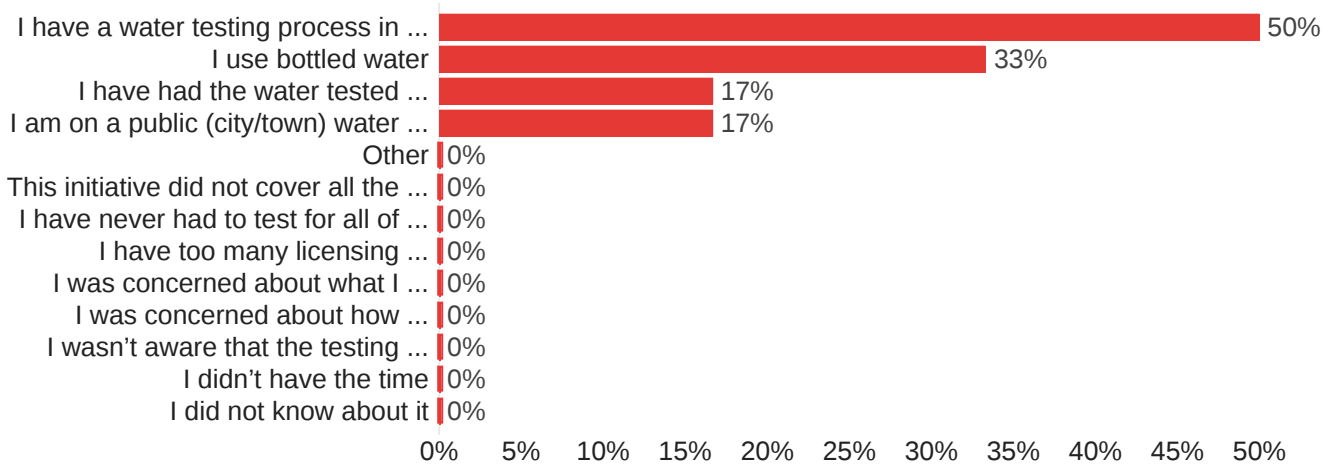
6 Responses



● Percentage

If you decided not to participate in the Choose Safe Places Private Well Water Testing Initiative, please let us know why. (choose all that apply)

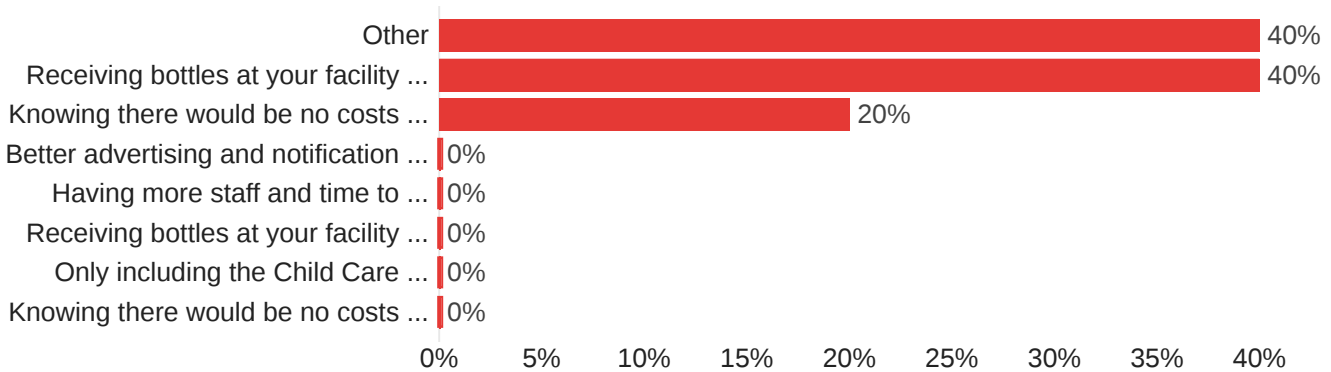
6 Responses



● Percentage of Responses

What would make it more likely for you to participate if this free water testing was offered again? (choose all that apply)

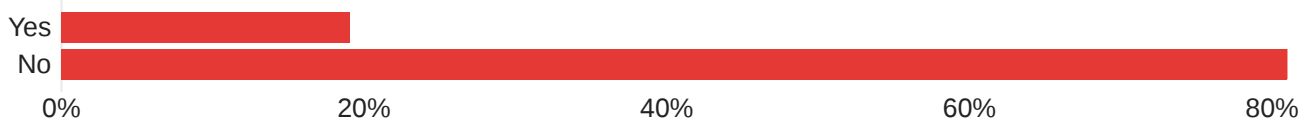
5 Responses



● Percentage of Responses

Do you find the water testing requirements for your childcare facility to be too difficult?

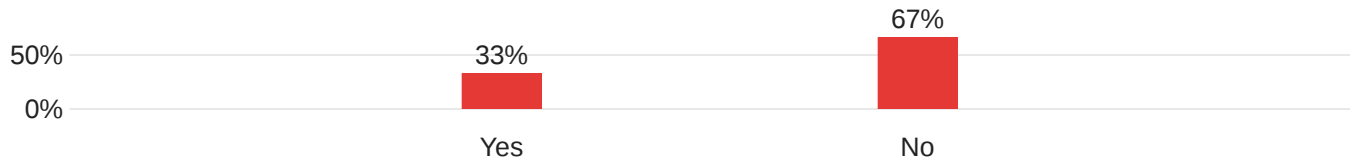
21 Responses



● Percentage

Have well water testing requirements made an impact on your Child Care/business decisions?

21 Responses



● Percentage

Please share any general feedback about water testing requirements

I wasn't sure where or how to get the free testing done. Also, I find every 3 month for testing is a bit much. Not that I don't do it, I just think it doesn't have to be done that often.

I think anyone who has treated water like a filtration system in their home should not have to get yearly testing. It should be every 2-3 years

I got a lot of support on when to retest and how we can solve the issue.

Every three months is a bit much

every 3 month for bacteria is tough by the time we get results we need to retest.

I am really grateful for the Choose Safe Places program. All of the staff were extremely helpful and quick to respond through the process of testing all the way through treatment.

Have bought bottled water

It's expensive for a small provider

We appreciate the funding for the service

It is very time consuming; I have one test that I have to take every 3 months then another test that I have to take every 6 months and yet another test that I have to take every 12 months. It is very frustrating getting the sample to the lab in time or finding someone to drop it off, and it is a financial burden. I do understand why I have to do this, but it does not make it easy.

It is a lot. I know we have old pipes and I know it is a matter time before the state makes us fix it all.

General Feedback

It will be helpful if they can provide free water testing annually.

Thoughtfully done. Thanks!

your program is great, you came to me and paid for it. It would have cost me almost. 200.00 so thank you so much.

This was a great program and I really enjoyed the results. I received an email saying our magnesium levels were a bit high for infants but still within the state level. I was given suggestions on how to fix it.