Voluntary School and Child Care Lead Testing and Reduction Grant Program:

Best Management Practices for States

Introduction

EPA hosted a workshop on May 17th, 2022 to bring the oversight agencies participating in the program together to share the programs' success stories, challenges, and Best Management Practices (BMPs). BMPs provide effective and practicable means to implement the grant program and ultimately reduce lead in drinking water at schools and child care facilities. BMPs are illustrated in the state case studies across the country that are removing and minimizing sources of lead in drinking water. This document summarizes the best management practices learned from collaboration of states during that meeting.

Best Management Practices

Recipients of the Water Infrastructure Improvements for the Nation Act (WIIN) are required to use 3Ts guidance or an equivalent guidance that is equally as stringent. Before testing, schools and child care facilities need a plan to train staff and to react to results appropriately. The testing plan must be tailored and specific to the school or child care facility. This next section includes BMPs from the workshop survey, workshop presentations, and others identified during the workshop. The BMPs are organized by the 3Ts categories: communication, training, testing, and taking action.

COMMUNICATION

An effective communication plan is necessary to prepare and coordinate delivery of information swiftly, professionally, and consistently. BMPs listed here include those that engage school and child care facility personnel, parents, stakeholders, and partners. See Module 1: Communicating the 3Ts for communication resources included in the 3Ts Toolkit.

Maintaining a program-specific website will ensure that all the program's information is in one place. This can include information about the process, enrollment links, results, and contact information for the program administration.

Creating simple and easy communication for teachers and child care providers can help them better understand the process. Programs should make sure all materials are directed towards the general public and use plain language to explain each step of the process.

Providing a tool that clearly communicates all steps of the program will help to simplify and outline the process, so that no steps are skipped. Possible tools include a checklist, tables, interactive documents, and databases.

Programs should have a **marketing and communication strategy** and be consistent throughout the entire process. This will keep communities up to date with new information and any new changes.

Consistent branding should be a part of the programs marketing strategy. Keep colors and graphics the same across the marketing campaign for a more appealing and cohesive look. The marketing campaign can include postcards, email campaigns, and social media.

Programs should have an **easy-to-access online enrollment form** that schools and child care providers can access at their convenience. Complicating the enrollment process could be a barrier to enrollment, and a simple process could increase enrollment and participation.

Engaging and including stakeholders and provider networks in the development of program plans is a good communication tactic. Stakeholders can include district personnel, department of education, health departments, parent teacher associations, and environmental groups. Including stakeholders in the process keeps all parties informed and involved.

LESSONS FROM ILLINOIS

Illinois had a marketing effort to help them establish a brand. This included postcards, email campaigns, and social media. See the **Success Stories** section for more information.

Providing information to schools and child care providers in multiple ways is an important outreach tactic. Communicating information by mail, email, online, and at in-person or virtual information sessions can improve understanding and reach the most people.

Providing informational materials in languages other than English will increase access and spread awareness. This can include handouts in multiple languages, a translated website, and/or resources for those who speak languages other than English to have materials translated for them. These materials can be designed for the specific audience/community.

Creating a hotline with personnel speaking multiple languages provides a place for people to ask questions about the process. This can be designed for the specific audience/community.

Creating a partnership with multi-sectoral leaders can result in greater community access and ultimately a larger audience reached. This may lead to multiple sources of funding. Many stakeholders can encourage state regulatory action.

Figure 1 provides data on selected communication BMPs currently used by states. The information displayed comes from survey responses following the May 2022 workshop. There were additional communication BMPs discussed during the workshop and included in this document, but they were not in the survey.

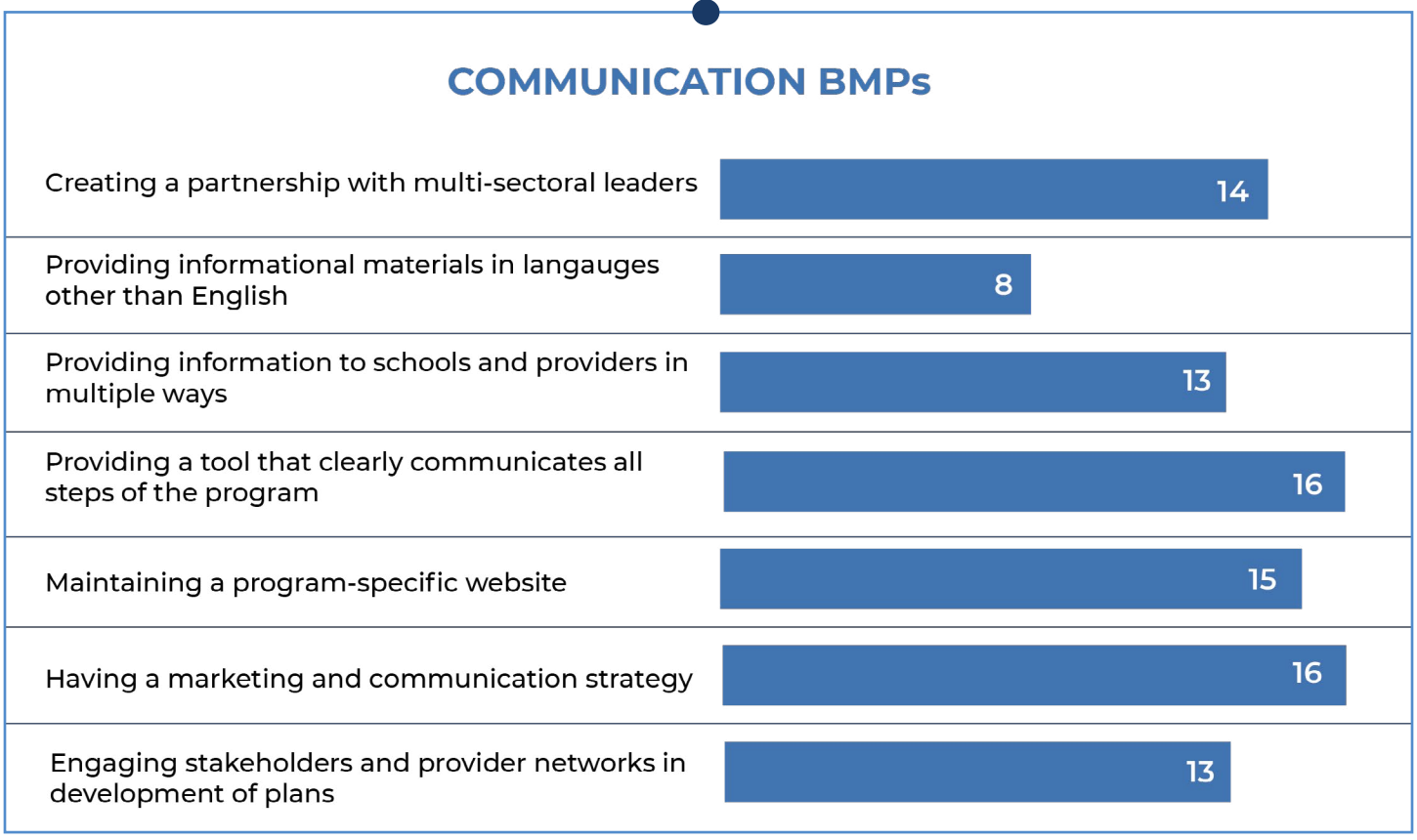

Figure 1: *Communication BMPs Currently Used by States.*

TRAINING

Programs should train staff and parents about the sources and health effects of lead in drinking water and provide the tools they need to protect children. BMPs listed here include those that deal with training program administration and testing personnel. See Module 1: Communicating the 3Ts and Module 2: Learning About Lead in Drinking Water for training resources included in the 3Ts Toolkit.

Having standardized training materials and templates is needed for effective training. This will ensure all staff are trained consistently. In addition, it will make mistakes easier to catch during the testing process.

Creating and posting instructional videos online can be beneficial. Instructional videos on how to sample, how to turn in samples, and how to fill out the forms are some examples that can be useful. This is another area to implement standardization across the training.

Providing onsite training and support is vital to ensure testing is successful. Trained staff should be available to help with training and sampling. Having clear explanations of the rules may be beneficial, as some programs have found that people are more cooperative if they realize why things are set up the way they are. It is important that all members of the community have access to this training. This would include making the materials and training more accessible by offering multi-language options, depending on community needs.

Holding free virtual and/or in-person informational events, such as webinars and information sessions, to explain the program and its importance in the community. Some programs have implemented filter giveaways to promote their events. A possible training event is a pre-enrollment webinar to review the program process. The pre-enrollment webinar could review the program process, instructional videos, and weekly webinars. This live webinar could walk participants through the entire process. Hosting ongoing webinars throughout the program could maintain retention rates.

Providing resources and distributing information to parents and guardians about the lead testing program before testing begins is vital to limiting confusion about the program. Programs should provide information on lead, its health effects on children, why testing is occurring, and where they can access the results when they are available. Having materials available in multiple languages will help community involvement.

Utilizing pilot studies can ensure states are completely prepared for rollout before the program launches. Having a strong base in training and communication is vital for the program's launch. However, programs should be ready for possible changes and be ready to overcome any issues that may arise. These issues can be identified and corrected by utilizing pilot studies. It is possible for programs to improve after their first launch. Pilot studies will help determine program effectiveness before the full program launch.

LESSONS FROM NORTH CAROLINA

When North Carolina first began their statewide program in 2020, they quickly realized they had to adjust how they approached training with the COVID-19 pandemic. They added a pre-enrollment webinar with a virtual Q&A session to minimize enrollment, sample collection, and shipping issues. See the Success Stories section for more information.

Figure 2 provides data on selected training BMPs currently used by states. The information displayed comes from survey responses following the May 2022 workshop. There were additional training BMPs discussed during the workshop and included in this document, but they were not in the survey.

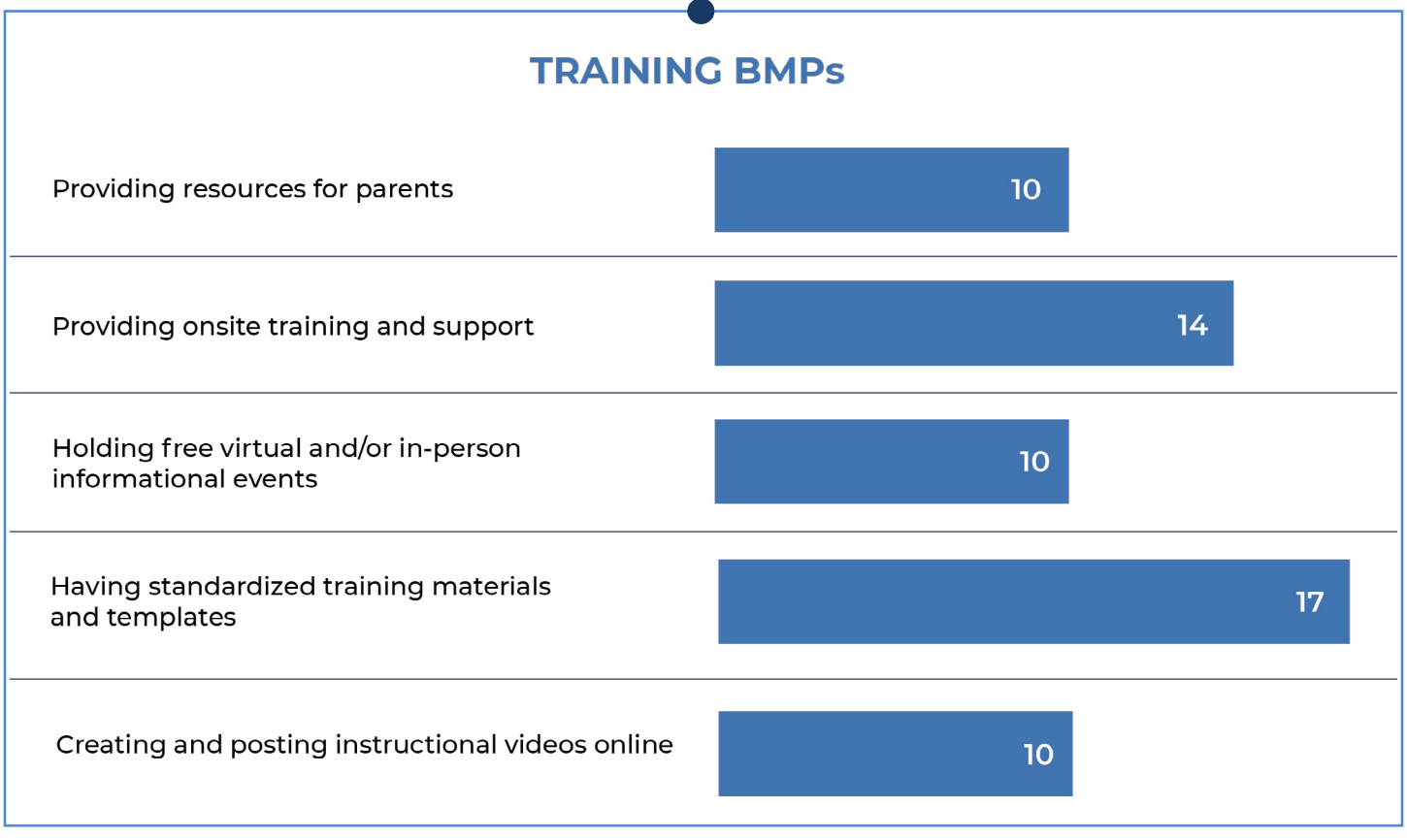

Figure 2: Training BMPs Currently Used by States.

TESTING

It is important to test drinking water in child care facilities to identify potential lead sources and to take action, if necessary. BMPs listed here include those used to make the collection and testing of samples go smoothly. See Module 3: Planning Your 3Ts Program, Module 4: Developing a Sampling Plan, and Module 5: Conducting Sampling and Interpreting Results for testing resources included in the 3Ts Toolkit.

Providing user-friendly tools is crucial for testing. This could include schools building plumbing profiles and drinking water management plan workbooks with automatic calculations that are specific to each facility. Guidance documents related to sample types and how to sample each type of drinking water fixture can also be helpful. As a starting place, check out the resources available as part of the 3Ts Toolkit. Guidance documents can be developed for every type of drinking water test. Guidance on the severity of the results and advise for next steps would limit confusion on understanding the results.

Creating an easy to find database with a public facing portion is an option for publishing test results. If the schools are collecting the data, once the data is submitted to the state program, the results may be published on the public portion of the database. Having a standardized template for how the results should be formatted would limit variability and confusion.

Maintaining accurate records is a vital component of testing. If there is a mistake, it will be easy to determine if the mistake is in the reported data or the sample itself. Accurate records will make mistakes easier to catch and determine whether retesting is necessary.

Creating and utilizing easy to read and accessible forms can improve the testing process. Testing results delivered to schools and child care facilities as lab reports can be complicated to read and interpret. Some programs have developed a "how to read a lab report" cheat sheet. This may include information about how to interpret results, units of measure used, and instructions on what the facility should do with each water tap. Presenting the information in an easy-to-read format will have the important information stand out and will minimize errors in understanding the results.

Providing free test kits, shipping, sample analysis, and/or technical assistance may increase participant enrollment and sample collection. Free testing materials may include those for initial and follow up testing.

Providing on-site sample collection at the facility is an alternative to sending free kits. This "hands-off" approach may increase participation and limit collection errors. For example, some facilities would rather have a third party collect samples. This can provide additional reassurance to staff and parents that testing was conducted correctly.

Providing reimbursement for testing costs makes testing accessible for many facilities. Testing costs may include lab costs, shipping, mileage, and some labor costs. To minimize reimbursement issues, the lab may contract with the state directly.

Consistent contracting for testing may streamline the testing process. For some states, it might be easier to use one contracted lab for testing. However, that may not always be possible for all states. In order to utilize multiple labs for testing, it is important to simplify and set a standard process for all participating labs to keep consistency. For example, one program may use six or seven labs, and they provide a list of those labs to the facilities to choose from. The program works it out ahead of time with the lab for procedures, and the labs follow set protocols. The lab contracts with the state directly to minimize reimbursement issues. The state provides a chain of custody and an estimated delivery date for the results to be published from the lab.

LESSONS FROM OREGON

Oregon reimburses the costs of testing (including shipping and collection) as long as the tester provides the state with a complete reimbursement spreadsheet, invoices, lab reports, and a summary of the testing request. See the **Success Stories** section for more information.

Spreading out testing to not overwhelm labs has been beneficial. Some states establish a set goal of facilities to test in order to limit an already large undertaking and to prevent flooding the labs, which could result in backups and delays.

Figure 3 provides data on selected testing BMPs currently used by states. The information displayed comes from survey responses following the May 2022 workshop. There were additional testing BMPs discussed during the workshop and included in this document, but they were not in the survey.

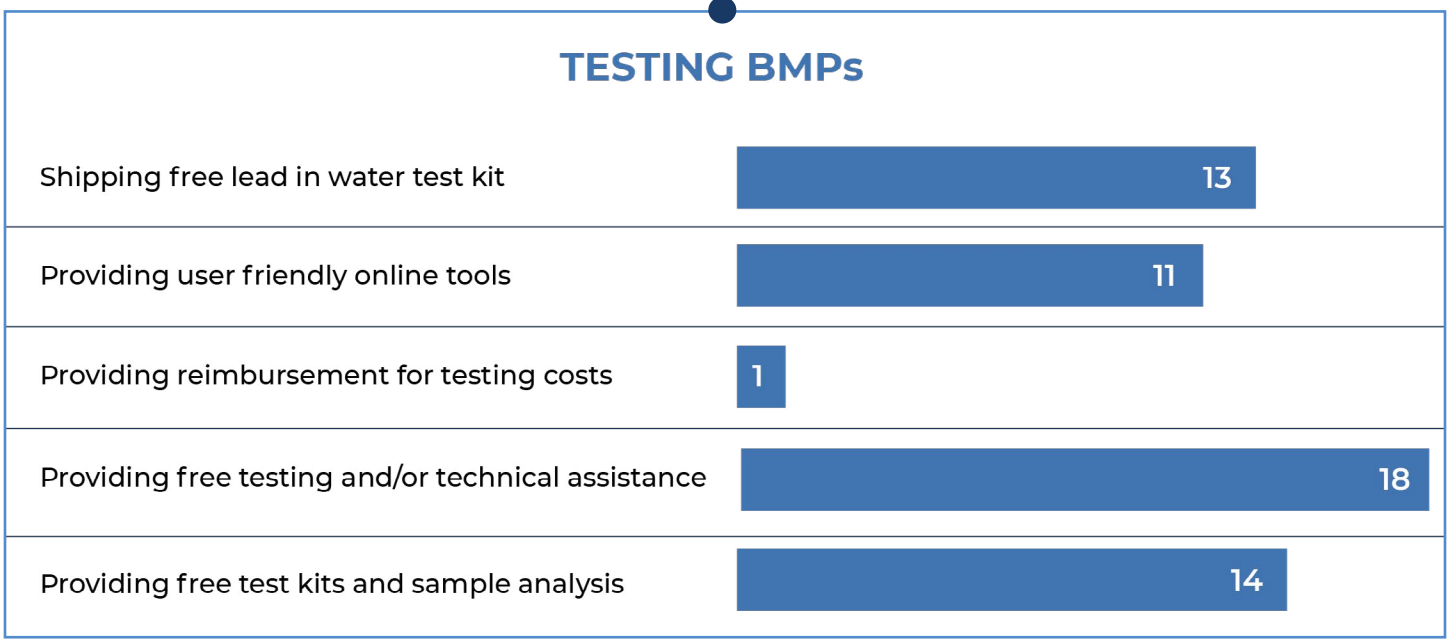

Figure 3: Testing BMPs Currently Used by States.

TAKING ACTION

Programs should take action to reduce lead in drinking water, as well as communicate to parents, staff, and the community about risks, testing results, and recommended actions. BMPs listed here encompass all actions that could take place after receiving the lead test results. See Module 6: Remediation and Establishing Routine Practices and Module 7: Recordkeeping for taking action resources included in the 3Ts Toolkit.

Maintaining a system to track results and remediation actions at both the state and school/child care facility level allows the state to track the data that is collected, for schools and child care facilities to keep accurate records, and to see recorded remediation actions. For recordkeeping and reporting purposes, EPA recommends using the 3Ts Sampling eTracker for Child Care Facilities and Small Schools (PDF fillable form) or the 3Ts Sampling eTracker for Schools (Excel workbook). These tools track testing results and any action taken following sample results. It is especially helpful for communicating to staff, parents, school districts, or others that may request this information. In addition, this tool contains the data elements needed for reporting to the state if the school or child care facility receives funding from the state under the WIIN grant.

Providing user-friendly online tools can assist schools and child care facilities carry out and document remediation activities after testing. These online tools should be easy to access, explained in plain language, and easy to navigate. It is suggested that links to these tools are available on the program webpage and included on any print materials.

Making lead testing results easy to access and understand by providing various avenues for schools and child care providers to access their results (e.g., mail, webpage) is a useful BMP. They should also describe what the results mean in relation to the action level, health outcomes, and follow up actions.

Connecting providers to funding for remediation is crucial for taking action. When lead levels are found to be above the action level, provide the information for potential funding resources such as grants or organizations that can help provide replacement and remediation funding. EPA's document "Potential Funding Sources for Reducing Lead in Drinking Water in Schools and Child Care Facilities" summarizes potential funding sources to remediate lead and water quality related projects for schools and child care facilities.

States should **provide clear instructions on actions schools or child care facilities should take based on their testing results.** When lead is above the program remediation trigger (which is set by the state), states should provide step-by-step instructions in plain language explaining what a school or child care facility should do and how to do it. These instructions should include options for what actions should be taken based on the lead level.

Consider low and no cost recommendations where appropriate for taking action. When providing options for remediation, ensure that there are cost-effective ways for a school or child care facility to reduce lead levels in their water. Some examples include designating taps for drinking and cooking with proper signage and using only cold water for drinking or cooking.

LESSONS FROM NORTH CAROLINA

North Carolina provides information and flyers about low and no cost efforts for reducing lead based on the amount of lead found at each tap. Practicing no cost clean water habits (e.g., only using cold water for eating or cooking) and low-cost mitigation options are discussed (e.g., lead-certified filter flyer). See the Success Stories section for more information.

Creating regulatory changes at the state or local level requiring lead testing in schools and child care facilities helps increase program involvement and can stimulate funding for schools and child care facilities testing and remediation efforts.

Figure 4 provides data on selected testing BMPs currently used by states. The information displayed comes from survey responses following the May 2022 workshop. There were additional testing BMPs discussed during the workshop and included in this document, but they were not in the survey.

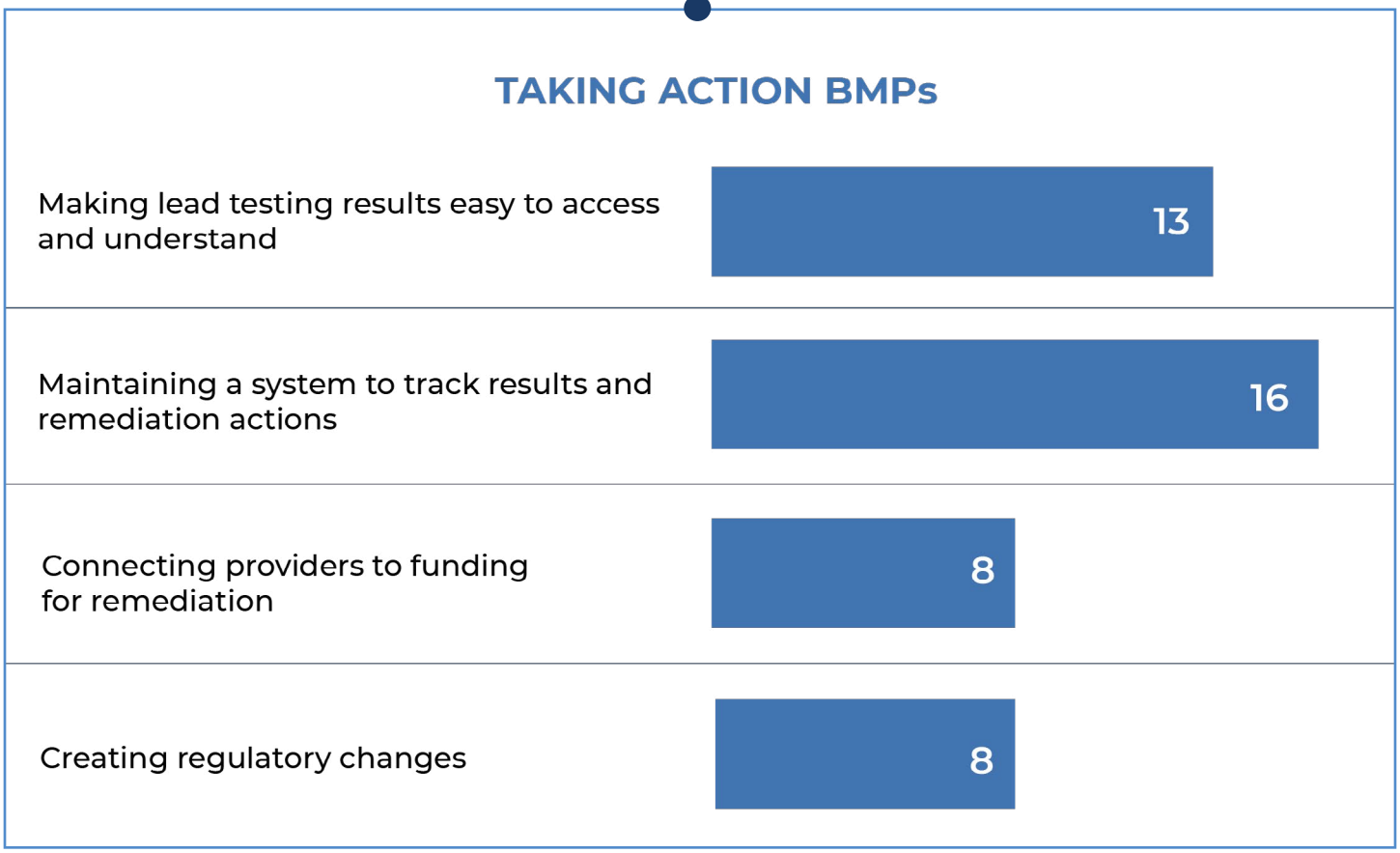

Figure 4: Taking Action BMPs Currently Used by States.

State success stories implementing WIIN Grant funding and establishing lead testing programs for schools and child care facilities are discussed below. Different elements of these state programs comprise the BMPs mentioned above. Stories show struggles that states had to overcome and showcase planning and preparation that states took. These success stories can be used to inform decision making and serve as guidance for states experiencing similar issues.

North Carolina
Photo Credit RTI International

North Carolina:

Understanding how the program will operate first is a key element in launching a successful program. North Carolina had problems when they first began the program in 2020 and quickly realized they had to adjust how they approached training. Their pilot study results showed that there were ways to optimize training to minimize testing mistakes, which would limit the need for retesting. With extra time due to shutdowns from the COVID-19 pandemic, the program was able to identify specific roles and responsibilities before initiating a program re-launch. This gave the program and its members accountability and assigned responsibility to key individuals to ensure that testing and follow-up actions were completed.

States with successful remediation strategies are clear in their directives to schools and child care facilities and detailed in the actions that must be taken after lead is identified in a drinking fountain, water tap, or other drinking water fixture. North Carolina has a robust and clear remediation strategy, which involves swiftly and effectively responding to lead in drinking water in schools and child care facilities. This plan includes posting “do not drink” signs at the affected taps, identifying alternative water sources that can be used, providing continued support to identify how to remove the lead, and confirmation testing after remediation. State and local health department staff visit taps with elevated lead levels to resample. Recommendations provided to schools and child care facilities include information on no cost clean water habits (e.g., designate taps for cooking and drinking or only use cold water for eating or cooking) and improved habits that can minimize the amount of filters the facility needs. It also recommends low-cost mitigation efforts (e.g., fix clog, flushing water, filters).

Illinois:

Providing user-friendly tools is a BMP that allows school and child care facility staff to log testing results, interpret the results, and receive information on action items in a clear manner. Illinois has user-friendly tools, including a unique test results webpage for program participants that can be viewed on computers and on mobile devices. These results are not only displayed in a clear, understandable way, but they are more accessible because of the different types of devices they can be viewed from. The tool also outlines next steps to reduce lead in drinking water and links to communication templates to help child care providers communicate their results with parents and staff. To encourage child care providers to participate in testing efforts, Illinois established a brand for the testing program called LeadCare Illinois. The program also conducts ongoing marketing efforts with trusted partners which includes postcards, direct mailers, email campaigns, and social media.

Illinois
Photo credit to LeadCare Illinois

Pennsylvania:

Since Pennsylvania's testing program is 100% voluntary, it presented some challenges getting participation for the program. One BMP was connecting schools to remediation funding. When schools know there is funding to remediate if lead is found, they are more likely to test for it. Pennsylvania stressed the benefits of partnerships with many different organizations to increase funding. They had funding coming in from multiple sources, including a nonprofit and a university. Pennsylvania is looking for additional ways to increase program participation including outreach efforts and pending state legislation that would require lead testing in schools every three years.

Pennsylvania
Photo credit to Pennsylvania Infrastructure Investment Authority

Montana
Photo credit to Montana Department of Environmental Quality (DEQ)

Montana:

Montana has a regulation requiring schools to test for lead in their drinking water. Their first recommendation was to have as much ready as possible before program rollout. Their program had procedures, various forms of guidance, forms, and templates finalized and on the program webpage ready to go before rollout. Montana's program had schools submit the initial setup information and collect their own samples. This was made possible by the simple guidance documents, forms, and templates provided to the schools to aid with sample collection. For data collection and tracking, Montana uses an application and accepts data via email for inventories and school information. The program recommends having different ways of accepting data to make data submission accessible for all schools and child care facilities. For example, the different submission types may include handwritten inventories, online via website, through an application, electronic via email, or paper submission.

Massachusetts
Photo credit to MassDep (Mass. Dept of Environmental Protection)

Massachusetts:

In Massachusetts, one main goal of the program is to make testing straightforward for the facilities, including easy to read forms that are available on the program website. On the website, participants can also find data reporting tools that record and track sampling procedures, locations, and results. Additionally, Massachusetts utilized partnerships for program promotion. The program has many partners, including the University of Massachusetts at Amherst. These partnerships help to reach a greater audience and can act as other sources of information regarding testing and results. Massachusetts provides free technical assistance that aids with sampling and interpreting and responding to results. Program representatives can assist participants in completing the plumbing profile, conducting sampling, or taking follow-up action.

Michigan
Photo credit to Michigan Department of Environment, Great Lakes, and Energy (EGLE)

Michigan:

Michigan attributed their program's success to three main factors: program administration, partnerships, and consistency. Their program administration was successful because they had no application and no upfront costs for testing. Program partnerships were essential for operations and keeping consistency. Michigan had one contractor who completed all of their lead testing, which helped streamline the testing process. Michigan also developed a user-friendly tool, which included school building plumbing profiles and drinking water management plan workbooks with automatic calculations that are specific to each facility. In addition, guidance documents for each type of drinking water testing were created. Michigan also emphasized outreach and training where they had implemented webinars, conferences, and online tools for both schools and their partners.

Oregon
Photo credit to Oregon Department of Education

Oregon:

A BMP for improving program effectiveness is to create regulatory changes. While some states only have voluntary testing, states such as Oregon require lead testing in schools and child care facilities. In 2017, Oregon passed a law requiring mandatory testing. This testing consists of the state's "Healthy and Safe Schools Plan" to ensure public transparency and reimbursement for testing costs. This reimbursement includes reimbursement for the testing and shipping costs and additional reimbursement for collection costs. Oregon reimburses the costs of testing as long as the tester provides the state with a complete reimbursement spreadsheet, invoices, lab reports, and a summary of the testing request. Additionally, Oregon has online training modules that are available to the public and offer training on lead testing and interpreting lead results.

Looking Ahead: Ongoing Challenges

There are common ongoing challenges states shared that they are currently working to overcome. These are also challenges that states will continue to face in the future. These challenges include:

Participation was a common issue across all states. Potential participants may be deterred by an overly complicated process and/or the amount of work involved. One program indicated their overall process is too complicated. This is discouraging facilities from participating. The program is looking into streamlining the enrollment process and involving third parties for the sample collection process to minimize the burden on participants.

The **lack of a legal requirement** is a common issue. The WIIN grants are voluntary, and many states do not have regulations requiring lead testing in drinking water at schools and child care facilities. This means some states may not prioritize testing since it is not a regulatory program. Encouraging stakeholders and community members to push for state regulatory changes to require testing may increase participation.

Another common issue is the **low rates of return on sampling kits**. There may be a large interest in receiving the sample kits, but few facilities will return the samples for testing once they are collected. One possible solution is to implement a return stipulation as an enrollment requirement. This could include requesting that the samples be sent back within a certain number of days once sampling kits are received. Follow-up communication, in the form of phone calls or emails, would serve as a reminder as well.

One common issue states faced was **limited overall engagement**. A lack of promotion of the program resulted in a lack of program awareness. Promoting the program can take a great deal of time, but states have found that word of mouth can be a useful tool. When there is success at one school district, they tell others and get them on board. One program shared their biggest breakthrough was from reaching out to human service organizations that operate several child care facilities across the state. Getting them on board and having their directors agree to test all their facilities has been groundbreaking and helped build momentum.

As the grant program continues, new issues will arise. EPA plans to continue this dialogue with states to ensure that lessons learned and BMPs are shared. This will assist states in improving program implementation and effectiveness toward the main goal of reducing lead levels in drinking water at schools and child care facilities.

Related Resources

WIIN 2107 BMPs Workshop Recording and Presentation Materials: https://www.epa.gov/dwcapacity/wiin-grant-voluntary-school-and-child-care-lead-testing-and-reduction-grant-program#training

Voluntary School and Child Care Lead Testing and Reduction State Grant Program Contacts: https://www.epa.gov/dwcapacity/voluntary-school-and-child-care-lead-testing-and-reduction-state-grant-program-contacts

Lead Testing Program Results: https://www.epa.gov/ground-water-and-drinking-water/school-and-child-care-lead-testing-and-reduction-grant-program

Voluntary School and Child Care Lead Testing and Reduction Grant Program Website: https://www.epa.gov/dwcapacity/wiin-grant-voluntary-school-and-child-care-lead-testing-and-reduction-grant-program

3Ts for Reducing Lead in Drinking Water Website: https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water