Iowa Childhood Lead Poisoning Prevention Program Needs Assessment

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Glossary

AAP	American Academy of Pediatrics
CDC	Centers for Disease Control and Prevention
CLPPP	Childhood Lead Poisoning Prevention Program
Contractors	Childhood Lead Poisoning Prevention Program employees under contract of IDPH
EBL	Elevated Blood Lead
EPSDT	Early and Periodic Screening, Diagnostic and Treatment
FQHC	Federally Qualified Health Center
HHLPSS	Healthy Homes and Lead Poisoning Surveillance System
IDPH	Iowa Department of Public Health
IIPHRP	Iowa Institute of Public Health Research and Policy
Providers	Medical professional administering medical care
Public Health Workers	Multi-disciplinary individuals working together through collaboration to improve the health of the public. Public health workers include health educators, epidemiologists, health administrators, directors, project managers, and many more.
UIHC	University of Iowa Hospitals and Clinics
WIC	Women, Infants, & Children

Executive Summary

The Iowa Department of Public Health (IDPH) is dedicated to improving the health of Iowans through numerous governmentally sponsored public health programs that are effective, efficient, well-organized and well-coordinated. One important program that impacts Iowa's youngest residents is the Childhood Lead Poisoning Prevention Program (CLPPP). The goal of this program is to reduce the prevalence of childhood lead poisoning in Iowa. The CLPPP provides identification and case management for children with elevated blood lead levels, identification and control of lead paint hazards, surveillance of elevated blood lead levels, and provides education and outreach in communities across the state. This program is carried out statewide through a variety of contracts, collaborations and partnerships, as well as direct services that are centrally coordinated by the IDPH.

The Iowa Institute of Public Health Research and Policy (IIPHRP), at the University of Iowa, College of Public Health was contracted by IDPH to develop, conduct, and analyze a needs assessment to determine how IDPH can better meet the needs of the multiple stakeholders in the Childhood Lead Poisoning Prevention Program including families, communities, medical providers and contractors. The purpose of this needs assessment is to understand the strengths and challenges of the CLPPP and identify areas of improvement based on these results.

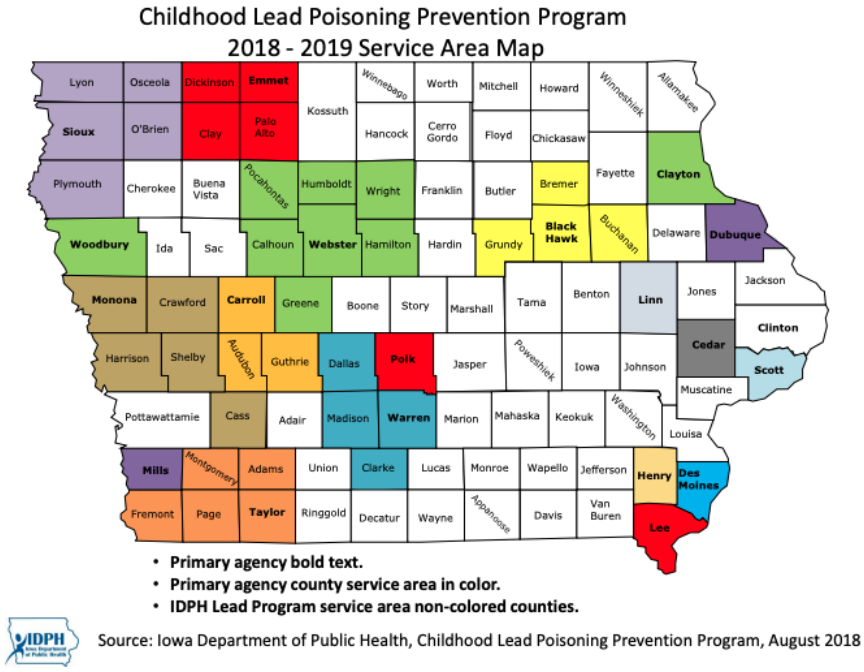
The results of this assessment include categorized recommendations that are intended to provide guidance to IDPH as they dedicate resources to the needs of stakeholders in the Childhood Lead Poisoning Prevention Program. Full recommendations can be found at the end of the report, but an overview of recommendations include the following:

- Create a comprehensive communication plan for the Iowa CLPPP
- Develop risk communication
- Provide training for the CLPPP contractors
- Implement methods to improve activities measured through evaluation
- Increase data sharing for providers
- Increase data communication
- Implement methods of measuring improvement
- Provide the same level of intervention for all Iowa children
- Advocate for mandatory property owner lead hazard repair
- Update resources and provide more ease of access
- Complete a quality improvement evaluation of CLPPP in one year
- Host an annual learning and sharing collaborative meeting, allowing interested persons a networking opportunity in Des Moines

Project Overview

The Iowa Childhood Lead Poisoning Prevention Program targets all Iowa children under the age of six years old. The program is administered through the Iowa Department of Public Health, residing in the Bureau of Environmental Health Services.

The CLPPP is administered through Iowa counties via two mechanisms. The map below indicates how the program is delivered. Counties depicted in white are counties that receive support directly from the IDPH. The counties in color indicate a contracted CLPPP (contracts are held by the county board of health who work with a variety of entities including public health housing and community organizations).



The CLPPP is organized by several clusters mostly configured by the geographic areas that are covered by the aforementioned contractors who provide the following components of the program.

- Identification and case management for children with elevated blood lead levels
- Identification and control of lead-based paint and other lead hazards
- Surveillance of elevated blood lead levels in children to monitor progress
- Education and outreach regarding childhood lead poisoning in communities and promotion of community involvement

The total budget for the Iowa CLPPP in 2018 – 2019 is $1,105,546. Federal dollars received from the Center for Disease Control and Prevention (CDC) account for approximately 54% ($600,750) of program funds. CDC funds are only allowed to be used for surveillance, outreach,

education, and training activities conducted by the Iowa CLPPP. No CDC funds can be distributed to contracted CLPPPs for intervention services for lead poisoned children.

State appropriated funds account for approximately 46% ($504,796) of the programs budget, of which $242,062 were distributed in grant funds to local CLPPP contractors for providing support and intervention services to lead poisoned children. CLPPP contract awards for fiscal year 2019 range in size from $4,800 to $42,000 annually. Remaining appropriated funds support IDPH staff and resources ($220,100), State Hygienic Laboratory ($24,617), and electronic lab reporting ($18,017).

Methodology

IIPHRP conducted a mixed methods assessment of the Iowa CLPPP from November 2018 to February 2019. This assessment engaged multiple stakeholders, from multiple sectors, through on-line surveys and phone interviews. The assessment was aimed at finding new approaches and key programmatic strengths and challenges by collecting information from those engaged such as contractors, collaborators, medical providers, IDPH program coordinators and direct service providers. The stakeholders, surveys and phone interview process are described below.

Stakeholders

Broad stakeholder identification was completed through a series of conversations between the IIPHRP assessment team and the IDPH Lead Program team. Through these conversations, key stakeholder groups were identified. These stakeholders included IDPH, CLPPP contractors, medical providers, nurses, local public health, and parents. During joint meetings between IIPHRP and IDPH, CLPPP contractors, local public health, IDPH staff, and medical providers were determined to be the focus of stakeholder involvement during this phase of the assessment. The team at IDPH provided a list of CLPPP Contractors to the IIPHRP.

The IIPHRP identified additional key medical providers who provide general pediatric medical care in Polk, Dallas, Linn, Benton and Johnson Counties who participated in this assessment.

Survey

CLPPP Preliminary Survey

An online survey was developed to assess opportunities for improvement in the Childhood Lead Poisoning Prevention Program. The survey was distributed to all CLPPP contractors and IDPH program coordinators to provide needed insight into the challenges and strengths of the childhood lead poisoning prevention program in Iowa. The survey consisted of thirteen quantitative and qualitative questions generated by the IIPHRP assessment team. Questions were brainstormed, in conjunction with IDPH, reviewed for clarity, revised, and reviewed by IDPH before distribution. This process ensured the questions were understandable and would provide useful information. Outreach to complete the survey was done via email from the IIPHRP. The online survey was sent to the CLPPP Contractor contact list provided by IDPH. This preliminary survey took approximately 10 minutes for respondents to complete. Responses to this survey were confidential and were reviewed to identify general themes.

Table 2: Questions administered in the CLPPP Preliminary Survey

Question	Question Type	Choices
Which counties do you provide childhood lead service? (select all that apply)	Multiple choice	All 99 counties in Iowa
What is your job title or role with regard to the childhood lead program?	Text entry	N/A
Other than increased funding, what are the top three creative changes you believe could improve this program?	Text entry	N/A
While each community and lead program is unique in some ways, they may also share some common challenges. Of the following ideas, which could best assist IDPH to help CLPPP contractors connect with each other to easily allow sharing of solutions and new ideas for improving program outcomes? Periodic conference call, webinars, web-based collaboration portal, blog posts, quarterly new letter, other (please specify)	Likert Scale	Extremely interested Very interested Slightly interested Not interested at all
Are there other lead exposures you would like to learn more about? (i.e. occupational exposure; soil and drinking water contamination; herbal remedies)	Text entry	N/A
Collaboration and coordination of services with other entities in the community is important for this program to succeed. We would like to hear how this aspect of the program is going for you. Below, please share at least one success you have had in terms of collaborating and one challenge in collaborating.	Text entry	N/A
We know the funding to eliminate or repair lead hazards in homes is limited. What are the challenges you face regarding this?	Text entry	N/A
When providing other optional funding sources to home owners for eliminating or repairing lead hazards, many require an application process. How difficult do you perceive the application process for these funds to be?	Likert Scale	Extremely easy Moderately easy Slightly easy Slightly difficult Moderately difficult Extremely difficult

Question	Question Type	Choices
When considering data you use regularly, which of the following sources do you use	Multiple choice	CDC, Iowa Public Health Tracking Portal, Healthy Homes Lead Poisoning Surveillance System, Other
How do you use this data? (select all that apply)	Multiple choice	Health improvement plans, grant writing, public education and outreach, case management, other
What additional data other than what is found in the Iowa Tracking Portal would you or your community partners find helpful?	Text entry	N/A
Please share any other ideas you have for program improvement that were not addressed above.	Text entry	N/A
If you would be willing to be contacted in the future to provide more information via interviews and focus groups, please provide your email address below	Text entry	N/A

CLPPP Follow-Up Survey

As a result of the preliminary survey, additional questions arose. An online follow-up survey containing four questions was developed by the assessment team. The survey was reviewed, revised, and reviewed a final time before distribution. This ensured the survey was understandable and provided further insight into the program and needs of the contractors. This follow-up survey aimed to identify ways by which the contractors want to receive training and specific topics they desired training on. The online survey was sent to the CLPPP Contractor contact list provided by IDPH via email. This preliminary survey took approximately 2 minutes for respondents to complete. Responses to this survey were confidential and were reviewed to identify general themes.

Table 3. Questions administered in the CLPPP Follow-Up Survey

Question	Question Type	Choices
Please indicate your interest in receiving the following types of training on the HHLPPS data system: Web-based user-friendly manual that has periodic updates, Instructional training videos, webinar	Likert scale	Extremely interested Very interested Moderately interested Slightly interested Not interested at all

Question	Question Type	Choices
If there are any additional types of training you are interested in that are not mentioned above, please provide those in the box below.	Text entry	N/A
Please indicate your interest in receiving further education on the following topics Water contamination, soil contamination, occupational exposure, herbal remedies, spices, unregulated products, other	Likert scale	Extremely interested Very interested Moderately interested Slightly interested Not interested at all
Check all types of materials you find most helpful to use in community outreach.	Multiple choice	Web-based content Flyer Brochure Videos Power point Other

Individual Phone Interviews

As part of the needs assessment process, the Iowa Institute of Public Health Research and Policy (IIPHRP) conducted telephone interviews with four medical providers representing different practice settings. Respondents were from University of Iowa Hospitals and Clinics (UIHC), UnityPoint Health in Des Moines, Eastern Iowa Health Center (a Federally Qualified Health Center [FQHC]), and UIHC Iowa River Landing. These calls took place between January 29th and February 5th, 2019. Providers were asked about their use of lead poisoning screening and testing guidelines, the challenges they face in following these guidelines, whether they and colleagues were aware of resources related to this topic, and whether they were interested in any additional training. These interviews were used to identify themes present in the perspectives of the provider community in Iowa.

Results

CLPPP Preliminary Survey

The CLPPP Preliminary Survey was sent to 95 recipients of which 45 total surveys were returned, with a 47.4% response rate. This survey provided detailed feedback from multiple positions who are doing the groundwork of this project. The roles in regard to the CLPPP captured in this survey were nurses, program coordinators, case managers, Elevated Blood Lead (EBL) inspectors, administrators, educators, outreach coordinators, directors, and environmental specialists. Due to the largely qualitative nature of the preliminary survey, the responses were assessed, and themes were identified by the assessment team. Below you will find themes for each qualitative question administered in the survey.

[On the subject of data base function*] "it would be great to have an "IRIS" type function to see if a child has had a test and what the last testing date was…and maybe high risk or low risk status at the time of testing...basically would be nice to know if another test "needs" to be done such as the child was high and never had any testing after" – Case Manager*

Q3. Other than increased funding, what are the top three creative changes you believe could improve this program?

This question yielded a large number of responses, with several emergent themes. One prevalent theme concerned current data collection and management systems, especially the Healthy Homes and Lead Poisoning Surveillance System (HHLPSS). Respondents indicated interest in additional training on using this system, and also offered suggestions for improving it, such as making it more efficient and available to other stakeholders.

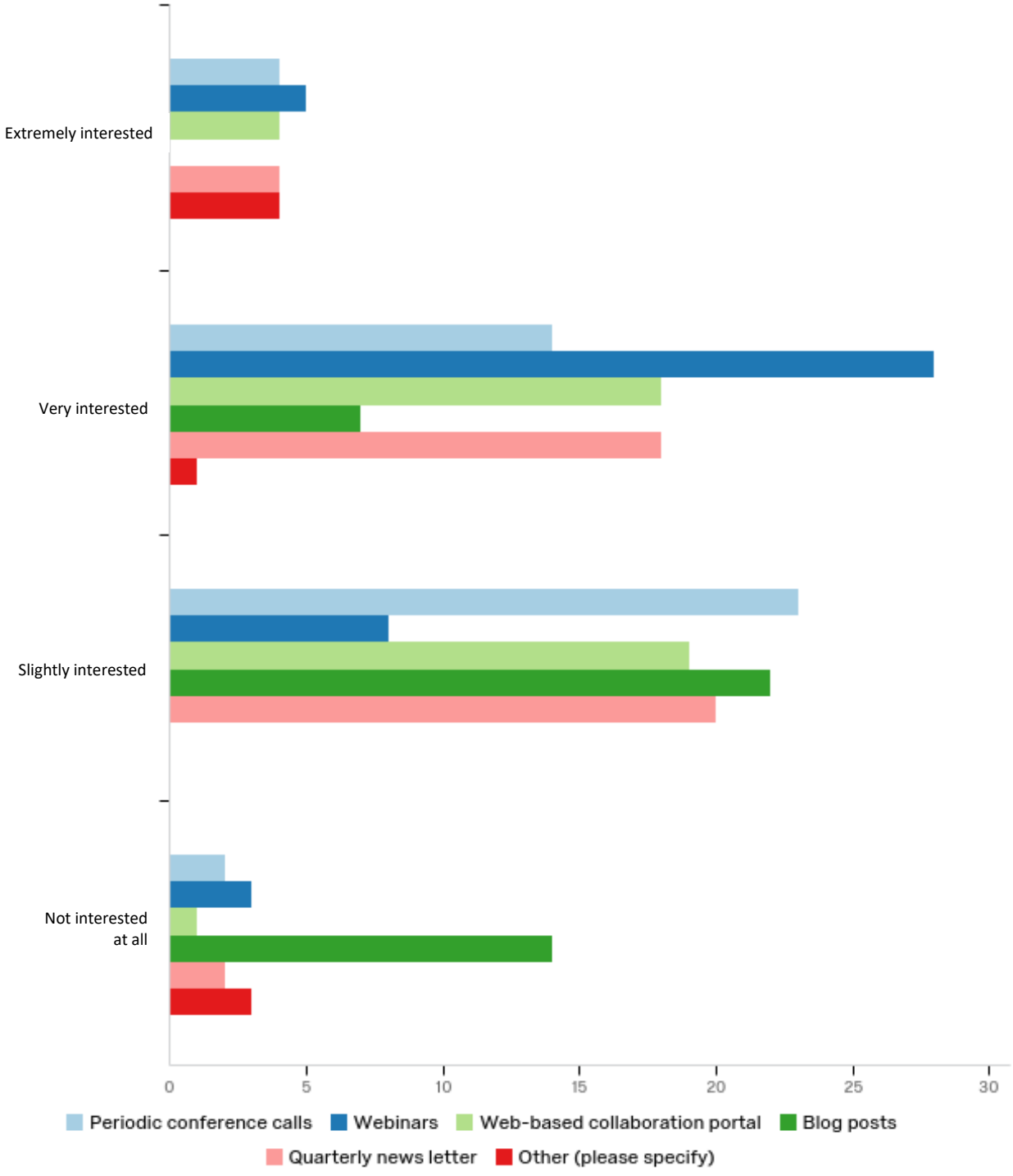
A second theme relates to collaboration and communication among contractors and with IDPH. Respondents indicated strong preference in suggesting that IDPH communicate more directly with providers, and also, facilitate a more unified, consistent message across the state. Collaboration and pooling of resources among the contractors was also supported and is something that IDPH is in position to facilitate.

A third broad theme evident in the survey responses is the need for continued and/or increased outreach and education of all parties, including parents, providers, local agencies, contractors, and communities in general. This should be in the form of updated materials, more training, more funding, and better statewide communication.

"I really think education to the providers that will be doing the testing is needed and I feel like support from the more authoritative entity IDPH helps to get the message across on the importance of testing early and often" – Case Manager

Q4. While each community and lead program is unique in some ways, they may also share some common challenges. Of the following ideas, which could best assist IDPH to help CLPPP contractors connect with each other to easily allow sharing of solutions and new ideas for improving program outcomes?

N=43 for periodic conference calls; N=44 for webinars; N=42 for web-based collaboration portal; N=43 for blog posts; N=44 for quarterly newsletters; N=8 for other. Respondents were asked to rate interest in the listed collaboration options.



Q5. Are there other lead exposures you would like to learn more about?

Over three-fourths of respondents indicated that they were interested in additional education regarding lead exposures. Among those that were interested, the most commonly mentioned were herbal remedies and water contamination. There was also interest in soil and occupational exposures, as well as exposure from food and/or other products from outside the US.

"A challenge is that it is difficult to discern which providers are routinely testing for lead at one year, and even more difficult to get time with them to encourage the newer recommendations for yearly testing. Physicians are just not even aware that children should be tested yearly." – Public Health Nurse

Q6. Collaboration and coordination of services with other entities in the community is important for this program to succeed. We would like to hear how this aspect of the program is going for you. Below, please share at least one success you have had in terms of collaborating and one challenge in collaborating.

This question yielded a wide array of responses, with a number of contrasting scenarios presented. For example, some listed collaboration and cooperation with providers as a particular challenge, while others listed this as a success for them. The same was noted in regard to working with WIC clinics. These results support the findings above regarding the potential benefit of contractors collaborating and sharing ideas and resources. Among the other collaborators noted were Head Start, local public health agencies, and Healthy Homes coalitions. Landlord inaction was mentioned as a challenge by multiple respondents.

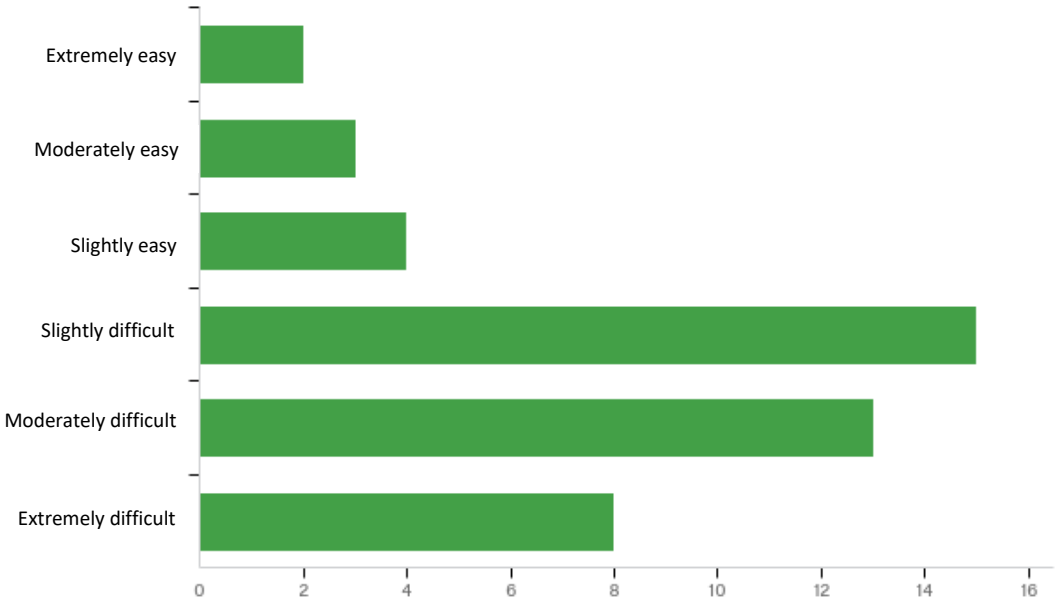
"One success is that we met with most local providers in August and several were very receptive to information and willing to work on increasing testing/screening efforts. Some even requested more info and resources." – Case Manager

Q7. We know the funding to eliminate or repair lead hazards in homes is limited. What are the challenges you face regarding this?

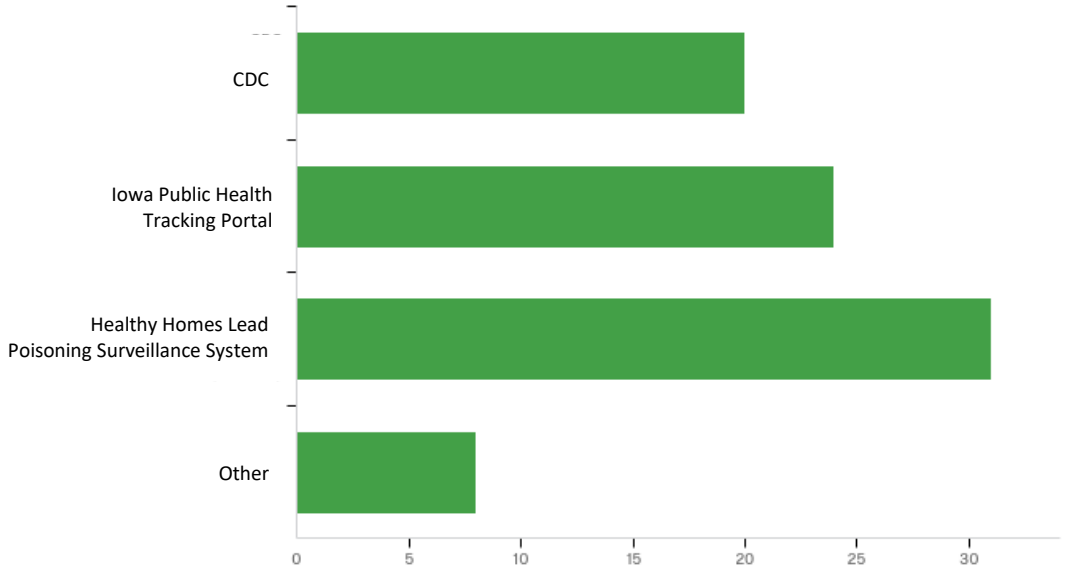
Some respondents indicated that they have little or no experience with lead abatement and offered no further comment. Many others confirmed that funding for this is difficult to obtain if it even exists at all. A few mentioned local resources that were available, and others mentioned HUD as a resource though their paperwork was difficult to navigate for homeowners. There were also a number of comments regarding the frustration that homeowners feel when a problem is identified, yet there is little or no financial help for them to resolve it.

"To be more precise, the funding to eliminate or repair lead hazards is non-existent. The two challenges that I find with lower income families: 1) Sometimes the motivation to repair the lead hazards is just not there - they just don't want to expend the time or effort to eliminate the hazards 2) Property owners are not motivated to spend the time or money on repairs - sometimes they state that if they do all the remediations they will have to raise the rent to cover the cost" – Public Health Nurse

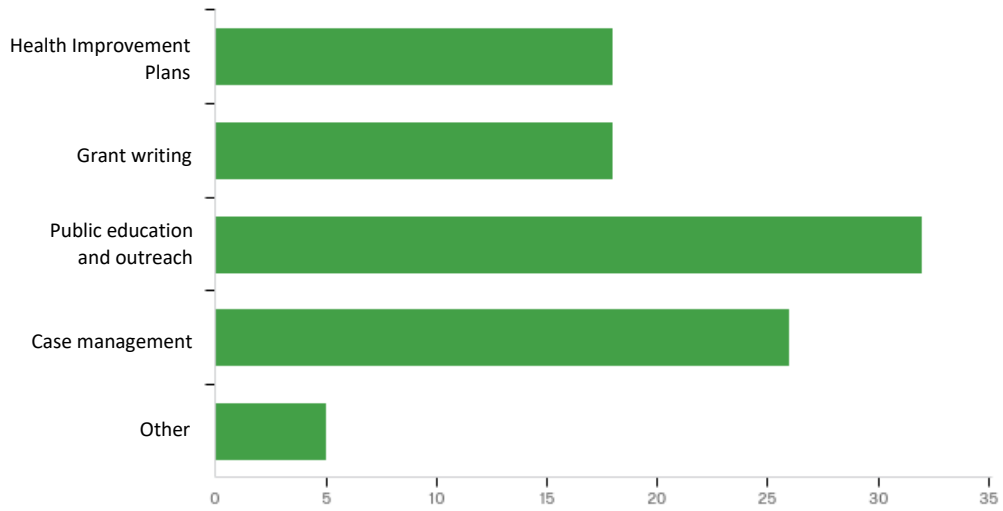
Q8. When providing other optional funding sources to home owners for eliminating or repairing lead hazards, many require an application process.
How difficult do you perceive the application process for these funds to be?
N=45, respondents were asked to select one option.



Q9. When considering data you use regularly, which of the following sources do you use?
N=83, respondents were asked to select all that apply.



Q10. How do you use this data?
N=99, respondents were asked to select all that apply.



Q11. What additional data, other than what is found in the Iowa Tracking Portal, would you or your community partners find helpful?

Many respondents answered "none" or "nothing" for this question. However, those that responded mentioned a number of data elements that they would find helpful including the following, lead poisoning in children in rental homes vs. owned; number tested by age range; testing rates by provider office; what proportion of those tested are on Medicaid; return on investment data; maps of historical homes; reports on open properties; and percent of pre-1978 housing by county. Others mentioned informational or material needs, e.g., long-term effects of lead poisoning, food borne illness, educational literature in languages other than English, and digital forms.

Q12. Please share any other ideas you have for program improvement that were not addressed above.

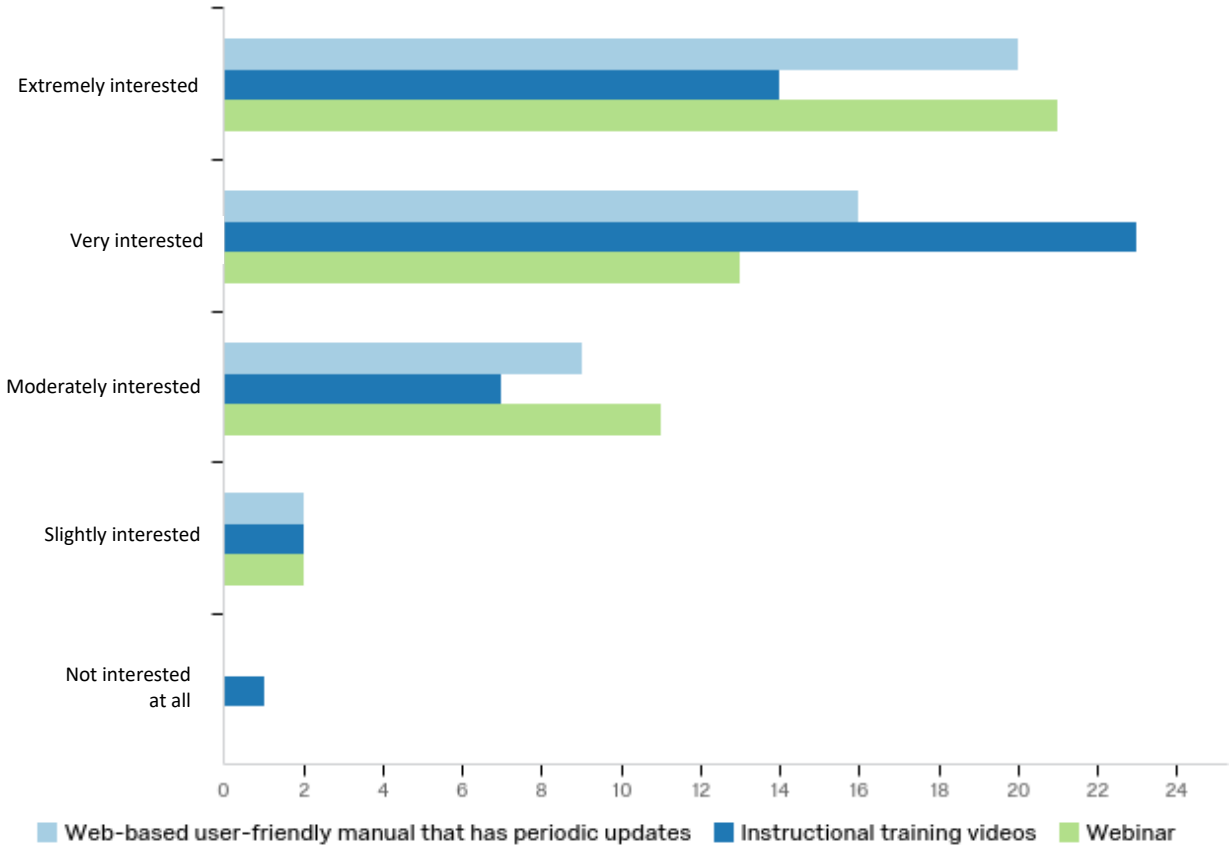
The predominant theme from this answer was regarding data as a number of comments related to data in some way, for example creating the ability to tag properties; case management reporting within HHLPPS; how to share data in HHLPSS with partners; data tracking at the county level; access to lead results statewide for medical offices, schools, and WIC programs; access to the child's chart in HHLPSS after they have moved; data sharing with federal housing programs; data on long-term costs for a child that goes undetected for lead poisoning; improved access to the tracking portal statewide. In addition, more resources including funding, training and better communication from IDPH (e.g., newsletter) were mentioned.

Follow-Up CLPPP Survey

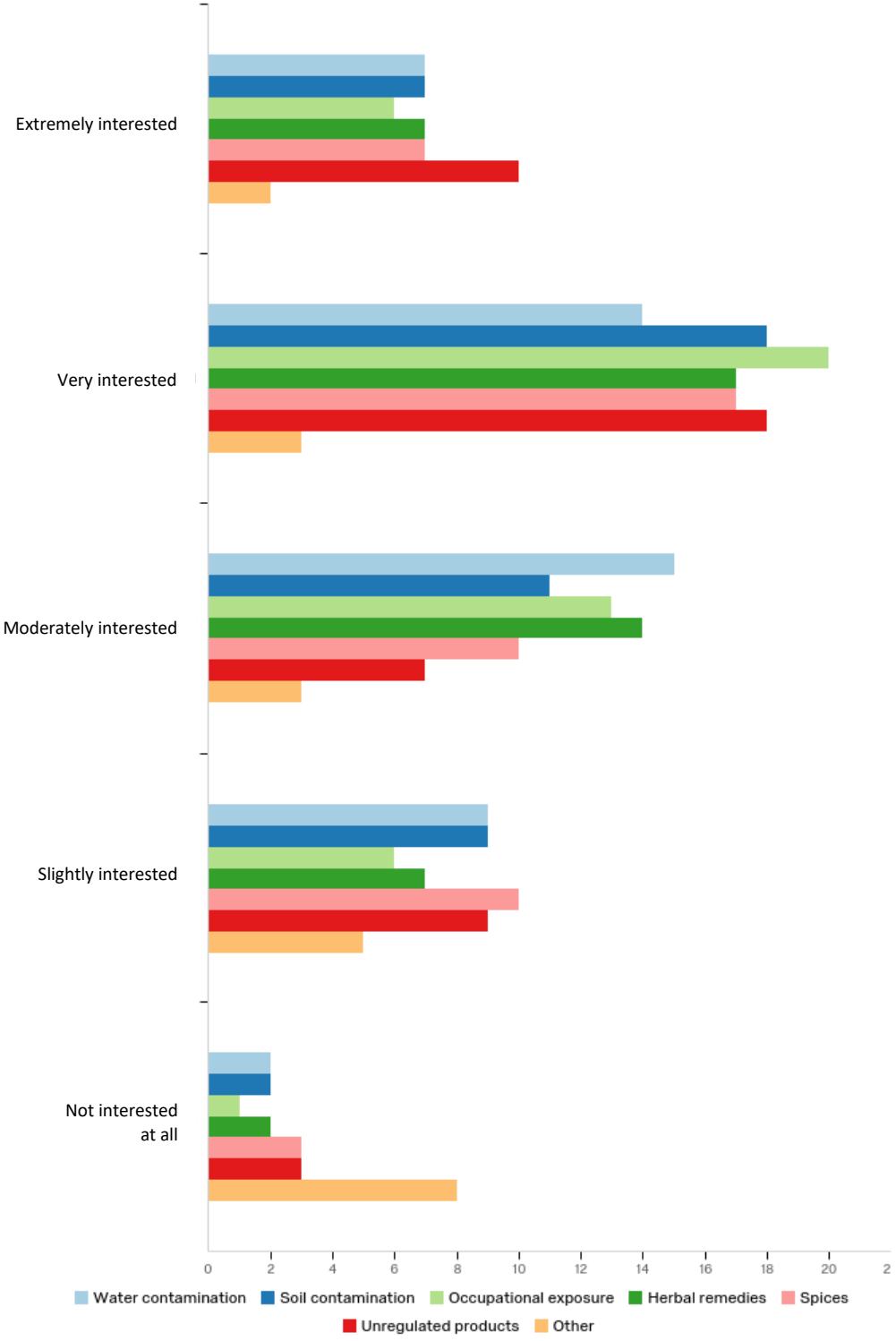
The follow-up CLPPP survey provided insight into the form of training and training topics that the CLPPP would like to see. This survey was sent to 95 recipients of which 48 total surveys were returned, with a 50.5% response rate.

These results show that the contractors have a strong interest in instructional training videos on the HHLPPS data system.

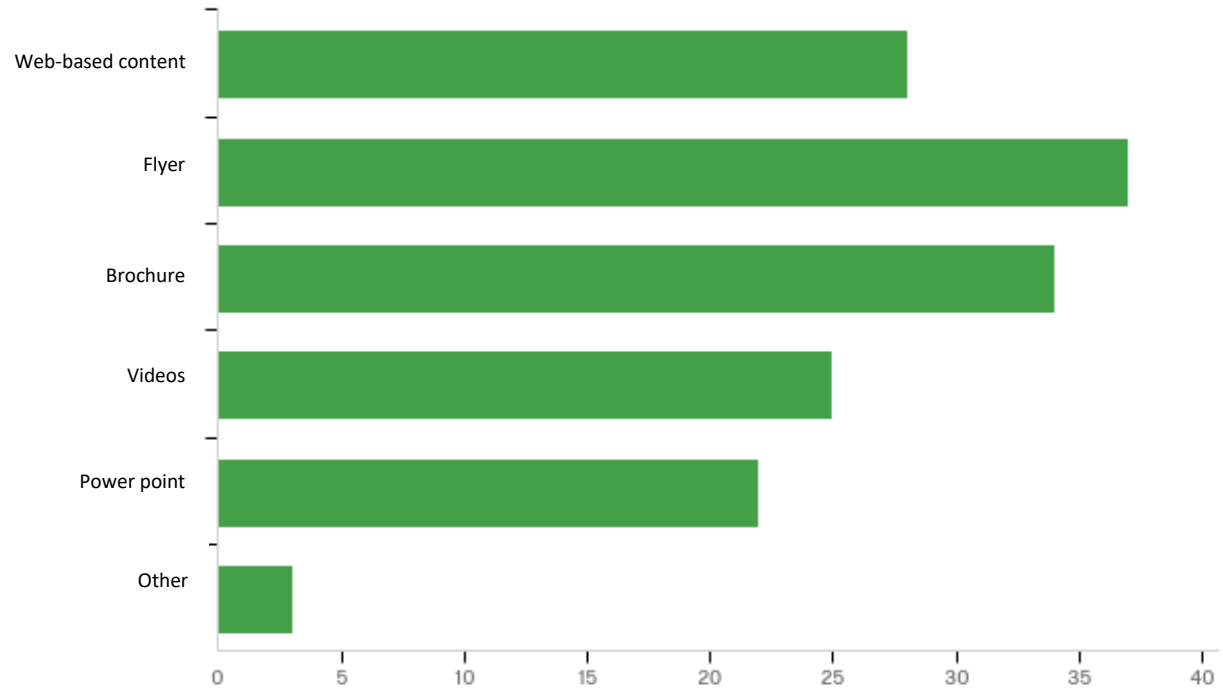
N=47 for web-based user-friendly manual that has periodic updates; N=47 for instructional training videos; N=47 for webinars. Respondents were asked to select interest receiving those types of training on the HHLPPS data system.



The education area on other exposure routes of highest interest are water contamination, soil contamination, and spices. All topics were shown to have interest for further research.
N=47 for water contamination; N=47 for soil contamination; N=46 for occupational exposure; N=47 for herbal remedies; N=47 for spices; N=47 for unregulated products; and N=21 for other. Respondents were asked to indicate interest in further education on each topic.



The education tools that are found to be most helpful in outreach are flyers, brochures, and web-based content. N=149, respondents were asked to select all that apply.



Individual Phone Interviews with Physicians

All physician respondents (N=4) indicated that they and their colleagues utilized some type of screening tool to decide whether to test a child, but they were not always certain of the tool's origin, describing them as Early and Periodic Screening, Diagnostic and Treatment (EPSDT), Bright Futures, American Academy of Pediatrics (AAP), or IDPH guidelines. All providers indicated they used the AAP/Bright Futures guidelines for testing.

When asked about the challenges in using the testing guidelines, responses were somewhat mixed. Two providers mentioned that in their setting, there is a perception that the risks of lead poisoning were rather low because of newer housing, so they and colleagues were skeptical of the value of testing. Some also mentioned that WIC does lead testing for children in their community, but providers do not have access to those results. Providers (physicians, nurses, care coordinators) are forced to rely on parent report to receive that information. One physician indicated that WIC was very good about referring patients with high levels to them. In one setting (a FQHC), the physician noted that nearly all their patients were high risk, so testing was commonplace, and awareness of resources was high. Several medical providers mentioned that initial testing at 12 months of age was relatively common, but follow-up testing was less likely to occur due to parent/caregiver objections, providers not ordering the testing, or patients moving out of the area.

All providers interviewed indicated there was at least some awareness among colleagues in their practice of resources related to lead poisoning such as the IDPH website. There was also a sense that there is a patchwork of services across various counties that is not always easy for providers and/or parents to navigate. Most of the providers indicated interest in receiving periodic updates about lead poisoning and the resources available. They suggested that this could be in the form of presentations at their professional meetings such as the Iowa AAP meetings, or through other communication channels they already access, such as newsletters from EPSDT or local options like "grand rounds" talks or presentations from local leadership. All providers expressed interest in data regarding testing rates and results, especially in their own setting or community. Two suggested that perhaps lead testing data could be communicated through the Immunization Registry Information System (IRIS) or something similar to that. Overall, there is strong interest in having a reliable, accessible, and local evidence base to guide screening, testing, and follow-up.

> *"What is needed is STRONG and WELL-COORDINATED recommendations to all Iowa Providers for YEARLY lead testing for all children" – Public Health Nurse*

Recommendations

The IIPHRP developed recommendations based on results from the assessment. The major needs identified in the assessment were communication, building stronger collaborative relationships, using and sharing data and training. Listed and described below are recommendations to improve the Iowa Child Lead Poisoning Prevention Program compiled from this assessment.

Communication

- **Create a communication plan for the Iowa CLPPP.** This plan should incorporate routine communication using a variety of platforms and methods to assure a broad reach. Communications should follow a prescribed agenda with a similar look and feel so they are easily recognized and should include the following audiences:
    - Communication at regular intervals from IDPH with the **CLPPP contractors** through the use of regular e'blasts, newsletters, webinars, and regularly scheduled phone and in-person meetings. These tools can be used to relay information about the program, share success stories, brainstorm solutions to challenges and create a shared organizational network.
    - Communication at regular intervals with **physician practices** through the EPSDT newsletter or other existing newsletter, to relay important information about the program and resources.
    - Communication at regular intervals from IDPH with **Iowa Health Providers** through the use of regular e'blasts and webinars. These tools can be used to build a stronger relationship and relay information such as educational tools, reminders for testing and follow-up, resources, and data feedback.
    - Communication with **collaborators** through inclusion on newsletters, e'blasts and training opportunities.

    - Communication regarding the CDC reference level of 5 µg/dL blood lead level should be developed and disseminated across CLPPP contractors, providers and parents. This should help address confusion of the reference value.
- **Develop risk communication** by providing standardized language of messages (i.e. scripts) for providers and CLPPP contractors. This will ensure effective communication with standard language for communication with families.

Training

- **Provide training for the CLPPP contractors.** Trainings should include instructional training videos on the HHLPSS data system, the Iowa Data Tracking Portal, successful collaboration, and exposure routes. This training should include standardized materials for CLPPP contractors to utilize when talking to families (see risk communication).
- **Data communication** training and outreach to be able to use the data currently collected, inform what additional data should be collected and use the data to tell a comprehensive story about the impact of lead in their community and in Iowa.
- **Methods to improve activities measured through evaluation.**

Data

- **Data sharing for providers**. Determine a system for providers to have access to lead testing results.
    - This system should be a statewide system that all physicians have access to by utilizing something such as the states registry.
- **Methods of measuring improvement** utilizing performance measures.

Policy

- **Provide the same level of intervention to all Iowa children** regardless of county of residence. According to CDC, there is no safe level of lead in a child's blood. With this consideration, IDPH should establish processes that provide for service provision regardless of geographic location. Consistent statewide polices will eliminate confusion among medical providers and others who are addressing lead poisoning prevention efforts.
- **Mandatory property owner lead hazard response** to ensure a landlord's response to identification of lead provides a healthy home for renters.

Other

- **Update resources and provide more ease of access.** IDPH should assess current resources, including online sources, for relevance and current best practice. The following should be considered during this process:
    - Along with this assessment, IDPH should reorganize the website in a more user-friendly manner to allow for ease of access for all users. Users should be considered in this reorganization to effectively organize the web-site for ease of access to common resources. Users should include contractors, families, and providers.
    - Material should be standardized and updated with the most up to date information and resources regarding testing, follow-up, and risk reduction.

    - Information should be added to the website in plain language that is easy to read and understand utilizing infographics.
- **Complete a quality improvement evaluation of the CLPPP in 1 year.** This should cover all of the above points to evaluate progress made in the program for a one-year time frame.
- **Host an annual learning collaborative** where all those who are interested in the topic can share and learn together, building upon their network, celebrating successes and brainstorming solutions to challenges.

Timeframes for Change or Implementation

This table shows the recommended program improvements, where changes can be implemented, and the timeframe for anticipated changes. Many of the recommendations can be implemented at the program level within a period of 1 – 3 months. Other recommendations involve engaging internal or external partners, making legislative or policy changes. Implementation of these recommendations will occur over a longer period of time.

Recommendations and Timeframes for Change or Implementation	Short Term (1-3 months)	Medium Term (6-12 months)	Long Term (1-3 years)
Communication			
• Create a communication plan for the Iowa CLPPP	X		
• Develop risk communication		X	X
Training			
• Provide training for the CLPPP contractors		X	X
• Data communication	X	X	X
• Methods to improve activities measured through evaluation	X		X
Data			
• Data sharing for providers		X	X
• Methods of measuring improvement	X	X	X
Policy			
• Provide the same level of intervention to all Iowa children		X	X
• Mandatory Property Owner abatement response		X	X
Other			
• Update resources and provide more ease of access	X	X	X
• Complete a quality improvement evaluation of the CLPPP in 1 year		X	
• Host an annual learning collaborative	X	X	X

Conclusion

The recommendations above provide mechanisms to improve communication, provide training, begin data sharing, advocate for policy change, provide up to date materials, and have regular meetings and evaluations to understand the state of the program. Improvement in these areas of the Childhood Lead Poisoning Prevention Program are essential to improve the collaborative nature of the program. These improvements will assist the program in being more efficient, and likely more successful in addressing lead poisoning prevention across the state. Iowa contractors, providers, case managers, families and the youngest of Iowa's children depend on the IDPH to set and monitor guidelines to prevent lead poisoning. Everyone benefits from a strong, adequately resourced program.