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Executive Office of Health and Human Services
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October 29th, 2024


Steven T. James
House Clerk
State House Room 145
Boston, MA 02133

Michael D. Hurley
Senate Clerk
State House Room 335
Boston, MA 02133

Dear Mr. James,

Pursuant to Section 9 of Chapter 41 of the Acts of 2019, please find enclosed an annual report from the Department of Public Health on the Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP).

Sincerely,


Robert Goldstein, MD, PhD
Commissioner
Department of Public Health

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KIMBERLEY DRISCOLL
LIEUTENANT GOVERNOR



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SECRETARY

ROBERT GOLDSTEIN, MD, PhD
COMMISSIONER

Revenues and Expenditures from the Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP) Trust Fund

January 2024

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I. Legislative Mandate

The following report is hereby issued pursuant to Section 9 of Chapter 41 of the Acts of 2019 as follows:

Not later than October 1, the commissioner shall provide an annual report to the joint committee on public health and the senate and house committees on ways and means providing a description and accounting of the revenue credited to the fund and expenditures made from the fund.

II. Executive Summary

The Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP) within the Department of Public Health (DPH) was established to implement the Massachusetts Lead Law (MGL c. 111, §§ 189A-199B, “Lead Law”). The Lead Law is one of the most comprehensive statutes in the country to ensure the prevention, screening, diagnosis, and treatment of lead poisoning. Under this law, CLPPP is required to provide services to children who are identified with lead poisoning through clinical case management services and environmental code enforcement where that child resides, including mandatory lead inspections, lead abatement activities, and court enforcement, if necessary.

CLPPP activities are funded through a combination of federal grants, state budget appropriations, and surcharges deposited into the Childhood Lead Poisoning Prevention Trust Fund account (“Lead Trust”). To comply with Lead Law mandates and to ensure that lead poisoned children receive timely services to reduce their blood lead levels, CLPPP requires approximately \$7 million annually. In FY23, CLPPP received an estimated \$1.2 million in federal grants, \$2.7 million in state budget appropriations into the Lead Trust, and \$3.1 million in surcharge revenue deposited into the Lead Trust. In addition to the \$1.2 million CLPPP expended from the federal grant, an amount of \$4,951,000 was expended from the Lead Trust to support CLPPP’s work, including lead inspections and code enforcement for lead-poisoned children, deployment of an enhanced online portal with resources for the public, and a database for blood lead screening, environmental data, and case management. At fully staffed capacity, CLPPP will require approximately \$5.8 million annually from the Lead Trust.

Childhood Lead Poisoning Prevention Program Highlights

- Massachusetts is one of the few states to require homes to be free from lead hazards regardless of ownership or a child’s blood lead level. To support property owners to meet this requirement, CLPPP trains, licenses, and monitors private sector lead inspectors, who conduct an average of 8,000 inspections annually.
- Massachusetts has the highest percentage of children who are screened for lead in their blood in the country and was one of the first states to publish lead screening data reports and to use its data to evaluate community-specific needs. DPH identifies communities with a higher risk of lead poisoning to better target resources to vulnerable children and to reduce health disparities and racial inequities associated with lead exposure.

From 2017-2020, the number of seriously poisoned children (25 µg/dL or greater)¹ in Massachusetts dropped by 26% when CLPPP changed its regulations in 2017 to allow for state interventions and services at lower blood lead levels. This rapid decrease demonstrates the effectiveness of CLPPP’s efforts to identify lead-exposed children and to intervene more quickly to protect children from continued risk. At 70%, lead screening rates continued to improve in 2022, almost back to the 2019 pre-pandemic level of 72% and up from 68% in 2021 and 62% in 2020.

III. Introduction

The Massachusetts Lead Law (MGL c. 111, §§ 189A-199B) established universal screening (blood lead tests) for childhood lead poisoning and requires landlords and homeowners to eliminate sources of lead in dwellings where children under the age of six years reside, regardless of a child’s blood lead level or whether a property is rented or is owner-occupied. The statute also created the Childhood Lead Poisoning Prevention Program within DPH to implement its directives. CLPPP is a statewide program for the prevention, screening, diagnosis, and treatment of lead poisoning, and is charged with the elimination of sources of such poisoning through research, educational, epidemiologic, enforcement, and clinical activities.

Childhood lead exposure is a serious public health issue with significant health implications. Exposing a child to even small amounts of lead can cause severe and irreversible damage to mental and physical development.² Numerous studies have documented correlations between childhood lead poisoning and future school performance, unemployment, crime, violence, and incarceration.³ Despite substantial gains made over 45 years of public health and healthcare interventions, lead exposure remains a significant health risk for children in Massachusetts.

When children are identified with lead poisoning in Massachusetts, the source of the exposure is most often the ingestion of dust or soil that is contaminated by loose or deteriorated lead paint, frequently on windows and exteriors, or disturbed by unsafe home renovation work.⁴ For this reason, age of housing stock is important when considering the risk of childhood lead poisoning. Massachusetts has some of the country’s oldest housing stock, with approximately 67% of housing stock built before 1978.⁵ Historically, lead paint accounted for approximately 95% of all lead poisoning cases in Massachusetts. In more recent years exposure from alternative sources such as spices and herbal remedies has increased..

¹ The amount of lead found in a blood sample is measured in micrograms of lead per deciliter of blood (µg/dL).

² See Lanphear, BP, “The Conquest of Lead Poisoning: A Pyrrhic Victory,” *Environmental Health Perspectives*, Oct 2007, A484–A485.

³ See, e.g., Brown, MJ. “Costs and Benefits of Enforcing Housing Policies to Prevent Childhood Lead Poisoning.” *Medical Decision Making*, 2002, 22:482-492; Gould, E. “Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.” *Environmental Health Perspectives*, 117(7):1162-1167; Reyes, Jessica, “Environmental Policy as Social Policy? The Impact of Childhood Lead Exposure on Crime.” National Bureau of Economic Research, May 2007. Available at <http://www.nber.org/papers/w13097>.

⁴ In 2017, 88% of childhood lead poisoning cases were caused by exposure to lead paint. Alternative sources such as spices or herbal remedies accounted for 9% of cases.

⁵ U.S. Census Bureau. (2018). *Year structure built (Table B25034), 2013-2017 American Community Survey 5-year estimates*. Available from: data.census.gov.

While lead continues to affect children in all communities across the state, lead exposure disproportionately impacts gateway and lower income communities, making lead exposure a critical health equity issue. In Massachusetts, children living in low-income communities are 3.6 times more likely to have elevated blood lead levels than children living in high-income communities; multi-race children are 3.6 times more likely than white children to have dangerous levels of lead in their blood; and black children are nearly 1.6 times more likely to have lead poisoning than white children.

IV. CLPPP Funding Structure

Historically, CLPPP’s programmatic activities have been primarily funded from the Lead Trust and two Federal grants. The Lead Trust receives surcharges from the licensure or certification of certain professionals including mortgage lenders, insurance brokers, real estate agents, and private lead inspectors. The surcharge amounts were established in 1993 and have not been increased since.

In December 2017, DPH amended its regulation under the Lead Law to lower the legal definition of lead poisoning from 25 µg/dL to 10 µg/dL.^{6,7} Defining lead poisoning at levels of 10 µg/dL broadened protections for children and increased the number of lead-safe homes; it also led to a resource shortage for CLPPP. Consequently, the number of cases of children identified with dangerous levels of lead dramatically increased and created a backlog of CLPPP case management services for families, including inspections of homes to identify lead hazards. To address this risk area and ensure that CLPPP can adequately enforce the Lead Law and protect children from lead exposure, the legislature approved Governor Baker’s request of an additional \$2.7 million for the Lead Trust as an annual investment for CLPPP beginning in FY20.

V. FY23 Lead Trust Revenues and Expenditures

The breakdown of revenues and expenditures for the Lead Trust are summarized below.

TABLE A – Surcharge Revenues:

The table below shows surcharge revenues collected by CLPPP by payee type for FY23.

FY 23	Surcharge Amount	# of Payees	Amount Collected
Banks/Mortgage Lenders	\$100	1,078	\$107,800
Insurance Brokers	\$25	83,541	\$2,088,525
Real Estate Agents	\$25	34,819	\$870,475

⁶ The amended regulations also created a Blood Lead Level of Concern of a venous blood lead level from 5-9 µg/dL. Consistent with CDC best practices for children at this BLL, CLPPP developed a service delivery plan to extend voluntary lead exposure prevention and inspection services to families with children identified with BLLs of 5-9µg/dL and enhanced outreach to health professionals on the importance of lead screening and management of BLLs 5-9µg/dL.

⁷ The definition of lead poisoning is a legal definition which triggers mandatory activities by CLPPP that include code enforcement investigation and correction of identified lead violations.

Lead Abatement Contractors	\$25	1,020	\$25,500
Lead Inspectors	\$25	78	\$1,950
		TOTAL	\$3,094,250

TABLE B – Total Revenues:

The table below shows the total revenues deposited into the Lead Trust for FY 23:

FY 23	Amount Collected
Surcharge Revenue	\$3,094,250
Budget Investment	\$2,700,000
TOTAL	\$5,794,250

TABLE C – Expenditures from the Lead Trust:

The following provides a breakdown of CLPPP’s FY23 expenditures from the Lead Trust and projected expenses for FY24. The expenditures for FY23 more accurately reflect spending levels necessary for full staffing and operation of CLPPP, as described in the footnotes below.

Expense	FY23	FY24 (Projected)
Salaries	\$1,980,237	\$2,322,406
Fringe and Indirect	\$1,004,603	\$1,270,064
Database management, equipment, and maintenance	\$270,260	\$280,000 ¹
Workplace Modernization Project	\$151,911	\$290,000 ²
Legal	\$143,504	\$175,000 ³
Travel, office supplies, IT equipment, testing equipment, and space and utilities	\$1,400,130	\$1,470,800
TOTAL	\$4,950,645	\$5,808,270

¹ CLPPP anticipates additional costs for program enhancements such as database management, equipment upgrades and replacements in FY24.

² The workplace modernization project for digitizing paper records has been progressing in phases and expected to be completed in FY24.

³ CLPPP anticipates increased support for Special Assistants to the Attorney General to help address complaint investigations and agency administrative/ licensing actions.

VI. Programmatic Updates

Continued support of the Lead Trust is critical to fund initiatives to identify lead-exposed children and investigate their homes, and to implement wide-scale prevention efforts among those most at risk for potential lifelong ill-effects of lead poisoning. CLPPP's challenges and responses, supported by the legislative investment in the Lead Trust, are described below.

Staffing:

In FY23, CLPPP, like other areas of public health, experienced higher than normal rates of staff turnover, and retirements including the loss of experienced code enforcement lead inspectors. These positions require significant training as well as a lengthy apprenticeship before staff can manage their own poisoned child caseload. To address these vacancies and increased training and oversight demands, CLPPP promoted staff to Acting Deputy and Acting Director positions, including promotion of an experienced staff person to assist with data extraction and management from the updated CLPPP application. CLPPP leadership continued focus on hiring and training new field inspectors as well as bolstering local capacity with health departments. CLPPP continues to prepare for the anticipated retirements of several code enforcement inspectors in the coming years.

Surveillance - Screening and Prevalence Rates:

The prevalence of lead poisoning, a venous blood lead level (BLL) ≥ 10 $\mu\text{g}/\text{dL}$, remained the same in calendar year 2022 as in 2021, at 2.8% per 1,000 children with 449 children between 9 months to less than 4 years of age identified as lead poisoned; the prevalence of children estimated to have a BLL ≥ 5 $\mu\text{g}/\text{dL}$ increased slightly from 13.1 per 1,000 children in 2021 to 13.4 per 1,000 children in 2022 with a total of 1,780 children. Increases in the prevalence of lead poisoning observed since the pandemic have been disproportionately seen among high-risk communities identified in 2022, which make up 57% of cases in 2022. At 70%, lead screening rates continued to improve in 2022, almost back to the 2019 pre-pandemic level of 72% and up from 68% in 2021 and 62% in 2020.

In 2020, CLPPP first published data comparing rural and urban geographies and observed the most substantial disparities among a subset of rural communities that are the least densely populated, most remote, and most isolated from urban core areas, defined by the DPH Office of Rural Health as rural level 2 communities. In 2022, the screening rate in these most rural areas of the state decreased slightly to 49% from 52% in 2021, substantially lower than the state's overall screening rate of 70%. The prevalence of blood lead levels ≥ 5 $\mu\text{g}/\text{dL}$ in these areas remained double that of the state as a whole, though there was a decrease to 26 per 1,000 children in 2022 down from 32 per 1,000 children in 2021 and 2020.

To address increased lead poisoning rates and reduced screening, CLPPP has continued to conduct outreach in communities and with providers about the importance of screening and re-screening children through its primary prevention program. Using this data, in FY 23 CLPPP engaged with the Montachusett Public Health Network Area (MPHN)- Fitchburg, Leominster, Gardner, Athol, Clinton, Hubbardston, Phillipston, Princeton, Royalston, Sterling, Templeton, Westminster and Winchendon, which provides shared health services to communities in the North-Central rural cluster. Through this partnership, CLPPP launched a pilot project in early FY 24 that included expanded outreach with medical providers, code enforcement training with local health departments, as well as home visiting services for families with blood lead levels between 3.5-9.9 $\mu\text{g}/\text{dL}$.

Case Management and Primary Prevention:

Under CLPPP regulations, a blood lead level of concern is defined as a venous blood lead level from 5 to <10 µg/dL. In October 2021, the CDC lowered the blood lead reference value from 5 µg/dL to 3.5 µg/dL. In response, CLPPP conducted preliminary analysis to understand the potential impact of lowering this definition to align with CDC's updated reference value. Massachusetts saw a total of 3,122 children aged 9-47 months with blood lead level test results between 3.5 and 4.9 µg/dL, but more than half were capillary test results which are unreliable at this low range. While capillary testing is a useful screening tool, venous follow-up testing for blood lead levels ≥ 3.5 µg/dL (or venous initial screening) is critical to identify lead-exposed children and provide them with adequate resources. CLPPP intends to amend its regulation in 2024 to address federal changes, including adopting CDC's new reference value of 3.5 µg/dL and confirmatory venous re-screening. CLPPP has, in the meantime, updated guidance documents for health care providers and continues to conduct outreach and education about the proposed changes.

In addition to statewide and town-level descriptive statistics on screening and blood lead level prevalence rates, surveillance activities are also designed to increase identification of at-risk and under-served populations. Each year CLPPP publishes an [annual report](#), which includes a list of the highest risk communities. The high-risk community algorithm incorporates the incidence rate of cases with a confirmed blood lead level ≥ 10 µg/dL, the percentage of families living below 200% of the federal poverty level, and the percentage of housing built before 1978 to identify high-risk geographies for targeting of resources and interventions for primary prevention.

CLPPP has long standing partnerships with seven contracted community-based organizations to provide home visiting services as well as community outreach. As part of our commitment to health equity, most of our seven contracted vendors are located in high-risk communities like Lawrence, New Bedford, Worcester, Boston, and Springfield, and their CHW's are frequently from the communities they serve. CLPPP staff are also bilingual, with capacity in seven languages, which allows them to speak with our families in their own languages, promotes more effective communication and helps build trust. For those languages not covered by staff we use a telephonic translation line. CLPPP CHWs play a more holistic role, focusing on the family as well as the lead-exposed child. Services include client identification and outreach, lead exposure assessment, individual assessments to identify client and family needs, and referrals for community-specific resources. The CHW is responsible for the referral, coordination, and confirmation of services from our partnering programs like WIC, Early Intervention, fuel assistance, rental assistance programs, financial assistance for lead abatement, and local health departments for other sanitary code violations. Community Health Workers regularly participate in outreach events and training like first time homebuyers classes and in-services with community health centers.

CLPPP publishes the [LeadSafeHomes](#) database, which includes inspection and deleading data for homes built before 1978 from both code enforcement and private inspections. The database was recently upgraded to include downloadable copies of inspection reports and compliance documents. In 2022, the databases had 757,380 hits. The upgraded database allows the public to learn about a home's lead history and enables users to make important decisions about buying, selling, or renting a home, with a goal of increasing preventative de-leading and encouraging lead-safe renovations. It is especially helpful for parents of young children, rental assistance programs, realtors, and rental property owners.

CLPPP has a dedicated hotline, 800-532-9571, for lead-related questions. In 2022, CLPPP staff answered 1,762 hotline calls, a 42% increase from 2021. To better communicate with families and educate the

public about lead poisoning prevention, CLPPP offers educational materials in 13 languages, has staff who can communicate in eight languages, in addition to English, and provides interpreter services as needed.

Purple-Top Test Tubes Contamination – Response:

In October 2022, CLPPP received reports from two separate pediatric healthcare providers of an unusual increase in high blood lead level results for childhood lead screening. CLPPP worked with the providers to have children re-screened. Some re-screening results came back significantly lower than the initial results indicating that the problematic analysis was predominantly from two of the larger analytical laboratories. On investigation, CLPPP determined that both labs did not use “trace-metal free” test tubes, and instead used “purple-top” test tubes, a practice that had become more prevalent due to supply chain issues. CDC guidelines recommend that purple-top and other test tubes only be used if the lots of test tubes are prescreened for metals. CLPPP alerted FDA, CDC, and other New England CLPPPs of the issue, sent out a HHAN alert in mid-October, and conducted an analysis of reported venous blood test results 10 µg/dL or greater. The HHAN alert reminded providers and laboratories that childhood lead screening must be conducted using tubes that have been manufactured specifically for trace element testing. CLPPP case management staff conducted intensive follow-up with providers and families to ensure that the pediatric offices re-screened identified children. Other New England CLPPPs credited MA CLPPP’s robust case management structure, which includes clinical care coordination staff who liaise with health care providers daily, for identifying the incorrect analysis quickly. Without CLPPP’s real-time communication with health care providers, the problem would likely have been missed until annual data analysis identified the anomaly.

Climate Change, Lead Paint, and the Tobin Bridge:

In late March, CLPPP was asked to participate in a meeting about the lead paint falling from the Tobin Bridge, a long-standing public health concern. During the meeting, MassDOT explained that the extreme weather caused by climate change and more frequent heat and thaw cycles had exacerbated the lead paint deterioration on the bridge. In response, MassDOT planned an emergency clean-up campaign, which included conducting door to door outreach for Chelsea residents living near the Tobin Bridge.

CLPPP field staff had not reported seeing increasing trends of poisoned child cases in communities near the bridge. However, with the news of the exacerbated paint deterioration, CLPPP reviewed its poisoned child caseload from 2020 for proximity to Tobin Bridge and for exposure source information. Except for one case, all were outside of the Tobin Bridge corridor. For the case that may have been within proximity of the bridge, the home had had renovation work that was a likely exposure source for the child. The other cases were predominantly in downtown Chelsea near the area of City Hall.

Overall, the review found that the exposure sources were the child’s home; however, there were two cases where occupational exposure was the likely source and a third where a tajine used for cooking may have contributed to the exposure. CLPPP reported back to the work group that we did not find a trend of poisoned child cases near the Tobin Bridge.

In April, to assist Mass DOT, CLPPP developed a factsheet explaining the dangers of paint chips in soil and yards to distribute to residents as part of the door knocking campaign. CLPPP also had the fact sheet translated into Spanish and Portuguese and posted it on our website along with an alert banner on our home page directing the public to the information.

CLPPP staff directed resources and outreach to ensure enhanced response to telephone inquiries and confirmed that other partners (like EPA region 1 and childcare providers) were aware of the concerns about lead paint falling from the Tobin Bridge. CLPPP staff shared the Tobin Bridge Lead Paint Chip

factsheet with the Regional Director of Metro Boston for the Department of Early Education and Care to forward to their Chelsea licensed childcare providers. CLPPP primary prevention and inspection staff participated in an in-person and virtual events facilitated in Spanish to increase awareness about lead poisoning prevention and exposure pathways.

VII. Conclusion

The Lead Trust and its associated surcharges were established to ensure a continued source of funding for the Massachusetts Childhood Lead Poisoning Prevention Program. The ongoing legislative investment in the Lead Trust is essential to ensure that Massachusetts children are screened, diagnosed, and treated for lead poisoning and that lead exposure is prevented for future generations.