Massachusetts Department of Public Health

DPH





2024 ANNUAL CHILDHOOD LEAD POISONING SURVEILLANCE REPORT

Bureau of Climate and Environmental Health

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2024 Annual Childhood Lead Poisoning Surveillance Report

Report Highlights

- Lead paint is the primary source of childhood lead exposure and Massachusetts has the 4th oldest housing stock in the country, making lead exposure a significant health risk for Massachusetts children.
- At 74%, lead screening rates continued to improve in 2024, overcoming enduring pandemic-era declines to reach the highest level since 2017.
- In 2024, compared to the previous year, there was a slight increase in lead poisoning—a venous blood lead level (BLL) ≥10 µg/dL—and more children were estimated to have a BLL ≥5 µg/dL. There were 458 lead-poisoned children 9 months to less than 4 years of age for a prevalence of 2.7 per 1,000 children screened, an increase from 2.5 per 1,000 children in 2023.
- The impact of lead poisoning is disproportionately seen among high-risk communities, and this disparity continued among the 17 high-risk communities identified in 2024, which are home to 61% of all lead-poisoned children.
- Children living in the most rural areas of the state (i.e. “rural level 2” communities) are also at greater risk; these children continue to be screened less frequently (just 52% in 2024) while also experiencing double the prevalence of elevated BLLs ≥5 µg/dL compared to the state overall.
- Children living in low-income communities are 4.1 times more likely to have elevated BLLs than those in high-income communities.
- Multi-race children are 4.4 times more likely and Black children are 1.9 times more likely than White children to have blood lead levels ≥5 µg/dL; Hispanic children of any race are 1.8 times more likely than non-Hispanic children to have blood lead levels ≥5 µg/dL.
- To address health inequities in childhood lead exposure, the Childhood Lead Poisoning Prevention Program (CLPPP) is targeting expanded outreach to high-risk populations and family care practitioners.



Background



Lead exposure remains a health risk for children across Massachusetts. There is no safe level of lead in blood and **childhood exposure to relatively low levels can cause severe and irreversible health effects** (CDC Advisory Committee on Childhood Lead Poisoning Prevention 2012), including damage to a child's mental and physical development (Lanphear 2007). Numerous studies have documented correlations between childhood lead poisoning and future school performance, unemployment, crime, violence, and incarceration, making lead exposure an important factor in the social determinants of health (Brown 2002; Gould 2009; Reyes 2007). Lead exposure is also a health equity issue, in which social position (e.g. socio-economic status) and socially assigned circumstances (e.g. race, ethnicity, etc.) prevent equal opportunities for children to reach their full health, social, and economic potential.

Lead paint is the primary source of exposure for lead-poisoned children. **Most often, exposure occurs through ingestion of dust or soil contaminated by loose or deteriorated lead paint**, frequently on windows, other friction surfaces, exteriors, or when disturbed by unsafe renovation work.

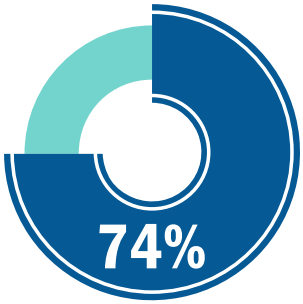
The Massachusetts Lead Law requires any dwelling unit built before 1978 where a child under six years of age resides to be lead safe, regardless of a child's blood lead level (BLL) or whether the unit is rented or owner-occupied. To implement the law, the Department of Public Health's (DPH) Childhood Lead Poisoning Prevention Program (CLPPP) operates an integrated program of laboratory services, mandatory blood lead screening, medical case management for children with elevated blood lead levels, health education, environmental follow-up, and training and licensure of public and private lead inspectors.



This report for the year 2024 contains results of the DPH Childhood Lead Poisoning Prevention Program's annual review of screening rates and blood lead level prevalence, high-risk communities for lead poisoning, and special analyses designed to identify high-risk populations and evaluate progress towards health equity.

Blood lead screening and prevalence of exposure

The lead screening rate for all children 9-47 months of age was 74% in 2024, an increase from the 2023 rate of 73% and above the 2019 pre-pandemic level of 72%. While the 2024 Massachusetts screening rate represents one of the highest in the nation (CDC EPHT 2025), screening rates by community vary greatly throughout the state. For instance, summarizing data shown in Appendix II, communities in the lowest 25th percentile for screening had an average screening rate of only 47% compared to an average rate of 96% for communities in the 75th percentile or higher for screening. Outreach and prevention activities are focused each year on communities with the lowest screening rates.

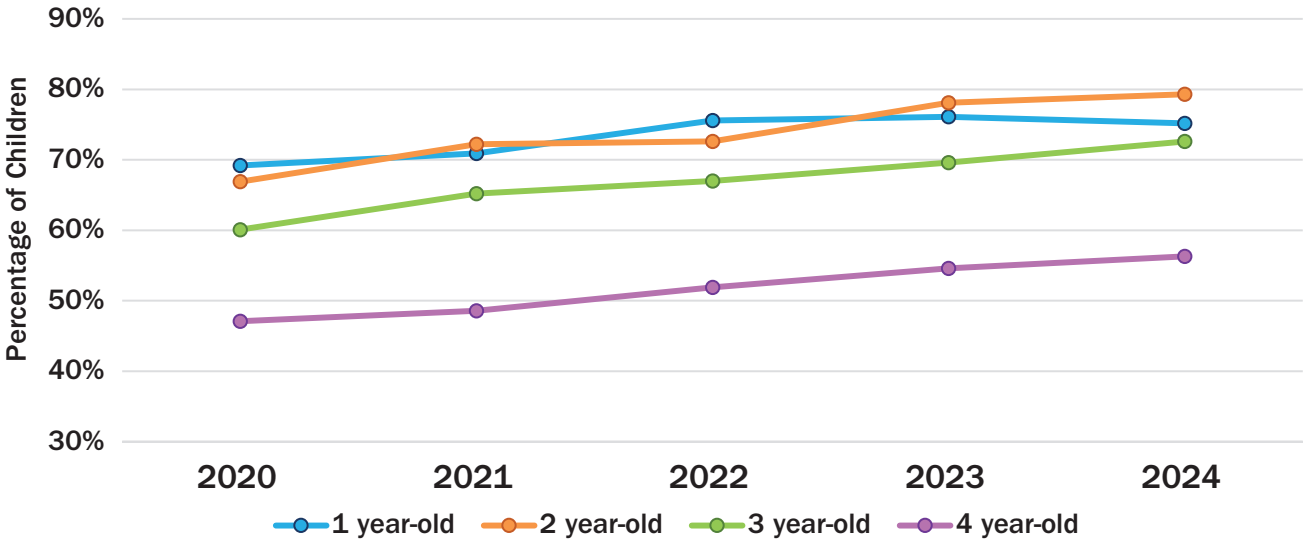


74% of children were screened for lead in Massachusetts in 2024.

Screening Rates by Age

Massachusetts regulations require that all children be tested for blood lead between 9 and 12 months of age and, again, at ages 2 and 3 years. Additionally, all children must be tested at age 4 years if they live in a high-risk community. In 2024, statewide screening rates for 1-, 2-, and 3-year-old children were 75%, 79%, and 73%, respectively – an increase from 2023 for ages 2 and 3. The screening rate for 4-year-old children living in a high-risk community was 56%. Though 3-year-old screening rates continue to lag somewhat, substantial improvement has been made with yearly increases, evidence that targeted outreach and education is impactful. **Approximately 17% of newly elevated blood lead levels (≥5 µg/dL) are in 3-year-olds and, in high-risk communities, 13% of newly elevated blood lead levels (≥5 µg/dL) are in 4-year-olds.** Of these 3-year-old children, 55% were tested regularly at younger ages with no previous elevations. Testing children through age 3—and age 4 in high-risk communities—serves to connect children and their families with support services that treat and prevent lead exposure.

Figure 1. Screening Rates of 1, 2, 3, and 4[1]-year-old Childrenin Massachusetts from 2020-2024



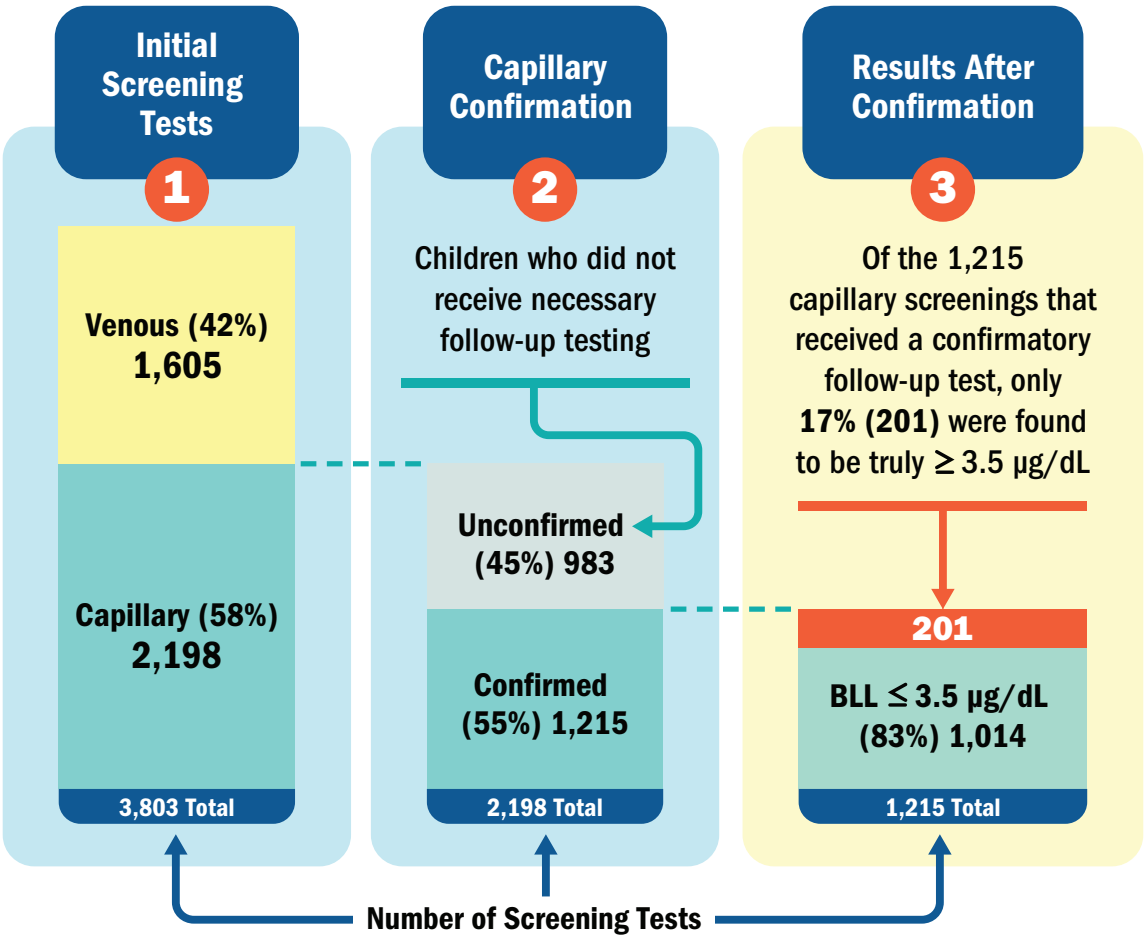
[1]*Screening rates for 4-year-old children are calculated for High-Risk Communities for each year.*

Confirmatory Screening Guidance and Results

The DPH CLPPP regulations require **venous confirmation of capillary blood lead specimens ≥5 µg/dL**, the federal Centers for Disease Control and Prevention's (CDC) reference value in effect from 2012 to September 2021 and the current Massachusetts definition of a BLL of Concern. Children with venous BLLs at or above 5 µg/dL should receive intervention such as lead education, environmental investigation, and additional medical monitoring.

In October 2021, the CDC lowered the blood lead reference value (BLRV) from 5 µg/dL to 3.5 µg/dL. The CDC BLRV is a screening tool to identify children who have higher levels of lead in their blood compared with most children nationally, and it is calculated to reflect the 97.5th percentile of children's BLLs using data from the National Health and Nutrition Examination Survey. For confirmed BLLs above the BLRV of 3.5 µg/dL, MA CLPPP and CDC recommend certain follow-up actions including retesting. Recommendations are published online and reinforced by MA CLPPP during clinical in-service trainings, and through daily interactions between clinical care team and health care providers.

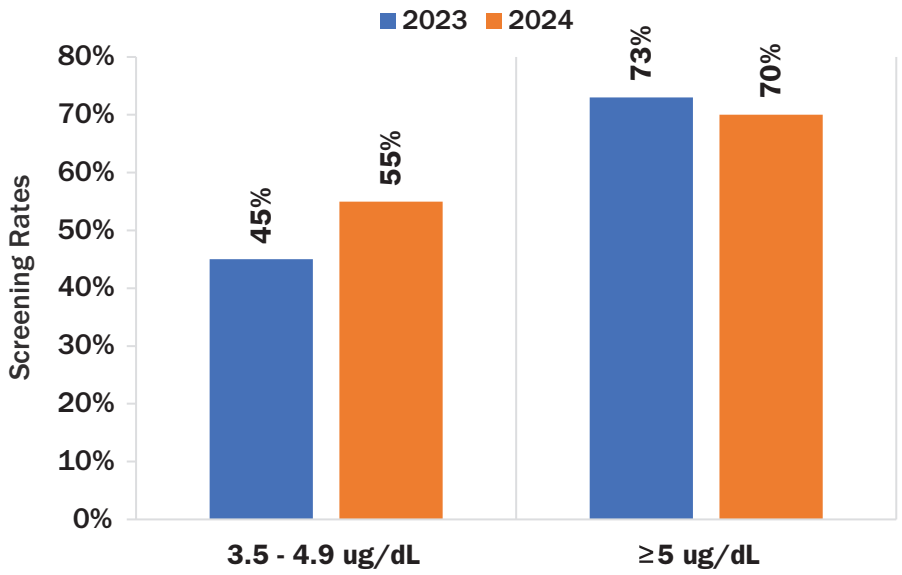
Figure 2. Confirmation Status of Initial Blood Lead Screening Results 3.5-4.9 µg/dL, 9-47 Months of Age, 2024



Capillary specimens are a useful tool for preliminary lead screening; they can be easier to conduct than venous tests and a negative result is, typically, very reliable. However, there is only **a 25% likelihood that a single elevated capillary result (≥5 µg/dL) is truly elevated upon a venous confirmatory rescreen.** In 2024, as shown in Figure 2, Massachusetts saw a total of 3,803 children aged 9-47 months with an initial blood lead test result between 3.5 and 4.9 µg/dL, where 58% were capillary test results. Of the 1,215 (55%) of capillary screenings that received a confirmatory follow-up test, only 17% were found to be truly ≥ 3.5 µg/dL.

With reliability of capillary results in this range being so low, venous rescreening is highly recommended to identify lead-exposed children and ensure they receive appropriate follow-up care. To further this goal, CLPPP will consider updating its regulations to lower the definition of a BLL of Concern from 5 µg/dL to 3.5 µg/dL, to require confirmatory testing at this level. For capillary test results ≥10 µg/dL, CLPPP staff contact health care providers to ensure the child receives a confirmation venous test.

Figure 3. Rates of Confirmatory Venous Testing for Capillary Results, 2023 vs. 2024



In 2024, the rate of confirmatory venous testing for capillary results ≥5 µg/dL was 70% compared to 73% in 2023. The rate of confirmatory re-screening for capillary test results 3.5 to 4.9 µg/dL was 55% in 2024, an increase over the 45% confirmatory screening rate of 2023 and the 34% confirmatory screening rate of 2022 (Figure 3). This is an indication that MA CLPPP outreach efforts, especially at lower BLLs, are making a positive impact. Ongoing engagement and education efforts are underway with healthcare providers across the state to highlight the need for confirmatory venous tests.

Exposure Prevalence

After regulatory changes in 2017, CLPPP saw a significant decrease in elevated blood lead levels (≥5 µg/dL) (Figure 4). However, this trend changed during the pandemic years from 2020 to 2022. In 2024, the prevalence for children 9-47 months of age with a blood lead level ≥3.5 µg/dL was 3,081 or 18.0 per 1,000 children. The prevalence of elevated blood lead levels ≥5 µg/dL was 2,103, or 12.3 per 1,000 children, a slight increase from 12.1 per 1,000 children in 2023. The prevalence of lead poisoning, a venous blood lead level ≥10 µg/dL, was 458 or 2.7 per 1,000 children, an increase from 2.5 per 1,000 children in 2023.

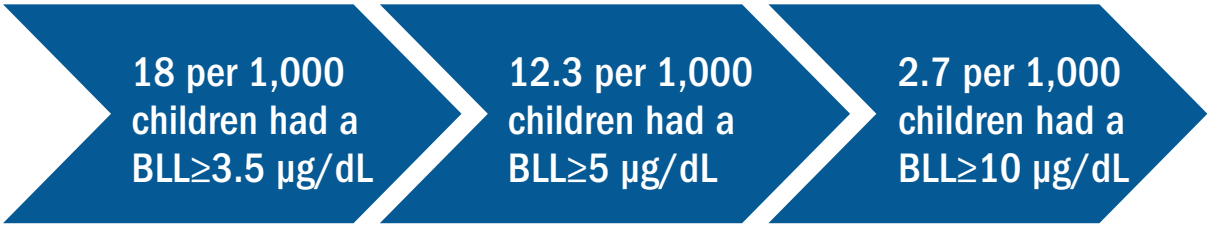
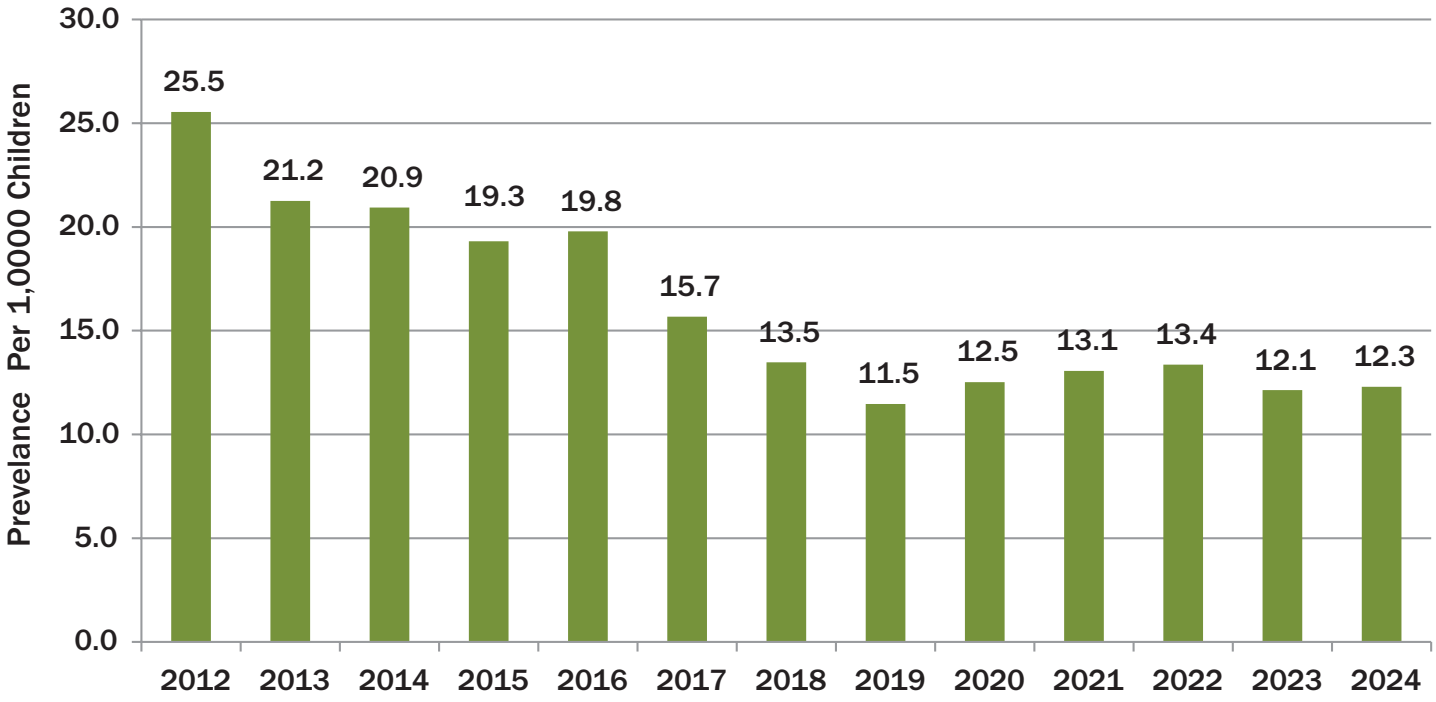


Figure 4. Estimated Prevelance[1] of Elevated Blood Lead (≥5 µg/dL) in Massachusetts by Year, Children 9-47 Months of Age



[1] Estimated BLLs ≥5 include both confirmed results (venous and confirmed capillary tests) and a proportion of unconfirmed capillary results estimated to be truly elevated based on known capillary test reliability.

Primary prevention activities



Primary prevention is vital to eradicating childhood lead exposure. **The MA Lead Law requires all homes built before 1978 where a child under the age of six lives to be free from lead hazards, regardless of ownership or a child's blood lead level.** While Massachusetts is fortunate to have a strong lead law and an active private sector of lead inspectors and de-leading contractors, **we also have the fourth oldest housing stock in the country. Approximately 66% of Massachusetts' housing was built before 1978** when lead was banned in residential paint. CLPPP investigates every case of lead poisoning to identify sources of lead exposure and monitors exposure source trends to inform case management and outreach efforts. Lead paint in homes continues to be the main source of lead exposure in children, either solely or partially responsible for 91% of lead poisoning cases.

From 2017-2023, **lead poisoning occurred in equal numbers among children living in owner-occupied properties compared to those in investor-owned rental properties.** CLPPP trains and helps to increase workforce capacity to support the inspection and de-leading of pre-1978 homes for both renters and owners. Code enforcement lead determinations (abbreviated lead inspections) are key to local primary prevention efforts. Under the Massachusetts Lead Law, parents or guardians with a child under 6 years of age who rent a home built before 1978 can request the local health or inspectional services department to inspect their home for Lead Law violations and enforce de-leading. In 2024, there were 333 active code enforcement lead determinators conducting inspections covering 184 communities. To continue building local inspectional capacity, CLPPP also held two local public health trainings, licensing 31 new code enforcement lead determinators.



CLPPP authorizes owners (and/or their agents) to safely do low- or moderate-risk de-leading work. Since 1994, 19,500 owners and agents have become trained and authorized to fix the lead hazards in their homes. In 2024, CLPPP continued to offer free virtual moderate-risk de-leading classes in English and Spanish to property owners under an order to de-lead their homes, with 130 owners/agents trained through these classes. In 2024, MassHousing's Get the Lead Out loan program provided $2,719,293 in loans to qualified property owners to de-lead their homes.

CLPPP has a dedicated hotline, 800-532-9571, for lead-related questions. In 2024, CLPPP staff answered 2,203 hotline calls, a significant increase from the previous year. To better communicate with families and educate the public about lead poisoning prevention, CLPPP offers educational materials in 14 languages, has staff who can communicate in seven languages in addition to English, and provides interpreter services as needed.

CLPPP publishes the Lead Safe Homes database, which includes inspection and de-leading data for homes built before 1978; data comes from both code enforcement and private inspections. The database includes free downloadable copies of inspection reports and compliance documents. In 2024, the database had 567,921 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 goals of increasing preventative de-leading and encouraging lead-safe renovations. The database is especially helpful for parents of young children, rental assistance programs, realtors, and rental property owners.



Emerging challenges & response



Lead paint remains the primary source of lead exposure for children. Most commonly, exposure occurs through the ingestion of dust or soil contaminated by deteriorating lead-based paint - especially on windows and exteriors - or by dust disturbed during unsafe renovation activities. In recent years, however, exposure from alternative sources solely or in combination with lead paint has become more common. These sources include alternative medicines, cooking utensils, food, furniture, jewelry, religious items, toys, travel, soil, drinking water, occupation, and hobbies. Over the past three years, lead paint in the child's home was identified as the sole source of exposure in 63% of poisoned children and a contributing source in 28% of cases. Renovation work conducted, without following lead safe protocols, contributed to exposure for 12% of all cases. After lead paint, the next largest source of exposure was food items and consumer products, accounting for 6% of all cases.

At the end of 2023, WanaBana LLC initiated a voluntary recall on applesauce pouches with cinnamon due to high levels of lead. This recall was later expanded to include two other brands of applesauce pouches. In response, CLPPP published an initial online alert, issued a HHAN alert to clinicians who treat children, as well as a notice advising Local Boards of Health of the recall and requesting food safety checks in local retail stores. CLPPP also informed the DPH Women, Infants, and Children (WIC) program and Department of Early Education and Care of the recall. Individualized case management services continued into 2024. CLPPP community health workers helped to identify potentially affected children and educate families. Partnering with the CDC and nationwide efforts to contain the outbreak, CLPPP identified and reported a total of 5 confirmed and 9 probable cases of lead exposure due to consumption of contaminated applesauce pouches.

High-risk communities

As shown in Appendix I, DPH identifies communities with a higher risk of childhood lead poisoning to better target resources and reduce health inequities associated with lead exposure in those communities. DPH determines risk by examining rates of newly poisoned children, the age of housing, and income levels for each of the state's 351 cities and towns. In addition, high-risk communities must exhibit 15 or more cases of lead poisoning in the previous 5 years. In 2024, 17 high-risk communities were identified, representing more than half of lead poisoning cases. Fitchburg and Milford were added to the 2024 high-risk community list and Westfield dropped off the list from 2023. Children living in high-risk communities are more likely to have lead poisoning than those living in other parts of the state (Figure 5).

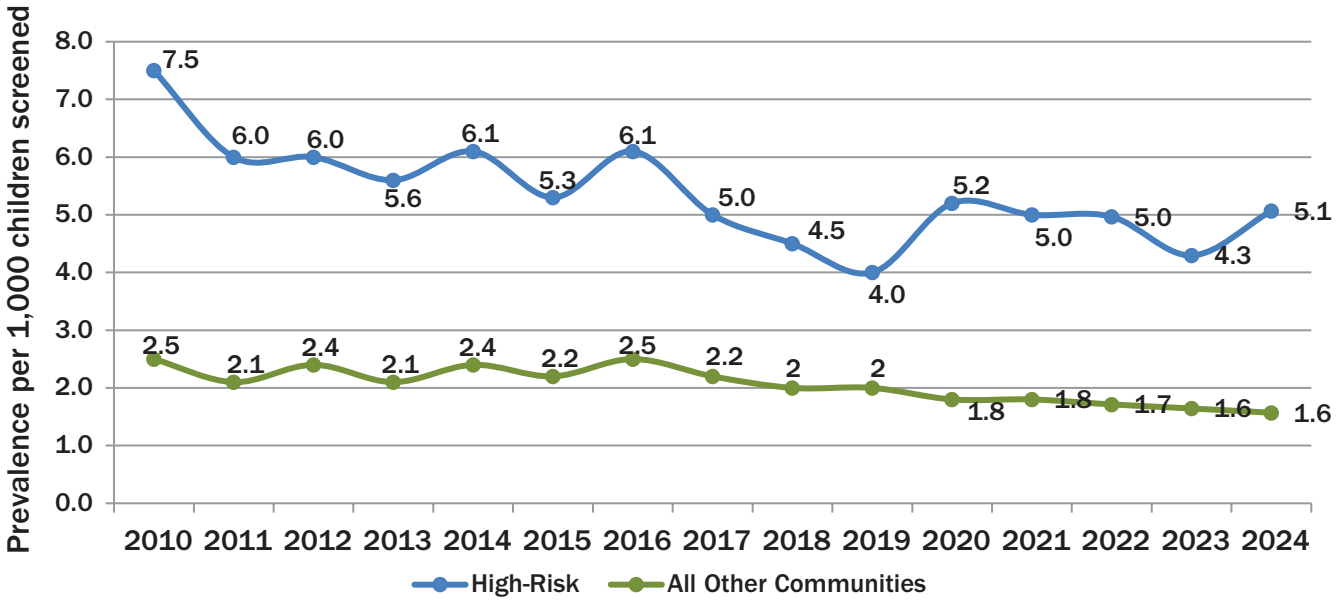
Approximately 61% of identified cases of children with lead poisoning live in high-risk communities even though only about one-third of Massachusetts children live in those communities. This inequity in the prevalence of poisoned childhood blood lead levels has persisted despite reductions in BLLs overall. From 2016 to 2019, this disparity was shrinking as the prevalence of poisoned blood lead levels in children living in high-risk communities had been consistently decreasing (Figure 5). Unfortunately, after the COVID-19 pandemic in 2020, the disparity widened substantially and this trend has persisted, potentially due to the state's housing crisis. In 2024, **children in high-risk communities were 3 times more likely to experience a blood lead level greater than or equal to 10 µg/dL compared to non-high-risk communities.**

2024 High-Risk Communities[1]

1. New Bedford
2. Springfield
3. Brockton
4. Fall River
5. Lowell
6. Everett
7. Lynn
8. Pittsfield
9. Chelsea
10. Worcester
11. Fitchburg
12. Lawrence
13. Milford
14. Chicopee
15. Malden
16. Boston
17. Taunton

[1]The high-risk communities are listed in order from highest to lowest high-risk score.

Figure 5. Comparison of High-Risk Communities vs All Other Communities: Prevalence of Blood Lead Levels ≥10 µg/dL1, 2010-2024



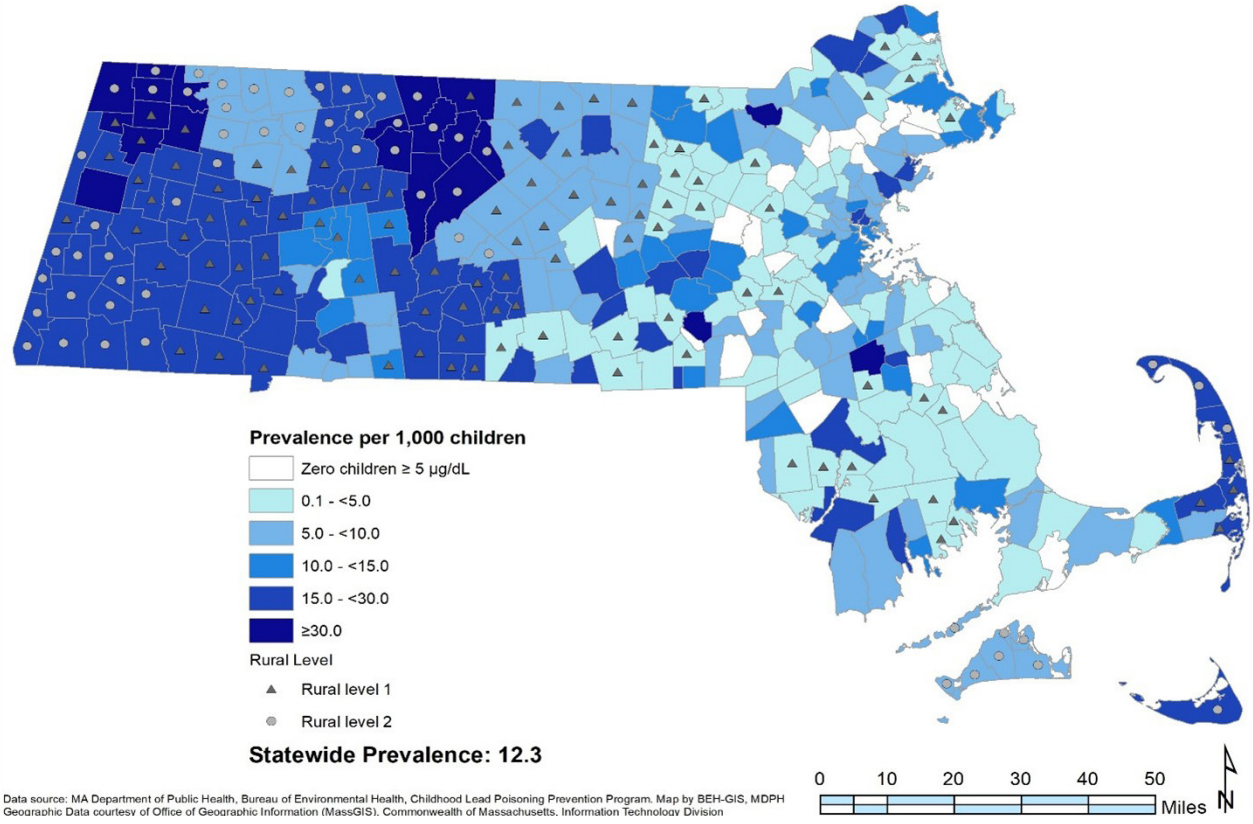
[1]Includes both venous tests and results of two capillary tests ≥10 µg/dL drawn within 84 days of each other.

Rural communities

Rural communities with small populations may not meet the definition of a high-risk community. This is because, by definition, a high-risk community requires a minimum of 15 lead poisoning cases over 5 years. However, **communities that don't meet the high-risk criteria can still have high incidence rates of childhood blood lead poisoning even though the total number of cases may be low, meaning that individual children in these communities are at high-risk.**

DPH analyzes and maps screening rates and prevalence of elevated and poisoned blood lead levels by **rural clusters** (Map 1) in addition to individual communities. Rural clusters consist of neighboring or nearby rural communities grouped by the DPH Office of Rural Health and represent geographic areas that have been historically classified together in those regions. Clusters may represent areas of shared services, cultural commonality, or geographic cohesion. Grouping rural communities into clusters enables more robust and reliable blood lead level estimates to be generated whereas estimates for individual rural communities are frequently suppressed due to small numbers. As observed in Map 1, many rural areas, particularly in the central and western areas of the state, have a higher prevalence of blood lead levels ≥5 µg/dL compared to the state average.

Map 1. Estimated Prevalence of Elevated Blood Lead Levels ≥5 µg/dL[1] by City/Town[2,3], 9-47 months of Age, 2024



Data source: MA Department of Public Health, Bureau of Environmental Health, Childhood Lead Poisoning Prevention Program. Map by BEH-GIS, MDPH
Geographic Data courtesy of Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

[1] *Estimated prevalence is calculated using both confirmed results (venous and confirmed capillary tests) and a proportion of unconfirmed capillary results estimated to be truly elevated based on known capillary test reliability.*

[2] *Rural level 1 and 2 communities, designated by symbols as shown in the map legend, were assigned prevalence based on the average of all towns within each rural cluster. Rural clusters and rural community definitions are created by the MA Office of Rural Health. See technical notes section for details.*

[3] *All other communities without a rural symbol are considered urban and the prevalence is calculated for individual cities/towns.*

Comparing rural and urban geographies, CLPPP has observed 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 2024, the screening rate in these most rural areas of the state increased to 52% from 51% in 2023, still substantially lower than the state's overall screening rate of 74%. The prevalence of blood lead levels ≥5 µg/dL in these areas remained double that of the state as a whole and increased slightly from 24 per 1,000 children in 2023 to 26 per 1,000 children in 2024.

In 2024, in response to these disparities, CLPPP reestablished the Westen Massachusetts Lead Task Force (WMLTF). This task force brings together new and existing partners in hard-to-reach rural areas across Western Massachusetts. Partners in the WMLTF include the Public Health Institute of Western Massachusetts, Square One, Wayfinders, Childcare of the Berkshires, Head Start of Northampton, Harvard T.H. Chan School of Public Health, City of Northampton, and Berkshire WIC. Since 2023, several rural clusters, including Central Berkshires, Central Pioneer Valley, North Central, Northern Berkshires, and West Franklin, have had a decrease in overall prevalence. CLPPP will continue to track data associated with vulnerable populations to identify health disparities and inform population-specific strategies to prevent and reduce childhood lead exposure.



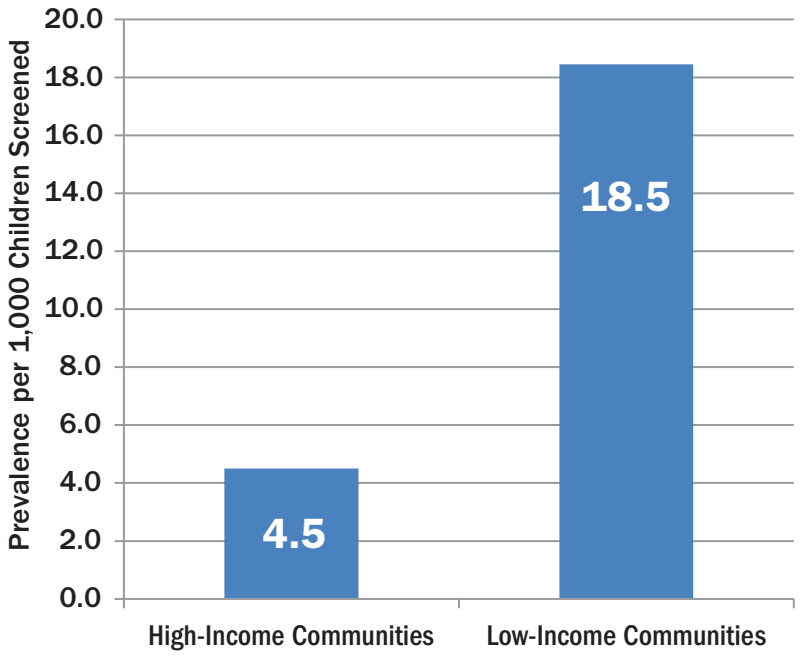
Health equity

While lead continues to affect children in all communities across Massachusetts, data collected by DPH shows that **lead exposure disproportionately impacts lower income communities and communities of color**, making lead exposure a critical health equity issue.

Community Income

In 2024, **children living in low-income communities were 4.1 times more likely to have elevated blood lead levels than children living in high-income communities** (Figure 6).

Figure 6. Estimated Prevalence of Elevated BloodLead Levels[1] by Community Income[2] (2024)



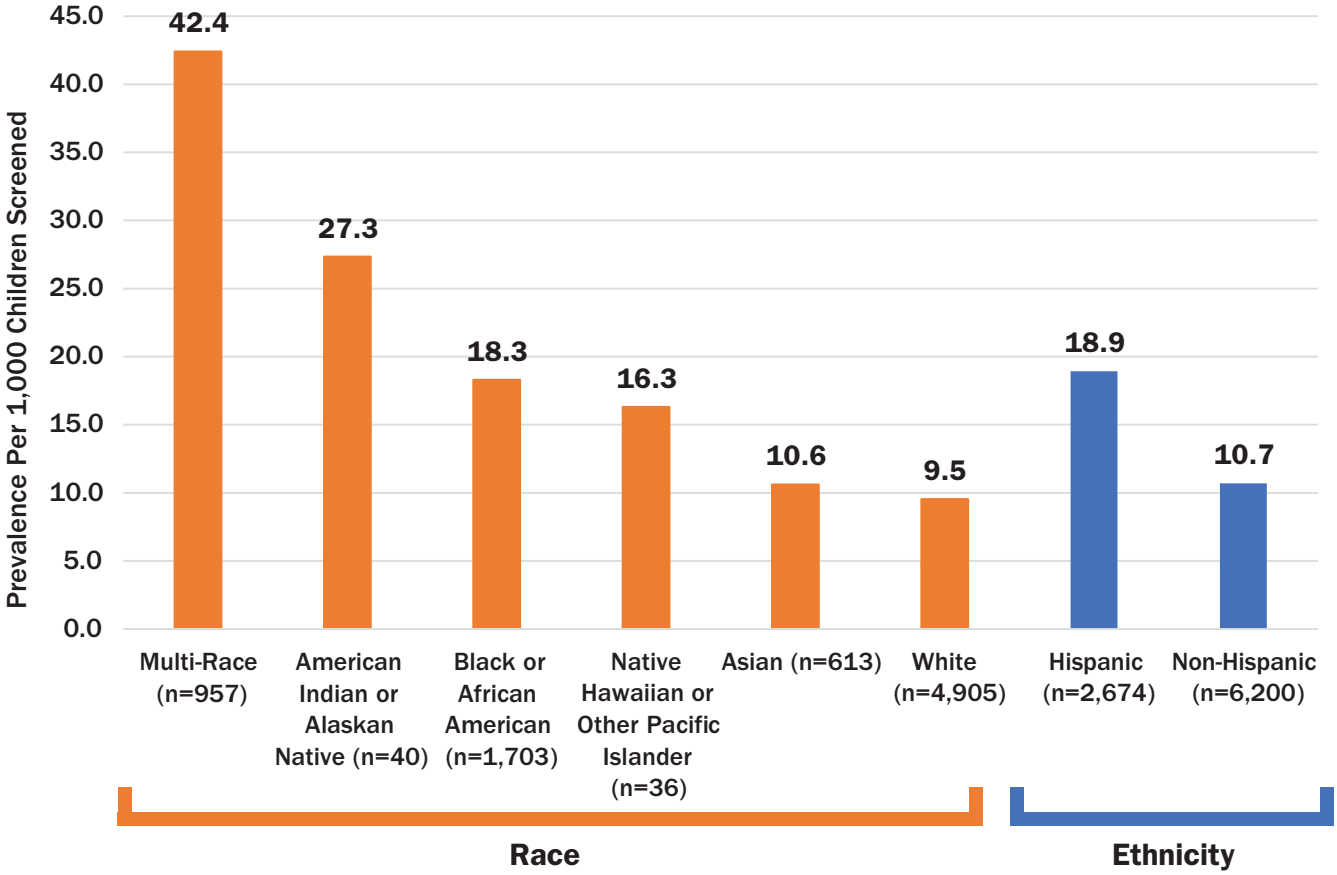
[1] Includes confirmed BLLs (one venous or two capillary blood tests ≥5 µg/dL within 84 days) and a proportion of unconfirmed blood lead tests (single capillary tests) for children 9-47 months of age.

[2] Lowest versus highest quartile of families living at or below 200% of the Federal Poverty threshold using poverty to income ratio data from the U.S. American Community Survey.

Race and Ethnicity

As seen in Figure 7 (below), White children have the lowest risk of lead exposure in Massachusetts. Compared to White children, **Multi-Race children are 4.4 times more likely, American Indian or Alaskan Native children are 2.9 times more likely, and Black children are 1.9 times more likely to have elevated blood lead levels. Hispanic children of any race are 1.8 times more likely than non-Hispanic children to have elevated blood lead levels.** Historical housing policies that have perpetuated segregation and limited opportunity for home ownership, such as redlining, have led to the increase in risk factors for lead poisoning in Black communities, including older housing stock, dilapidated housing, and fewer owner-occupied housing units (Sampson and Winter 2016; Moody et al. 2016).

Figure 7. Estimated Prevalence[1] of Elevated Blood Lead Levels ≥ 5µg/dL by Race/Hispanic Ethnicity[2,3], Children 9-47 months, 2020-2024[4]



[1] Estimated prevalence is calculated using both confirmed results (venous and confirmed capillary tests) and a proportion of unconfirmed capillary results estimated to be truly elevated based on known capillary test reliability. Unique children with estimated confirmed BLLs are identified in each year from 2020-2024 and cases are then summed. The same child may be represented more than once in the 5-year range.

[2] Race categories include individuals of Hispanic and Non-Hispanic ethnicities.

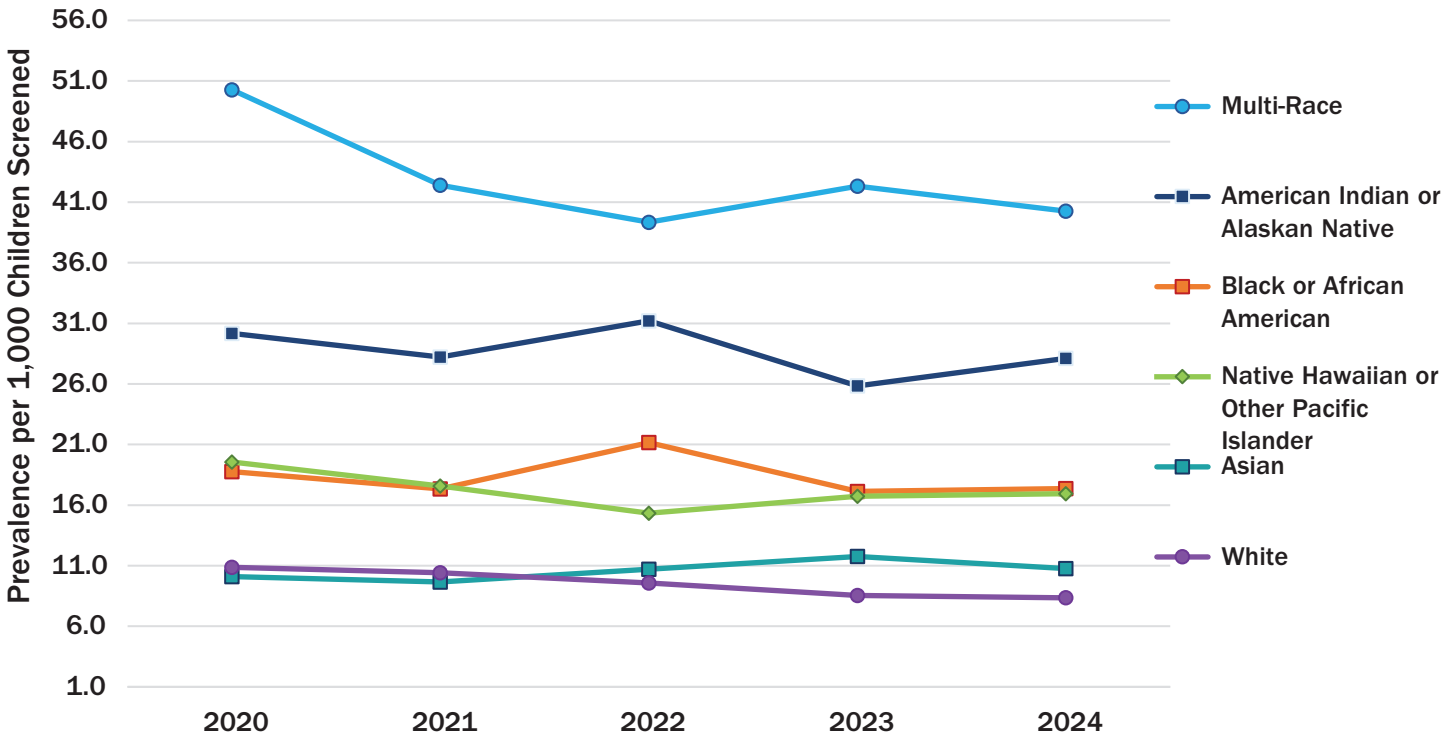
[3] MDPH acknowledges that race is a social construct which carries no biological significance in distinguishing human beings. However, many health inequities are rooted in the effects of racism experienced by people of color. MDPH collects race information to better understand these health inequities.

[4] Race and ethnicity information is assigned based on information reported with blood test results from laboratories and doctor's offices and, for those missing such information, from maternal race and ethnicity reported on birth certificates for children born in Massachusetts.

As seen in Figure 8 (below), from 2020 to 2024, the prevalence of elevated blood lead levels (≥5 µg/dL) shows some year-to-year fluctuations across most races, likely due to small case counts for this analysis. Overall, prevalence by race remains relatively stable over the 5-year period. **Multi-Race children consistently have the highest prevalence**, peaking at 50.3 per 1,000 children in 2020 before declining to 40.3 per 1,000 children in 2024, with minor fluctuations in between. American Indian or Alaskan Native children have the second-highest prevalence, showing a mild overall decline with a peak in 2022.

Black and Native Hawaiian or Other Pacific Islander children have the next highest prevalence of elevated blood lead levels with Asian and White children generally having lower prevalence. **White children have the lowest prevalence overall and have seen a decrease in prevalence since 2020**. Overall, while disparities exist between groups, most show gradual declines or stability in elevated blood lead prevalence over the observed years.

Figure 8. Estimated Prevalence[1] of Children with Elevated Blood Lead ≥ 5µg/dL by Race/Hispanic Ethnicity[2,3], 9-47 Months of Age, 2020-2024



[1] Estimated prevalence is calculated using both confirmed results (venous and confirmed capillary tests) and a proportion of unconfirmed capillary results estimated to be truly elevated based on known capillary test reliability. This measure is sometimes referred to as "estimated confirmed" ≥5 µg/dL. Unique children with estimated confirmed BLLs are identified each year from 2020-2024 and cases are then summed. The same child may be represented more than once in the 5-year range.



[2] Race categories include individuals of Hispanic and Non-Hispanic ethnicities. A rolling three-year average was calculated for each year (2020-2024) for American Indian or Alaskan Native and Native Hawaiian or Pacific Islander due to small case counts.

[3] MDPH acknowledges that race is a social construct which carries no biological significance in distinguishing human beings. However, many health inequities are rooted in the effects of racism experience by people of color. MDPH collects race information to better understand these health inequities.

[4] Race and ethnicity information is assigned based on information reported with blood test results from laboratories and doctor's offices and, for those missing such information, from maternal race and ethnicity reported on birth certificates for children born in Massachusetts.

Conclusions and next steps

Childhood Lead Poisoning Prevention efforts showed some important gains in 2024. Statewide screening rates are one of the highest in the nation and have returned to the highest level since 2017. While it is important to acknowledge these gains, there is still work to be done. Childhood lead exposure continues to be a critical health issue with substantial disparities for non-white children and children living in high-risk and rural communities. In 2025, CLPPP will continue the work to reduce these disparities by strengthening existing partnerships, and building new ones with health care providers, local health authorities, and advocacy groups that serve high-risk communities.



Appendix I: High-Risk Communities for Childhood Lead Poisoning
Calendar Year: 2020-2024

Community	% 5-Year Screening	5-Year Cases[1]	Incidence Rate per 1,000[1]	% PIR Below 2[2]	% Pre-1978 Housing Units[3]	High-Risk Score[4]
NEW BEDFORD	77%	95	5.8	36	82	16.2
SPRINGFIELD	65%	91	4.4	38	82	13
BROCKTON	71%	108	6.5	26	79	12.6
FALL RIVER	69%	50	3.9	38	77	10.8
LOWELL	65%	96	5.9	26	72	10.5
EVERETT	75%	28	3.6	34	78	9
LYNN	74%	79	4.3	28	78	8.9
PITTSFIELD	65%	23	4.7	22	83	8.1
CHELSEA	65%	21	3	40	70	8
WORCESTER	62%	80	3.4	31	75	7.5
FITCHBURG	61%	19	3.5	28	78	7.2
LAWRENCE	64%	32	2.2	44	77	7.1
MILFORD	69%	22	5.2	16	64	5
CHICOPEE	60%	15	2.6	25	78	4.8
MALDEN	78%	25	2.8	24	73	4.6
BOSTON	68%	181	2.6	25	72	4.4
TAUNTON	71%	24	3	23	62	4.1
ALL HIGH-RISK	68%	989	3.8	29	75	7.8
MASSACHUSETTS	76%	1723	2.1	16	66	2.1

Comments:

Appendix I is sorted from highest to lowest High-Risk Score.

The percent screened and number of newly identified cases with confirmed blood lead levels ≥10 µg/dL (children 9 to 47 months) have been identified for this 5-year period.

Communities with at least 15 cases and a High-Risk Score statistically significantly higher than the state High-Risk Score for this 5-year period have been included.

Footnotes:

[1]Number and rate of incident cases ≥10 µg/dL per 1,000 children (9 to 47 months) screened during this 5-year period. An incident case is only counted once over the course of the 5-year time-period. MA CLPPP defines lead poisoning as a confirmed blood lead level ≥10 µg/dL.

[2] Percentage of families with a poverty to income ratio (PIR) below 2.00 (i.e., < 200% of the poverty threshold). As reported by the 2022 5-Year American Community Survey (Table B17026).

[3] Percentage of housing units built prior to 1978 as estimated by the American Community Survey. In 1977, the Consumer Product Safety Commission banned lead-containing paint (16 C.F.R. 1303). Housing units built prior to this date may contain dangerous levels of lead in paint. As reported by the 2022 5-Year American Community Survey (Table B25034).

[4](5-Year Incidence Rate by community) * (% PIR below 2 by community / % PIR below 2 MA) * (% pre-1978 by community / % pre-1978 MA).

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Abington	615	563	92	557	98.9	6	1.1	0	0	0	0	NS	NS	0	0	62
Acton	699	519	74	517	99.6	NS	NS	0	0	0	0	NS	NS	0	0	57
Acushnet	286	237	83	234	98.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	69
Adams	241	207	86	190	91.8	13	6.3	NS	NS	NS	NS	9	4.1	NS	NS	88
Agawam	838	546	65	542	99.3	NS	NS	0	0	0	0	NS	NS	0	0	70
Alford	10	3	30	NS	NS	0	0	0	0	0	0	0	0	0	0	49
Amesbury	537	391	73	384	98.2	NS	NS	NS	NS	0	0	7	1.8	NS	NS	63
Amherst	473	257	54	254	98.8	NS	NS	0	0	0	0	NS	NS	0	0	57
Andover	1111	760	68	755	99.3	NS	NS	NS	NS	0	0	NS	NS	0	0	58
Arlington	1786	1145	64	1139	99.5	6	0.5	0	0	0	0	NS	NS	0	0	86
Ashburnham	201	126	63	124	98.4	NS	NS	NS	NS	0	0	NS	NS	NS	NS	41
Ashby	91	77	85	77	100	0	0	0	0	0	0	0	0	0	0	58
Ashfield	36	13	36	13	100	0	0	0	0	0	0	0	0	0	0	62
Ashland	738	585	79	577	98.6	7	1.2	NS	NS	0	0	8	1.4	NS	NS	43
Athol	399	218	55	208	95.4	9	4.1	NS	NS	0	0	8	3.5	NS	NS	72
Attleboro	1716	1215	71	1201	98.8	12	1	2	0.2	0	0	13	1.1	2	0.2	59
Auburn	531	410	77	407	99.3	NS	NS	0	0	0	0	NS	NS	0	0	70
Avon	156	149	96	147	98.7	NS	NS	0	0	0	0	NS	NS	0	0	79
Ayer	296	224	76	222	99.1	NS	NS	0	0	0	0	NS	NS	0	0	54
Barnstable	1494	983	66	973	99	7	0.7	NS	NS	NS	NS	8	0.8	NS	NS	52
Barre	162	110	68	107	97.3	NS	NS	0	0	0	0	NS	NS	0	0	62
Becket	54	18	33	18	100	0	0	0	0	0	0	0	0	0	0	53
Bedford	537	314	58	314	100	0	0	0	0	0	0	0	0	0	0	52
Belchertown	434	301	69	298	99	NS	NS	NS	NS	0	0	NS	NS	NS	NS	38

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9. Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Bellingham	623	422	68	419	99.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	55
Belmont	1047	616	59	615	99.8	NS	NS	0	0	0	0	NS	NS	0	0	87
Berkley	201	136	68	134	98.5	NS	NS	0	0	0	0	NS	NS	0	0	36
Berlin	96	96	100	95	99	NS	NS	0	0	0	0	NS	NS	0	0	39
Bernardston	48	23	48	23	100	0	0	0	0	0	0	0	0	0	0	61
Beverly	1460	1070	73	1064	99.4	6	0.6	0	0	0	0	6	0.6	0	0	69
Billerica	1250	1098	88	1090	99.3	7	0.6	NS	NS	0	0	6	0.6	NS	NS	59
Blackstone	285	157	55	155	98.7	NS	NS	0	0	0	0	NS	NS	0	0	58
Blandford	22	24	>99	24	100	0	0	0	0	0	0	0	0	0	0	67
Bolton	184	163	89	163	100	0	0	0	0	0	0	0	0	0	0	40
Boston	20903	15155	73	14951	98.7	161	1.1	39	0.3	4	0	192	1.3	42	0.3	72
Bourne	467	353	76	351	99.4	NS	NS	NS	NS	0	0	NS	NS	NS	NS	54
Boxborough	150	112	75	111	99.1	NS	NS	0	0	0	0	NS	NS	0	0	44
Boxford	221	220	100	220	100	0	0	0	0	0	0	0	0	0	0	51
Boylston	153	104	68	103	99	NS	NS	0	0	0	0	NS	NS	0	0	53
Braintree	1368	920	67	916	99.6	NS	NS	NS	NS	0	0	NS	NS	NS	NS	74
Brewster	199	118	59	115	97.5	NS	NS	0	0	NS	NS	NS	NS	NS	NS	37
Bridgewater	814	729	90	726	99.6	NS	NS	NS	NS	0	0	NS	NS	NS	NS	42
Brimfield	99	59	60	59	100	0	0	0	0	0	0	0	0	0	0	34
Brockton	4700	3444	73	3305	96	107	3.1	31	0.9	1	0	136	3.9	32	0.9	79
Brookfield	101	61	60	61	100	0	0	0	0	0	0	0	0	0	0	49
Brookline	2221	1193	54	1185	99.3	NS	NS	NS	NS	0	0	6	0.5	NS	NS	83
Buckland	45	22	49	22	100	0	0	0	0	0	0	0	0	0	0	75
Burlington	877	675	77	672	99.6	NS	NS	0	0	0	0	NS	NS	0	0	60

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Cambridge	2985	2149	72	2134	99.3	15	0.7	0	0	0	0	14	0.7	0	0	67
Canton	806	737	91	737	100	0	0	0	0	0	0	0	0	0	0	49
Carlisle	142	105	74	104	99	NS	NS	0	0	0	0	NS	NS	0	0	54
Carver	346	333	96	332	99.7	NS	NS	0	0	0	0	NS	NS	0	0	44
Charlemont	27	12	44	12	100	0	0	0	0	0	0	0	0	0	0	69
Charlton	399	327	82	326	99.7	NS	NS	0	0	0	0	NS	NS	0	0	39
Chatham	90	46	51	44	95.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	56
Chelmsford	1128	1012	90	1006	99.4	6	0.6	0	0	0	0	5	0.5	0	0	66
Chelsea	2178	1483	68	1460	98.4	16	1.1	7	0.5	0	0	23	1.6	7	0.5	70
Cheshire	92	69	75	69	100	0	0	0	0	0	0	0	0	0	0	70
Chester	26	30	>99	26	86.7	NS	NS	0	0	0	0	NS	NS	0	0	65
Chesterfield	23	16	70	16	100	0	0	0	0	0	0	0	0	0	0	58
Chicopee	1945	1284	66	1266	98.6	16	1.2	2	0.2	0	0	16	1.3	2	0.2	78
Chilmark	22	10	45	10	100	0	0	0	0	0	0	0	0	0	0	42
Clarksburg	45	36	80	32	88.9	NS	NS	NS	NS	0	0	NS	NS	NS	NS	71
Clinton	568	411	72	403	98.1	8	1.9	0	0	0	0	6	1.6	0	0	69
Cohasset	264	266	>99	266	100	0	0	0	0	0	0	0	0	0	0	64
Colrain	44	27	61	27	100	0	0	0	0	0	0	0	0	0	0	73
Concord	507	352	69	351	99.7	NS	NS	0	0	0	0	NS	NS	0	0	65
Conway	37	14	38	14	100	0	0	0	0	0	0	0	0	0	0	53
Cummington	10	7	70	7	100	0	0	0	0	0	0	0	0	0	0	70
Dalton	166	120	72	117	97.5	NS	NS	0	0	0	0	NS	NS	0	0	77
Danvers	819	729	89	722	99	NS	NS	NS	NS	0	0	6	0.9	NS	NS	68
Dartmouth	691	574	83	570	99.3	NS	NS	0	0	0	0	NS	NS	0	0	58

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Dedham	843	813	96	809	99.5	NS	NS	NS	NS	0	0	NS	NS	NS	NS	74
Deerfield	109	67	61	66	98.5	NS	NS	0	0	0	0	NS	NS	0	0	63
Dennis	276	161	58	158	98.1	NS	NS	NS	NS	0	0	NS	NS	NS	NS	70
Dighton	253	180	71	177	98.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	51
Douglas	267	192	72	192	100	0	0	0	0	0	0	0	0	0	0	37
Dover	160	170	>99	170	100	0	0	0	0	0	0	0	0	0	0	57
Dracut	1118	792	71	784	99	8	1	0	0	0	0	6	0.7	0	0	52
Dudley	322	251	78	249	99.2	NS	NS	NS	NS	0	0	NS	NS	NS	NS	65
Dunstable	72	89	>99	89	100	0	0	0	0	0	0	0	0	0	0	35
Duxbury	452	418	92	416	99.5	NS	NS	NS	NS	0	0	NS	NS	NS	NS	56
East Bridgewater	481	340	71	335	98.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	52
East Brookfield	66	50	76	50	100	0	0	0	0	0	0	0	0	0	0	66
East Longmeadow	457	330	72	328	99.4	NS	NS	0	0	0	0	NS	NS	0	0	62
Eastham	91	42	46	41	97.6	NS	NS	0	0	0	0	NS	NS	0	0	51
Easthampton	430	244	57	242	99.2	NS	NS	0	0	0	0	NS	NS	0	0	67
Easton	699	606	87	602	99.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	47
Edgartown	149	84	56	84	100	0	0	0	0	0	0	0	0	0	0	41
Egremont	26	15	58	15	100	0	0	0	0	0	0	0	0	0	0	62
Erving	44	19	43	18	94.7	NS	NS	0	0	0	0	NS	NS	0	0	69
Essex	114	86	75	85	98.8	NS	NS	0	0	0	0	NS	NS	0	0	57
Everett	2049	1704	83	1668	97.9	25	1.5	11	0.6	0	0	34	2	11	0.6	78
Fairhaven	388	308	79	304	98.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	80

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Fall River	3715	2580	69	2528	98	42	1.6	9	0.3	1	0	48	1.9	10	0.4	77
Falmouth	710	503	71	502	99.8	NS	NS	0	0	0	0	NS	NS	0	0	59
Fitchburg	1773	1185	67	1150	97	24	2	9	0.8	NS	NS	29	2.4	10	0.8	78
Florida	21	10	48	9	90	NS	NS	0	0	0	0	NS	NS	0	0	51
Foxborough	626	550	88	548	99.6	NS	NS	0	0	0	0	NS	NS	0	0	55
Framingham	3026	2405	79	2374	98.7	23	1	8	0.3	0	0	31	1.3	8	0.3	73
Franklin	1131	809	72	809	100	0	0	0	0	0	0	0	0	0	0	40
Freetown	213	205	96	204	99.5	NS	NS	0	0	0	0	NS	NS	0	0	56
Gardner	765	478	62	468	97.9	8	1.7	NS	NS	0	0	9	1.9	NS	NS	72
Aquinnah	16	3	19	NS	NS	0	0	0	0	0	0	0	0	0	0	45
Georgetown	291	226	78	224	99.1	0	0	NS	NS	0	0	NS	NS	NS	NS	56
Gill	31	21	68	21	100	0	0	0	0	0	0	0	0	0	0	62
Gloucester	770	665	86	649	97.6	14	2.1	NS	NS	0	0	9	1.4	NS	NS	73
Goshen	24	10	42	10	100	0	0	0	0	0	0	0	0	0	0	65
Gosnold	0	0	NA	0	0	0	0	0	0	0	0	0	0	0	0	74
Grafton	715	512	72	511	99.8	0	0	NS	NS	0	0	NS	NS	NS	NS	52
Granby	136	113	83	112	99.1	NS	NS	0	0	0	0	NS	NS	0	0	63
Granville	41	30	73	29	96.7	NS	NS	0	0	0	0	NS	NS	0	0	61
Great Barrington	152	93	61	91	97.8	NS	NS	0	0	0	0	NS	NS	0	0	63
Greenfield	559	228	41	224	98.2	NS	NS	NS	NS	0	0	NS	NS	NS	NS	80
Groton	360	263	73	260	98.9	NS	NS	0	0	0	0	NS	NS	0	0	38
Groveland	187	126	67	124	98.4	0	0	NS	NS	0	0	NS	NS	NS	NS	48
Hadley	103	77	75	76	98.7	NS	NS	0	0	0	0	NS	NS	0	0	66
Halifax	252	224	89	224	100	0	0	0	0	0	0	0	0	0	0	45

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Hamilton	272	243	89	243	100	0	0	0	0	0	0	0	0	0	0	78
Hampden	105	101	96	100	99	NS	NS	0	0	0	0	NS	NS	0	0	69
Hancock	20	9	45	9	100	0	0	0	0	0	0	0	0	0	0	36
Hanover	493	404	82	402	99.5	NS	NS	NS	NS	0	0	NS	NS	NS	NS	55
Hanson	294	248	84	248	100	0	0	0	0	0	0	0	0	0	0	54
Hardwick	84	35	42	34	97.1	NS	NS	0	0	0	0	NS	NS	0	0	59
Harvard	130	143	>99	139	97.2	NS	NS	NS	NS	0	0	NS	NS	NS	NS	58
Harwich	272	163	60	160	98.2	NS	NS	NS	NS	0	0	NS	NS	0	0	55
Hatfield	68	43	63	42	97.7	NS	NS	0	0	0	0	NS	NS	0	0	67
Haverhill	2878	1847	64	1813	98.2	30	1.6	4	0.2	0	0	30	1.6	4	0.2	61
Hawley	7	3	43	NS	NS	0	0	0	0	0	0	0	0	0	0	63
Heath	16	3	19	NS	NS	0	0	0	0	0	0	0	0	0	0	46
Hingham	885	763	86	761	99.7	NS	NS	0	0	0	0	NS	NS	0	0	54
Hinsdale	37	30	81	29	96.7	NS	NS	0	0	0	0	NS	NS	0	0	62
Holbrook	371	296	80	292	98.6	NS	NS	0	0	0	0	NS	NS	0	0	78
Holden	704	440	63	438	99.5	NS	NS	0	0	0	0	NS	NS	0	0	56
Holland	78	47	60	47	100	0	0	0	0	0	0	0	0	0	0	52
Holliston	533	394	74	392	99.5	NS	NS	0	0	0	0	NS	NS	0	0	69
Holyoke	1551	1001	65	976	97.5	20	2	NS	NS	0	0	20	2	NS	NS	81
Hopedale	175	134	77	134	100	0	0	0	0	0	0	0	0	0	0	58
Hopkinton	691	546	79	537	98.4	7	1.3	NS	NS	0	0	7	1.4	NS	NS	34
Hubbardston	117	94	80	94	100	0	0	0	0	0	0	0	0	0	0	35
Hudson	630	490	78	486	99.2	NS	NS	NS	NS	0	0	NS	NS	NS	NS	58
Hull	213	126	59	125	99.2	NS	NS	0	0	0	0	NS	NS	0	0	74

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Huntington	59	41	69	40	97.6	0	0	NS	NS	0	0	NS	NS	NS	NS	62
Ipswich	319	265	83	262	98.9	NS	NS	NS	NS	0	0	NS	NS	NS	NS	62
Kingston	473	467	99	467	100	0	0	0	0	0	0	0	0	0	0	47
Lakeville	342	298	87	297	99.7	0	0	NS	NS	0	0	NS	NS	NS	NS	42
Lancaster	192	164	85	164	100	0	0	0	0	0	0	0	0	0	0	60
Lanesborough	78	55	71	53	96.4	NS	NS	0	0	0	0	NS	NS	0	0	65
Lawrence	4570	3097	68	3054	98.6	34	1.1	8	0.3	1	0	43	1.4	9	0.3	77
Lee	137	86	63	82	95.3	NS	NS	0	0	0	0	NS	NS	0	0	74
Leicester	294	256	87	254	99.2	NS	NS	0	0	0	0	NS	NS	0	0	60
Lenox	89	52	58	52	100	0	0	0	0	0	0	0	0	0	0	67
Leominster	1529	1212	79	1203	99.3	7	0.6	2	0.2	0	0	8	0.7	2	0.2	64
Leverett	32	16	50	16	100	0	0	0	0	0	0	0	0	0	0	55
Lexington	996	554	56	551	99.5	NS	NS	NS	NS	0	0	NS	NS	NS	NS	65
Leyden	13	5	38	NS	NS	0	0	0	0	0	0	0	0	0	0	54
Lincoln	296	219	74	219	100	0	0	0	0	0	0	0	0	0	0	62
Littleton	333	246	74	245	99.6	NS	NS	0	0	0	0	NS	NS	0	0	52
Longmeadow	488	281	58	277	98.6	NS	NS	0	0	0	0	NS	NS	0	0	84
Lowell	5019	3515	70	3364	95.7	117	3.3	30	0.9	4	0.1	129	3.7	33	0.9	72
Ludlow	495	393	79	391	99.5	NS	NS	0	0	0	0	NS	NS	0	0	63
Lunenburg	383	284	74	282	99.3	NS	NS	0	0	0	0	NS	NS	0	0	58
Lynn	4939	3842	78	3744	97.4	76	2	21	0.5	1	0	93	2.4	22	0.6	78
Lynnfield	378	338	89	338	100	0	0	0	0	0	0	0	0	0	0	70
Malden	2287	1815	79	1789	98.6	19	1	6	0.3	1	0.1	24	1.3	7	0.4	73
Manchester	133	95	71	94	98.9	NS	NS	0	0	0	0	NS	NS	0	0	71

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Mansfield	764	640	84	638	99.7	NS	NS	0	0	0	0	NS	NS	0	0	48
Marblehead	565	504	89	499	99	NS	NS	0	0	0	0	NS	NS	0	0	84
Marion	130	101	78	100	99	NS	NS	0	0	0	0	NS	NS	0	0	66
Marlborough	1722	1250	73	1233	98.6	15	1.2	2	0.2	0	0	15	1.2	2	0.2	58
Marshfield	817	658	81	654	99.4	NS	NS	0	0	NS	NS	NS	NS	NS	NS	66
Mashpee	360	295	82	295	100	0	0	0	0	0	0	0	0	0	0	24
Mattapoisett	137	125	91	125	100	0	0	0	0	0	0	0	0	0	0	50
Maynard	451	262	58	261	99.6	0	0	NS	NS	0	0	NS	NS	NS	NS	70
Medfield	428	420	98	416	99	NS	NS	NS	NS	0	0	NS	NS	NS	NS	61
Medford	1635	1355	83	1344	99.2	10	0.7	1	0.1	0	0	11	0.8	1	0.1	75
Medway	443	323	73	321	99.4	NS	NS	NS	NS	0	0	NS	NS	NS	NS	51
Melrose	1085	823	76	818	99.4	NS	NS	NS	NS	0	0	NS	NS	NS	NS	83
Mendon	175	144	82	143	99.3	NS	NS	0	0	0	0	NS	NS	0	0	26
Merrimac	148	137	93	136	99.3	NS	NS	0	0	0	0	NS	NS	0	0	44
Methuen	1876	1212	65	1206	99.5	6	0.5	0	0	0	0	6	0.5	0	0	62
Middleborough	772	697	90	694	99.6	NS	NS	0	0	0	0	NS	NS	0	0	50
Middlefield	8	7	88	NS	NS	NS	NS	0	0	0	0	NS	NS	0	0	46
Middleton	239	195	82	195	100	0	0	0	0	0	0	0	0	0	0	41
Milford	1243	1048	84	996	94.9	46	4.4	6	0.6	0	0	51	4.9	6	0.6	64
Millbury	424	315	74	310	98.4	NS	NS	0	0	0	0	NS	NS	0	0	64
Millis	279	217	78	217	100	0	0	0	0	0	0	0	0	0	0	57
Millville	92	57	62	56	98.2	NS	NS	0	0	0	0	NS	NS	0	0	52
Milton	993	809	81	804	99.4	NS	NS	0	0	0	0	NS	NS	0	0	81
Monroe	2	4	>99	NS	NS	0	0	0	0	0	0	0	0	0	0	75

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Northborough	444	359	81	354	98.6	NS	NS	0	0	0	0	NS	NS	0	0	47
Northbridge	560	362	65	349	96.4	11	3	NS	NS	0	0	11	3	NS	NS	55
Northfield	60	51	85	49	96.1	NS	NS	0	0	0	0	NS	NS	0	0	61
Norton	557	439	79	439	100	0	0	0	0	0	0	0	0	0	0	42
Norwell	410	397	97	396	99.7	NS	NS	0	0	0	0	NS	NS	0	0	64
Norwood	1190	975	82	963	98.8	7	0.7	NS	NS	NS	NS	11	1.2	NS	NS	70
Oak Bluffs	169	55	33	54	98.2	NS	NS	0	0	0	0	NS	NS	0	0	53
Oakham	39	22	56	21	95.5	NS	NS	0	0	0	0	NS	NS	0	0	44
Orange	239	113	47	104	92	7	6.2	NS	NS	0	0	7	6.6	NS	NS	69
Orleans	100	43	43	40	93	NS	NS	0	0	0	0	NS	NS	0	0	53
Otis	34	23	68	23	100	0	0	0	0	0	0	0	0	0	0	56
Oxford	377	355	94	354	99.7	NS	NS	0	0	0	0	NS	NS	0	0	61
Palmer	351	242	69	235	97.1	NS	NS	NS	NS	0	0	7	2.9	NS	NS	69
Paxton	133	83	62	83	100	0	0	0	0	0	0	0	0	0	0	66
Peabody	1665	1486	89	1471	99	7	0.5	7	0.5	1	0.1	13	0.9	8	0.5	62
Pelham	31	15	48	15	100	0	0	0	0	0	0	0	0	0	0	64
Pembroke	583	529	91	527	99.6	NS	NS	0	0	0	0	NS	NS	0	0	55
Pepperell	351	283	81	278	98.2	NS	NS	NS	NS	0	0	NS	NS	NS	NS	45
Peru	16	13	81	13	100	0	0	0	0	0	0	0	0	0	0	46
Petersham	32	14	44	13	92.9	NS	NS	0	0	0	0	NS	NS	0	0	59
Phillipston	46	24	52	24	100	0	0	0	0	0	0	0	0	0	0	39
Pittsfield	1504	982	65	926	94.3	47	4.8	7	0.7	NS	NS	37	3.7	6	0.6	83
Plainfield	16	9	56	9	100	0	0	0	0	0	0	0	0	0	0	53
Plainville	329	254	77	253	99.6	0	0	NS	NS	0	0	NS	NS	NS	NS	47

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Plymouth	1809	1635	90	1630	99.7	3	0.2	2	0.1	0	0	5	0.3	2	0.1	46
Plympton	86	90	>99	90	100	0	0	0	0	0	0	0	0	0	0	47
Princeton	83	77	93	76	98.7	NS	NS	0	0	0	0	NS	NS	0	0	49
Provincetown	31	13	42	13	100	0	0	0	0	0	0	0	0	0	0	63
Quincy	3130	2318	74	2296	99.1	19	0.8	3	0.1	0	0	18	0.8	3	0.1	67
Randolph	1211	845	70	841	99.5	NS	NS	0	0	0	0	NS	NS	0	0	67
Raynham	488	412	84	411	99.8	0	0	NS	NS	0	0	NS	NS	0	0	43
Reading	919	744	81	742	99.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	73
Rehoboth	332	251	76	250	99.6	NS	NS	0	0	0	0	NS	NS	0	0	49
Revere	2495	1656	66	1644	99.3	9	0.5	2	0.1	1	0.1	10	0.6	3	0.2	65
Richmond	17	15	88	15	100	0	0	0	0	0	0	0	0	0	0	69
Rochester	133	130	98	130	100	0	0	0	0	0	0	0	0	0	0	45
Rockland	648	507	78	505	99.6	NS	NS	NS	NS	0	0	NS	NS	NS	NS	68
Rockport	129	78	60	77	98.7	NS	NS	0	0	0	0	NS	NS	0	0	80
Rowe	15	7	47	7	100	0	0	0	0	0	0	0	0	0	0	75
Rowley	180	122	68	121	99.2	NS	NS	0	0	0	0	NS	NS	0	0	52
Royalston	34	16	47	16	100	0	0	0	0	0	0	0	0	0	0	52
Russell	50	39	78	38	97.4	NS	NS	0	0	0	0	NS	NS	0	0	62
Rutland	301	208	69	208	100	0	0	0	0	0	0	0	0	0	0	41
Salem	1402	1189	85	1168	98.2	19	1.6	NS	NS	0	0	19	1.6	NS	NS	74
Salisbury	219	138	63	136	98.6	NS	NS	0	0	0	0	NS	NS	0	0	48
Sandisfield	26	13	50	12	92.3	NS	NS	0	0	0	0	NS	NS	0	0	49
Sandwich	498	438	88	436	99.5	NS	NS	0	0	0	0	NS	NS	0	0	40
Saugus	784	742	95	735	99.1	7	0.9	0	0	0	0	7	0.9	0	0	72

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Savoy	12	19	>99	18	94.7	NS	NS	0	0	0	0	NS	NS	0	0	45
Scituate	575	611	>99	610	99.8	NS	NS	0	0	0	0	NS	NS	0	0	72
Seekonk	388	256	66	254	99.2	NS	NS	0	0	0	0	NS	NS	0	0	66
Sharon	657	455	69	452	99.3	NS	NS	0	0	0	0	NS	NS	0	0	59
Sheffield	73	51	70	51	100	0	0	0	0	0	0	0	0	0	0	61
Shelburne	38	25	66	24	96	0	0	NS	NS	0	0	NS	NS	NS	NS	71
Sherborn	112	138	>99	138	100	0	0	0	0	0	0	0	0	0	0	69
Shirley	201	174	87	173	99.4	NS	NS	0	0	0	0	NS	NS	0	0	47
Shrewsbury	1333	823	62	812	98.7	10	1.2	NS	NS	0	0	9	1.1	NS	NS	48
Shutesbury	35	27	77	26	96.3	NS	NS	0	0	0	0	NS	NS	0	0	48
Somerset	498	330	66	325	98.5	NS	NS	0	0	0	0	NS	NS	0	0	78
Somerville	2084	1545	74	1528	98.9	17	1.1	0	0	0	0	14	0.9	0	0	79
South Hadley	413	294	71	292	99.3	NS	NS	0	0	0	0	NS	NS	0	0	67
Southampton	169	96	57	96	100	0	0	0	0	0	0	0	0	0	0	45
Southborough	315	307	97	302	98.4	NS	NS	0	0	0	0	NS	NS	0	0	47
Southbridge	635	439	69	429	97.7	6	1.4	NS	NS	NS	NS	9	2.1	NS	NS	76
Southwick	234	211	90	210	99.5	NS	NS	0	0	0	0	NS	NS	0	0	46
Spencer	348	269	77	267	99.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	65
Springfield	6459	4296	67	4172	97.1	90	2.1	31	0.7	3	0.1	109	2.5	32	0.7	82
Sterling	209	173	83	171	98.8	NS	NS	NS	NS	0	0	NS	NS	NS	NS	49
Stockbridge	29	23	79	21	91.3	NS	NS	0	0	0	0	NS	NS	0	0	80
Stoneham	662	652	98	649	99.5	NS	NS	0	0	0	0	NS	NS	0	0	67
Stoughton	937	777	83	770	99.1	NS	NS	NS	NS	0	0	7	0.9	NS	NS	68
Stow	239	166	69	166	100	0	0	0	0	0	0	0	0	0	0	57

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Sturbridge	356	219	62	217	99.1	NS	NS	0	0	0	0	NS	NS	0	0	45
Sudbury	581	543	93	543	100	0	0	0	0	0	0	0	0	0	0	53
Sunderland	100	34	34	32	94.1	NS	NS	0	0	0	0	NS	NS	0	0	49
Sutton	241	231	96	229	99.1	NS	NS	0	0	0	0	NS	NS	0	0	43
Swampscott	498	400	80	397	99.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	75
Swansea	428	297	69	296	99.7	NS	NS	0	0	0	0	NS	NS	0	0	68
Taunton	2216	1646	74	1612	97.9	29	1.8	4	0.2	1	0.1	30	1.8	5	0.3	62
Templeton	290	188	65	183	97.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	54
Tewksbury	890	749	84	747	99.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	46
Tisbury	143	118	83	117	99.2	NS	NS	0	0	0	0	NS	NS	0	0	57
Tolland	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Topsfield	165	142	86	142	100	0	0	0	0	0	0	0	0	0	0	66
Townsend	259	219	85	218	99.5	NS	NS	0	0	0	0	NS	NS	0	0	57
Truro	33	12	36	12	100	0	0	0	0	0	0	0	0	0	0	51
Tyngsborough	365	315	86	313	99.4	NS	NS	NS	NS	0	0	NS	NS	NS	NS	23
Tyringham	6	2	33	NS	NS	0	0	0	0	0	0	0	0	0	0	52
Upton	248	166	67	165	99.4	NS	NS	0	0	0	0	NS	NS	0	0	51
Uxbridge	464	290	63	289	99.7	NS	NS	0	0	0	0	NS	NS	0	0	50
Wakefield	876	785	90	781	99.5	NS	NS	0	0	0	0	NS	NS	0	0	71
Wales	65	21	32	21	100	0	0	0	0	0	0	0	0	0	0	45
Walpole	866	805	93	803	99.8	NS	NS	0	0	0	0	NS	NS	0	0	52
Waltham	2167	1509	70	1485	98.4	20	1.3	4	0.3	0	0	22	1.5	4	0.3	68
Ware	340	187	55	178	95.2	8	4.3	NS	NS	0	0	8	4.4	NS	NS	66
Wareham	629	505	80	498	98.6	6	1.2	NS	NS	0	0	5	1.1	NS	NS	69

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Warren	159	95	60	88	92.6	6	6.3	0	0	NS	NS	7	7.4	NS	NS	49
Warwick	17	6	35	6	100	0	0	0	0	0	0	0	0	0	0	56
Washington	12	5	42	NS	NS	0	0	0	0	0	0	0	0	0	0	53
Watertown	1103	888	81	878	98.9	6	0.7	NS	NS	0	0	8	1	NS	NS	78
Wayland	428	374	87	374	100	0	0	0	0	0	0	0	0	0	0	67
Webster	622	458	74	449	98	NS	NS	NS	NS	NS	NS	8	1.8	NS	NS	65
Wellesley	1058	671	63	671	100	0	0	0	0	0	0	0	0	0	0	72
Wellfleet	58	26	45	25	96.2	NS	NS	0	0	0	0	NS	NS	0	0	56
Wendell	33	8	24	8	100	0	0	0	0	0	0	0	0	0	0	47
Wenham	119	131	>99	131	100	0	0	0	0	0	0	0	0	0	0	72
West Boylston	185	160	86	160	100	0	0	0	0	0	0	0	0	0	0	64
West Bridgewater	232	199	86	196	98.5	NS	NS	0	0	0	0	NS	NS	0	0	64
West Brookfield	89	75	84	74	98.7	NS	NS	0	0	0	0	NS	NS	0	0	63
West Newbury	105	103	98	103	100	0	0	0	0	0	0	0	0	0	0	44
West Springfield	1076	733	68	715	97.5	16	2.2	NS	NS	0	0	17	2.4	NS	NS	72
West Stockbridge	22	22	100	21	95.5	NS	NS	0	0	0	0	NS	NS	0	0	56
West Tisbury	81	33	41	33	100	0	0	0	0	0	0	0	0	0	0	28
Westborough	843	578	69	560	96.9	14	2.4	NS	NS	0	0	17	3	NS	NS	54
Westfield	1285	889	69	871	98	15	1.7	NS	NS	0	0	16	1.8	NS	NS	69
Westford	690	543	79	536	98.7	6	1.1	NS	NS	0	0	5	1	NS	NS	44
Westhampton	35	26	74	25	96.2	NS	NS	0	0	0	0	NS	NS	0	0	60
Westminster	221	210	95	210	100	0	0	0	0	0	0	0	0	0	0	55
Weston	315	236	75	235	99.6	NS	NS	0	0	0	0	NS	NS	0	0	64
Westport	342	284	83	282	99.3	NS	NS	0	0	0	0	NS	NS	0	0	59

Appendix II: Screening and Prevalence of Childhood Blood Lead Levels for Children 9 months to less than 4 years of age by Community Calendar Year 2024 (cont.)

Community	Population 9-47 mo[1]	Total Screened	Percent Screened	Blood Lead Levels (µg/dL)[2] 0-4 Num.	Blood Lead Levels (µg/dL)[2] 0-4 %	Blood Lead Levels (µg/dL)[2] 5-9 Num.	Blood Lead Levels (µg/dL)[2] 5-9 %	Blood Lead Levels (µg/dL)[2] 10-24 Num.	Blood Lead Levels (µg/dL)[2] 10-24 %	Blood Lead Levels (µg/dL)[2] ≥25 Num.	Blood Lead Levels (µg/dL)[2] ≥25 %	Estimated Confirmed ≥5[3] Num.	Estimated Confirmed ≥5[3] %	Confirmed ≥10[4] Num.	Confirmed ≥10[4] %	Percent Pre-1978 Housing Units[5]
Westwood	484	401	83	400	99.8	NS	NS	0	0	0	0	NS	NS	0	0	63
Weymouth	1922	1678	87	1662	99	14	0.8	2	0.1	0	0	11	0.7	2	0.1	70
Whately	47	18	38	16	88.9	NS	NS	NS	NS	0	0	NS	NS	NS	NS	57
Whitman	553	419	76	410	97.9	8	1.9	NS	NS	0	0	8	2	NS	NS	72
Wilbraham	401	316	79	313	99.1	NS	NS	0	0	0	0	NS	NS	0	0	70
Williamsburg	57	27	47	27	100	0	0	0	0	0	0	0	0	0	0	58
Williamstown	142	94	66	89	94.7	NS	NS	NS	NS	0	0	NS	NS	NS	NS	74
Wilmington	824	612	74	612	100	0	0	0	0	0	0	0	0	0	0	50
Winchendon	317	235	74	229	97.4	NS	NS	NS	NS	NS	NS	5	2.2	NS	NS	45
Winchester	801	562	70	558	99.3	NS	NS	NS	NS	0	0	NS	NS	NS	NS	74
Windsor	10	9	90	9	100	0	0	0	0	0	0	0	0	0	0	63
Winthrop	618	420	68	415	98.8	NS	NS	0	0	0	0	NS	NS	0	0	85
Woburn	1423	1231	87	1225	99.5	4	0.3	2	0.2	0	0	5	0.4	2	0.2	60
Worcester	7578	4899	65	4800	98	75	1.5	20	0.4	4	0.1	87	1.8	24	0.5	75
Worthington	18	11	61	9	81.8	NS	NS	0	0	0	0	NS	NS	0	0	70
Wrentham	367	350	95	349	99.7	NS	NS	0	0	0	0	NS	NS	0	0	45
Yarmouth	644	431	67	426	98.8	NS	NS	0	0	0	0	NS	NS	0	0	64
Total for MA	232249	171171	74	168780	98.6	1910	1.1	436	0.3	45	0	2103	1.2	461	0.3	66

Comments

N = number (counts of children)

Number or prevalence is not shown when N is between 1-5 and total screened is less than 1,200. These small numbers are suppressed to protect privacy.

Footnotes:

[1] This report uses the 2020 UMass Donahue Institute (UMDI) interim population estimates, the most current available at the time of publication. Population count for children 9 to 47 months of age is obtained from UMDI population estimates. For more information, see "About our Data" on mass.gov/dph/matracking. According to MA state regulations (105 CMR 460.050), children are not required to be screened until 9 months of age.

[2] Blood lead levels (BLLs) include both confirmed and unconfirmed blood lead tests. A confirmed test is either a single venous specimen of any value, or two capillary specimens ≥5 µg/dL drawn within 12 weeks of each other. A single capillary blood test of any value is considered unconfirmed.

[3] The Centers for Disease Control and Prevention (CDC) used a reference value of 5 µg/dL between 2012 and 2021 to identify children whose BLLs are higher than 97.5% of all U.S. children's levels, based on the National Health and Nutrition Examination Survey (NHANES). In 2021, the CDC lowered its reference level from 5 µg/dL to 3.5 µg/dL. There is no safe blood lead level. Massachusetts defines a Blood Lead Level of Concern as 5-9 µg/dL (venous) and requires confirmatory testing for capillary samples ≥5µg/dL and re-screening for confirmed blood lead levels ≥5µg/dL. The number of children with estimated confirmed ≥5 µg/dL BLLs is calculated as the sum of those with confirmed BLLs ≥5 µg/dL and a proportion of unconfirmed capillary tests estimated to be truly ≥5 µg/dL based on known capillary test reliability.

[4] Lead poisoning in this surveillance report is defined as a confirmed BLL ≥10 µg/dL.

[5] Percentage of housing units built prior to 1978 as defined by the American Community Survey. In 1977 the Consumer Product Safety Commission banned lead-containing paint (16 C.F.R. 1303). Housing units built prior to this date may contain dangerous levels of lead in paint. As reported by the 2022 5-Year American Community Survey (Table B25034).

APPENDIX III: Technical Notes

High-Risk Community Report:

- **High-Risk Communities**: Communities with a 5-year incidence of confirmed ≥ 10 µg/dL cases of at least 15 and with a 5-year incidence rate that is above the state rate after adjusting for low to moderate income and old housing stock (built pre-1978). The combination of these factors places certain communities at greater risk of childhood lead poisoning. It is important for these communities to extend annual childhood blood lead screening through the age of 4. To help alleviate the burden of childhood lead exposure, an amendment to the Massachusetts Lead Law in 1988 established a *Get the Lead Out* program, which provides loans and grants to help pay for lead paint abatement. The law requires that 50% of the funding be used in high-risk communities. More information about the *Get the Lead Out* program can be found here.

- **Incidence Rate per 1,000**: The number of children (9 to 47 months of age per 1,000 children) identified for the first time with a confirmed blood lead level ≥ 10 µg/dL within the 5-year period. Confirmed cases are defined as either a single venous blood lead test or two capillary blood lead tests drawn within 12 weeks of each other. Incidence is calculated by dividing the number of first-time cases by the total number of children screened in the geographic area and multiplied by 1,000. This determines the rate per 1,000 children. An incident case is only counted once over the course of the 5-year time-period. To determine the blood lead level of a child with multiple tests within the period of evaluation, venous specimens take priority followed by confirmed capillary specimens. Single unconfirmed capillary specimens are not included in the incidence rate.

- **% PIR Below 2**: The poverty to income ratio (PIR), provided by the US Census Bureau, represents the ratio of a family's income to their appropriate poverty threshold, which depends on the number and ages of individuals in the family. A PIR below 1.00 indicates that the income for the respective family is below the official definition of poverty, while a PIR greater than 1.00 indicates income above the poverty level. In identifying high-risk communities, we are interested in families with low to moderate income and have chosen a PIR of 2.00 to define this income cut off. A PIR of 2.00 translates to an income that is 200% of the poverty level. For a family of four (two adults, two children), a PIR of 2.00 equates to an annual income of approximately $45,000.

- **High-Risk Score**: This score is used to determine which communities are at highest risk for childhood lead poisoning. The high-risk score incorporates the 5-year incidence rate of blood lead levels ≥ 10 µg/dL, the percentage of families living below 200% of their poverty threshold, and the percentage of housing built before 1978. The score for each community in Massachusetts with at least 15 cases is compared to the state high-risk score. When the community high-risk score exceeds the state high-risk score by a statistically significant margin, that community is at high-risk for childhood lead poisoning.

Annual Screening and Prevalence Report:

- **Total Screened**: The total number of children 9 to 47 months of age screened for lead poisoning in the given calendar year.

- **Percent Screened**: The percentage of children 9 to 47 months of age who were screened for lead poisoning in the given calendar year. This is calculated by dividing the total number of children screened by the underlying population in the geographic area based on the population estimate for the given calendar year. The 2024 report calculates percent

screened using 2020 population estimates developed by the UMass Donahue Institute (UMDI) using 2020 decennial Census data. For more information about UMDI population estimates, visit the "About our Data" page on Environmental Public Health Tracking (EPHT). Screening rate data in this report may differ from other publications, such as EPHT reports.

- **µg/dL**: micrograms per deciliter, the unit of measurement for blood lead specimens.

- **Blood Lead Levels**: The number and percentage of children within each blood lead level category, out of all children screened 9 to 47 months of age. Only one blood lead specimen is counted per child. If a child has had more than one blood lead specimen within the designated time-period, then the highest specimen is counted, with venous specimens taking priority, followed by confirmed capillary specimens and, finally, unconfirmed capillary specimens when no confirmed specimens are available. On December 1, 2017, the MA CLPPP began requiring venous confirmation of capillary blood lead specimens ≥5 µg/dL. Prior to that date, capillary blood lead specimens between 5 and 9 µg/dL were frequently unconfirmed. Unconfirmed capillary blood lead specimens ≥10 µg/dL are less common but may exist due to a failure to re-test according to guidelines. In December 2017, the MA CLPPP also revised its regulations to define childhood lead poisoning as a venous blood lead level ≥10 µg/dL and to define a blood lead level of concern as one between 5 and 9 µg/dL. The CDC reference level for blood lead in children, in effect from 2012-2021, is 5 µg/dL. In 2021, the CDC lowered its reference level from 5 µg/dL to 3.5 µg/dL. There is no safe blood lead level. Massachusetts defines a Blood Lead Level of Concern as 5-9 µg/dL (venous) and requires confirmatory testing for capillary samples ≥5 µg/dL and re-screening for confirmed blood lead levels ≥5 µg/dL. For more information regarding the CDC reference level, please visit the CDC's information page on blood lead levels here.

- **Estimated confirmed ≥5**: Capillary blood tests can be a useful tool for preliminary lead screening because they are easier to conduct than venous tests, especially on children. However, a single capillary test does not provide adequate precision or reliability to be considered confirmatory of an elevated blood lead level. Only about 1/3 of capillary results in the 5-9 µg/dL range are found to be truly ≥5 µg/dL upon retest. Until confirmatory testing of preliminary capillary results 5-9 µg/dL becomes standard practice in Massachusetts, as required by MA CLPPP as of December 1, 2017, a calculation is employed to estimate the true number of children with blood lead levels ≥5 µg/dL. The number of children with estimated confirmed ≥5 µg/dL blood lead levels is calculated as the sum of those with confirmed blood lead levels ≥5 µg/dL and a proportion of those having unconfirmed blood lead levels ≥5 µg/dL. The proportion of unconfirmed blood lead levels ≥5 µg/dL estimated to be truly elevated is based on the annual statewide proportion of capillary results in the 5-9 µg/dL range found to be truly ≥5 µg/dL upon retest (positive predictive value).

Other:

- **Rural cluster definitions**: Rural levels and clusters are defined by the MA Office of Rural Health. More detail can be found here.

APPENDIX IV: References

Brown MJ. “Costs and Benefits of Enforcing Housing Policies to Prevent Childhood Lead Poisoning.” Medical Decision Making, 2002, 22:482-492.

Centers for Disease Control and Prevention (CDC) Advisory Committee on Childhood Lead Poisoning Prevention. Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention. January 2012: https://stacks.cdc.gov/view/cdc/11859/cdc_11859_DS1.pdf.

Centers for Disease Control and Prevention (CDC) National Environmental Public Health Tracking Network (EPHT). Accessed August 2025. Web. www.cdc.gov/ephtracking.

Gould E. “Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.” Environmental Health Perspectives, 2009, 117(7):1162-1167.

Lanphear BP. “The Conquest of Lead Poisoning: A Pyrrhic Victory.” Environmental Health Perspectives, 2007, 115(10): A484–A485.

Moody HA, Darden JT, and Pigozzi BW. “The Relationship of Neighborhood Socioeconomic Differences and Racial Residential Segregation to Childhood Blood Lead Levels in Metropolitan Detroit.” Journal of Urban Health, 2016, 93(5):820-839.

Reyes J. “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.

Sampson RJ and Winter AS. “The Racial Ecology of Lead Poisoning: Toxic Inequality in Chicago Neighborhoods, 1995-2013.” Du Bois Review: Social Science Research on Race, 2016, 13(2):261-283.