

Renewing Our Pledge: A Path to Ending Lead Poisoning of Buffalo's Most Vulnerable Citizens

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Staff Team

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Executive Summary

While lead is potentially harmful to individuals at any age, it is especially dangerous for children under the age of six. The Centers for Disease Control reports that “there is no known blood lead level for children without some level of risk for some of the adverse neurological effects of lead in children.”* Lead poisoning causes permanent damage including loss of I.Q., developmental delays, learning disabilities, memory loss, hearing loss, attention deficits, hyperactivity, and behavioral disorders. In extreme cases, lead exposure can result in organ failure and death. The good news is that lead poisoning is preventable and eradicating lead from our community is possible.

Prevention requires collaboration on every level. While the tragedy in Flint, MI has vaulted dangerous lead exposure to the front of national consciousness, cities across the country have renewed their efforts to address lead hazards. The City of Buffalo and Erie County have moved together to prevent lead poisoning with a great sense of purpose. Over the past two years, City and County governments have undertaken aggressive action to tackle the complex issue of lead hazards through policy change and increased resources. Their collaborative efforts have increased enforcement, education and funding and have supported shared data and aligned decisionmaking. Philanthropy, led by the Community Foundation for Greater Buffalo, has increased funding and advocacy efforts and convened partners across the region. This community has demonstrated a readiness for addressing lead head-on.

This report provides a comprehensive assessment of lead poisoning data for community stakeholders, decision-makers, and funders. The assessment was advised by the WNY Coalition to Prevent Lead Poisoning and informed by key staff from the City of Buffalo Department of Permits and Inspections and Corporation Counsel, the Erie County Department of Health (ECDOH), and interviews conducted with officials, tenants, landlords, homeowners, non-profit staff, community leaders, and other stakeholders in Erie County.

The report is intended to develop a common understanding of the landscape for lead exposure and make strategic recommendations leading to a high-impact, collaborative community strategy to eliminate lead poisoning in Buffalo and Erie County. For the first time, City housing data and County health data have been joined for a clear picture of the location and type of housing most likely to poison our children. The focus of this plan is primary prevention, addressing the sources of lead hazards before children can be exposed.

* Agency for Toxic Substances and Disease Registry. See <https://www.atsdr.cdc.gov/csem/csem.asp?csem=34&po=10>

Major findings include:

- Erie County has one of the highest blood lead testing rates in New York State with 61% of children born in 2012 tested twice by age 36 months.
- Lead poisoning rates in Erie County have plateaued in recent years.
- The majority of children with Elevated Blood Lead Levels (EBLLs) live in City of Buffalo single family homes and doubles owned by over 1,200 different property owners.
- Over 80% of the properties where children are lead poisoned are rental properties.
- Lead poisoning is more frequently found in low-income neighborhoods, but when lead poisoning occurs, the average blood lead level (BLL) is similar across all neighborhoods and income levels.
- Despite collective progress in reducing lead poisoning, the Erie County Department of Health reports that in 2017 there were 290 new cases of blood level elevations of 10 µg/dL or higher and 466 with blood lead levels of 5-9 µg/dL (countywide).
- Heightened awareness and improved policy have made a difference in reducing lead poisoning in peer cities, and examples of their work are included throughout this report.

Recommendations

Based on an analysis of data and review of best practices across the country, recommended actions designed to radically reduce childhood lead poisoning, include the following:

- Require owners of all rental housing to pass an interior inspection for deteriorated (e.g. peeling and flaking) paint every three years after an initial six year phase-in period for singles and doubles. The City will issue certificates of compliance which must be posted in rental units.
- Require Certificates of Occupancy for all residential housing at the point of sale.
- Add a chipping and peeling paint assessment on Department of Social Services pre-tenancy inspection form. Require an Erie County Department of Health inspection of rental properties for rental assistance clients with children two years of age and younger prior to the approval of a security agreement.
- Encourage non-profit agencies that place clients in privately-owned housing to secure proof of lead clearance inspection for all properties in which their clients are placed.

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- Seek access for residential interiors wherever the City or County inspects and identifies deteriorated paint on residential exteriors or identifies a child with an EBLL. Access may be granted by tenants or property owners, or mandated by Housing Court if necessary.
 - Increase the financial resources for lead remediation through an expanded menu of public and private grants, low-interest loans, and financing to ensure property owners have access to capital to make all properties lead safe.
 - Seek approval for Medicaid funded lead remediation in the properties of EBLL children under age 6 who are enrolled in Medicaid/CHIP.
 - Require ground cover for soil to ensure that children are protected from lead exposure from vacant lots, demolition sites, etc. (both residential and commercial).
 - Increase lead safe work practice compliance and ensure that the City and County have resources and appropriate legal authority to enforce compliance.
 - Urge New York State to take a number of actions that would reduce lead poisoning locally and state-wide by:
 - Aligning the state current 'action levels' for EBLL case management of 10µg/dL and 15µg/dL for environmental investigation with the CDC standard of 5 µg/dL for case management and 10 µg/dL for environmental investigation and providing the appropriate resources to local governments to do so.
 - Granting school nurses across the state access to children's blood lead test results.
 - Improving state enforcement of lead safe work practices by petitioning the EPA for delegated authority to assume responsibility for administration & enforcement of EPA's Renovation, Repair and Painting Program (RRP).
 - Addressing lead hazards through programs that support window replacement to improve energy efficiency and/or historic preservation through the Governor's call for "Health Across all Policies."
 - Adopting proposed language included in the Governor's Budget Proposal addressing lead inspections by municipal code enforcement in designated areas of high risk for lead poisoning and presumption of lead in pre-1978 housing*.

* The proposed law adds a presumption that all buildings built before 1978 contain lead-based paint, requires that the paint not be deteriorated, and that periodic inspections be conducted to enforce the law, specifically that in "high risk areas" (as determined by the Commissioner of Health), "local code enforcement officers conduct inspections of residential rental property periodically and at specified times including, but not limited to, as part of an application for a certificate of occupancy, a renewal of a certificate of occupancy, or based upon the filing of a complaint. Such inspections shall include at a minimum a visual assessment for deteriorated paint and bare soil present within the dripline of the

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- Increase lead poisoning prevention education efforts from the City, County, medical community, Buffalo Public Schools, and non-profit organizations to reach vulnerable populations with emphasis on in-person outreach in high risk, under-resourced neighborhoods.
 - Take steps to ensure that all children receive lead screenings at ages one and two, as required in NYS Public Health law.
 - Establish legal authority for the City and County to share data on specific lead poisoning cases.

Call to Action

Reducing lead poisoning cannot be accomplished by any one player. To be successful, this community must make lead poisoning a high priority by assembling a respected Lead-safe Task Force from the City of Buffalo, Erie County government, the Buffalo Public Schools, the medical community, non-profit leaders, philanthropy, and residents. This team must be provided with staff to ensure that the recommendations are implemented, monitored and reported to the community on a bi-annual basis.

In the last two years, reducing lead poisoning has taken on a sense of urgency. With the region's increased public and private investment in economic development and housing in Buffalo and Erie County, all residents should be positioned to realize their full potential. Children have more educational opportunities than ever before with Say Yes to Education and Excelsior scholarships. Eliminating lead poisoning enables children to be healthy and ready to learn from the day they first start school. It is vital to our children's future and our collective success that our children are protected from lead poisoning.

Regardless of race, ethnicity, or socio-economic status, all children should have the opportunity to live in homes that are healthy, safe, energy efficient, and sustainable. With this fundamental premise, it is time for our region to strengthen its resolve to eliminate lead poisoning altogether. This comprehensive study on lead poisoning should serve as a roadmap to strategically marshal the resources, policies, and practices needed to safeguard all children from lead exposure.

building." The law also establishes standards for clearance of properties found to be in violation. See <https://www.budget.ny.gov/pubs/archive/fy19/exec/fy19artVIIIs/HMH-ArticleVII.pdf>.

Lead Poisoning: History & Consequences

As lead has many useful qualities and is easily mined, shaped, and refined, it has been used throughout recorded history. Since Roman times, lead has been used to make pipes and carry drinking water. Lead additives increased the octane rating of gasoline until the EPA began to phase them out of gasoline in 1973. The lead-acid battery still remains nearly ubiquitous in conventional automobiles.

Most important to this study, lead improves durability and washability in paint, and it has been widely used. Yet while the consequences of lead poisoning from paint were first observed early in the 20th century, it was only banned for consumer use by the U.S. Consumer Product Safety Commission in 1978 (although its use in interior paint was subject to a voluntary ban by the industry in 1955).*

The consequences of lead poisoning are now well documented. Lead affects brain development with impacts on cognitive function and behavior, leading to lower educational attainment and antisocial behaviors. Some social scientists have documented an association between lead exposure and crime[†]. Children are particularly vulnerable to the effects of lead. The Institute for Health Metrics and Evaluation (IHME) has estimated that “based on 2015 data, lead exposure accounted for 494,550 deaths and loss of 9.3 million disability-adjusted life years due to long-term effects on health.”[‡]

The consequences of lead toxicity have been widely and thoroughly studied, A compilation of these, combined with references to the research studies supporting these findings, has been published by the Centers for Disease Control’s Agency for Toxic Substances & Disease Registry[§].

* <http://www.leadlawsuits.com/history/history-of-the-use-of-lead-paint/>

† Doleac, Jennifer. “New evidence that lead exposure increases crime,” Brookings Institution, June 1, 2017. See www.goo.gl/oWf7tH.

‡Lead exposure not only shortens life, but also reduces the quality of health during life. “Disability-adjusted life years” is a commonly-used measure that captures quality of health, not simply quantity. See http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/ for more information.

Statistic from the World Health Organization: <http://www.who.int/mediacentre/factsheets/fs379/en/>

§ See <https://www.atsdr.cdc.gov/csem/csem.asp?csem=34&po=10>

"Time antiquates antiquities and hath an art to make dust of all things."

Nothing lasts for ever—

But White Lead Paints will add long years to the life of your home, the stables, garage, greenhouses and outbuildings, fences and gates. White Lead paints alone adequately check the rust and rot caused by the destructive action of the air. They do this in all climatic conditions, and for all structural materials. It is White Lead paints which have preserved our noble heritage of ancient town and country houses. Time has tested substitutes and found them wanting. Painting is insurance: a present outlay to save more costly repairs later. Remember that if you postpone, decay will not.

Remind yourself of the reasons for White Lead Paints:—

- (1) Few coats are needed and labour costs are low.
- (2) There is long resistance to weathering.
- (3) An ideal surface for later repainting is provided.
- (4) The quality is consistent and reliable.
- (5) Your painter knows White Lead and will not excuse poor work by blaming the paint.

White Lead Paints

JCFMERA



Major Sources

Policy actions can minimize lead exposure from three principal sources: paint—both dust and chips, residential soil, and municipal water. Other sources of lead include toys and other consumer products, including home remedies and food imported from nations with less rigorous standards than the United

States. This issue has emerged in immigrant and refugee communities here in Buffalo and has been a focus of concern in border cities, as noted by our sources in San Diego.

Paint

The Centers for Disease Control (CDC) affirms that **the most common and most serious source of lead poisoning is household paint.**

*A child's environment is full of lead. Children are exposed to lead from different sources (such as paint, gasoline, solder, and consumer products) and through different pathways (such as air, food, water, dust, and soil). Although there are several exposure sources, lead-based paint is the most widespread and dangerous high-dose source of lead exposure for young children.**

Lead-based paint represents a challenging public health problem as it addresses the balance between the obligation of government to protect public health (particularly the health of our most vulnerable residents) and the rights of property owners. Where there is evidence of harm, e.g. a child identified with EBLL, the powers and obligations of the public health system are clear. **The focus of this plan is primary prevention, addressing the sources of lead hazards before children can be exposed, stopping the lead poisoning.**

* Centers for Disease Control, <https://www.cdc.gov/nceh/lead/parents.htm>

The CDC also reminds us that it is the **deterioration** of lead paint that creates the hazard for children.

*All houses built before 1978 are likely to contain some lead-based paint. However, it is the deterioration of this paint that causes a problem. Approximately 24 million housing units have deteriorated leaded paint and elevated levels of lead-contaminated house dust. More than 4 million of these dwellings are homes to one or more young children.**

Since 93% of Buffalo homes were built before 1978, lead paint presents a clear and present danger to children in this community.

Soil

Lead in soil can poison young children through direct contact and ingestion of contaminated soil. The most common source of lead contamination in residential soil is deteriorated paint on the exterior of homes, exacerbated by deferred maintenance and the unprotected scraping and sanding that can precede repainting. Although now largely removed, lead in gasoline also contributed to soil contamination, particularly near busy roadways and industrial sites.

City ordinances and the Erie County Sanitary Code address this risk factor by identifying deteriorated paint as a code violation and by requiring lead safe work practices for remediation, consistent with the EPA's Renovation, Repair and Painting Rule (RRP).[†] In addition, the City's Unified Development Ordinance (commonly referred to as the "Green Code") currently requires that all non-paved and non-built surfaces consist of vegetation or appropriate ground cover.[‡]

Water

The Flint crisis triggered a renewed focus on lead contamination in drinking water and prompted widespread attention to lead levels in public water distribution systems, including water contamination at facilities frequented by children, especially schools, as well as household water contamination "at the tap."

The Buffalo Public Schools has collected nearly 6,000 water samples from 63 locations at public schools. The testing found that 308 outlets had water lead levels above the

* Centers for Disease Control <https://www.cdc.gov/nceh/lead/tips.htm>

† See <https://www.epa.gov/lead/renovation-repair-and-painting-program>.

‡ Buffalo Unified Development Ordinance 7.1.2(A).

federal action level of 15 parts per billion, 33 of which are typically used for drinking or food preparation. Specific test results are posted online and remediation is ongoing.*

Lead levels in Buffalo's household drinking water are generally far below the federal action level of 15 parts per billion, and far below the levels found in Flint in 2015, where lead levels were regularly found at 31 parts per billion, and in many instances significantly higher.†

Nevertheless, the presence of lead in Buffalo's water may be a contributing source of lead poisoning in infants and children. Buffalo Water, which manages the City of Buffalo's water system, has implemented a comprehensive program to reduce or eliminate lead in drinking water through a "source-to-tap" approach.

The "source-to-tap" approach begins with water initially drawn from Lake Erie being treated and leaving the Buffalo water treatment plant with non-detectable levels of lead. Since 1995, Buffalo Water has utilized corrosion control measures that prevent lead from leaching from lead pipes into the drinking water. Lead service lines and household plumbing materials containing lead, however, still pose a concern and can release lead from the pipes into drinking water.

To address this concern, Buffalo Water has implemented a proactive approach to testing and ensuring lead levels at the tap level are minimal or non-detectable. The Environmental Protection Agency requires that Buffalo Water test fifty (50) residential taps every 3 years, utilizing an action level of 15 parts per billion. In 2016, Mayor Byron W. Brown established a more stringent and rigorous protocol which requires annual testing of additional households, sets an action level of 5 parts per billion, and makes year round water testing free and available to any resident who requests testing through the City's 3-1-1 Call and Resolution Center.‡

* See <http://www.buffaloschools.org/plantservices.cfm?subpage=124724>

† U.S. Environmental Protection Agency, see <http://flintwaterstudy.org/wp-content/uploads/2015/11/Miguels-Memo.pdf>

‡ See <http://www.buffalowater.org/2016LeadTestingResults/SAFEDrinkingWaterBuffaloNY>

In 2016 and 2017, Buffalo Water tested a total of 566 household taps, with no single tap exceeding 15 parts per billion. For those households with test results at or above 5 parts per billion, Buffalo Water replaced the customers' lead service line and monitored the results to ensure reduction in the lead levels. During this period, Buffalo Water replaced 13 service lines where initial testing exceeded 5 parts per billion. Buffalo Water also tested taps at daycare facilities located in city-owned buildings for lead contamination.



In March 2017, Buffalo Water established a \$300,000 state of the art "Pipe Loop" laboratory, partnering with the University at Buffalo, to ensure optimal corrosion control treatment techniques (see adjacent photo).

In July 2017, Buffalo Water launched an initiative to conduct more in-depth water testing at the household tap level. This initiative more comprehensively evaluates corrosion of lead service lines and potential elevated lead levels that could adversely impact City residents. In addition, in collaboration with Virginia Tech and University at Buffalo, Buffalo Water is conducting an advanced laboratory analysis of harvested lead service lines to further guide the optimization of corrosion control treatment. Finally, in August 2017, Buffalo Water engaged in a comprehensive survey of all drinking water plumbing fixtures in city-owned buildings to evaluate possible water quality concerns.

Buffalo Water convened a Water Quality Working Group which will continue to oversee these initiatives and implement new programs, including efforts to move towards full lead service line replacement throughout the City.

Stepping up for Our Children

The New York State Department of Health (NYSDOH) has identified zip codes state-wide as 'Communities of Concern' that have the highest incidence of confirmed elevated blood lead levels (EBLLs). In Erie County, these high risk zip codes include: 14201, 14207, 14208, 14209, 14210, 14211, 14212, 14213, and 14215 shown in Figure 1.

Historically, each year, the incidence of confirmed children with EBLLs identified in these high-risk areas is more than double the overall incidence rate in Erie County shown in Figure 2. Children in these zip codes are at *highest risk* of becoming lead poisoned.

New York State has consistently ranked high on risk factors linked with lead poisoning, including a deteriorated, older housing stock and many young children living below the poverty level. In Buffalo alone, 53.9% of youth live in poverty. These hazards are disproportionately experienced by children of color. While the incidence rates have decreased over time, Erie County has historically had higher incidence rates compared to all of New York State due to these high risk factors, excluding New York City.

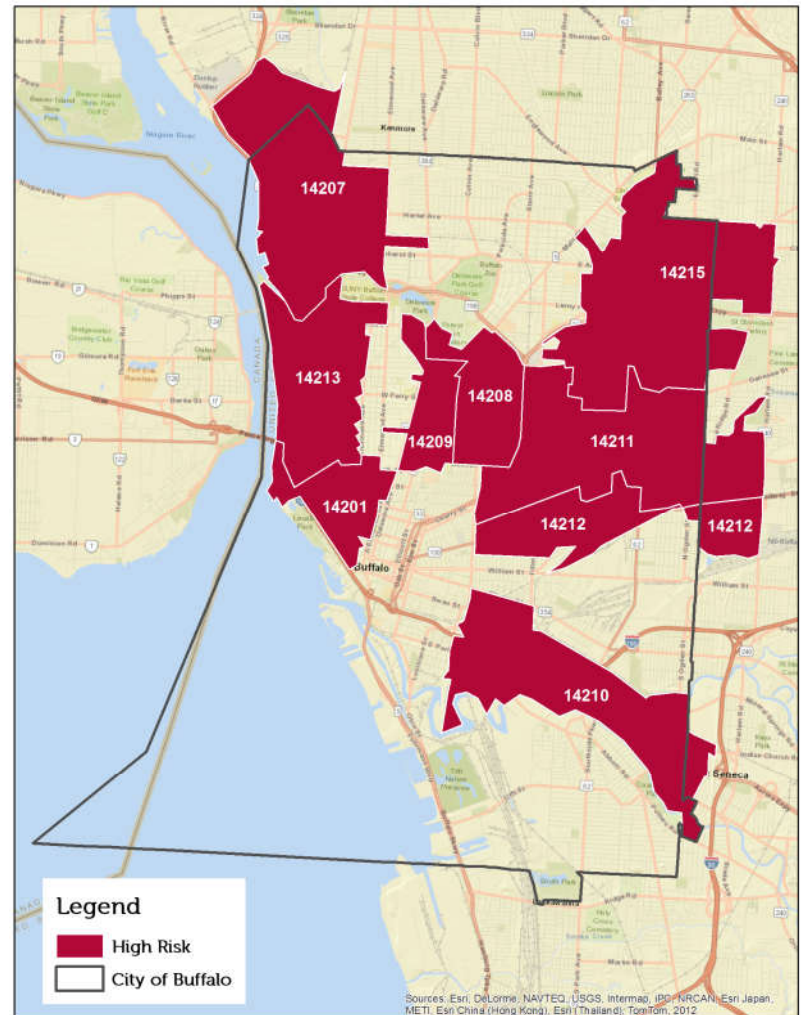


Figure 1 High Risk Zip Codes in Erie County

Figure 2 shows all new cases of blood lead levels tests recording over 10 µg/dL from 2013 through 2017*.

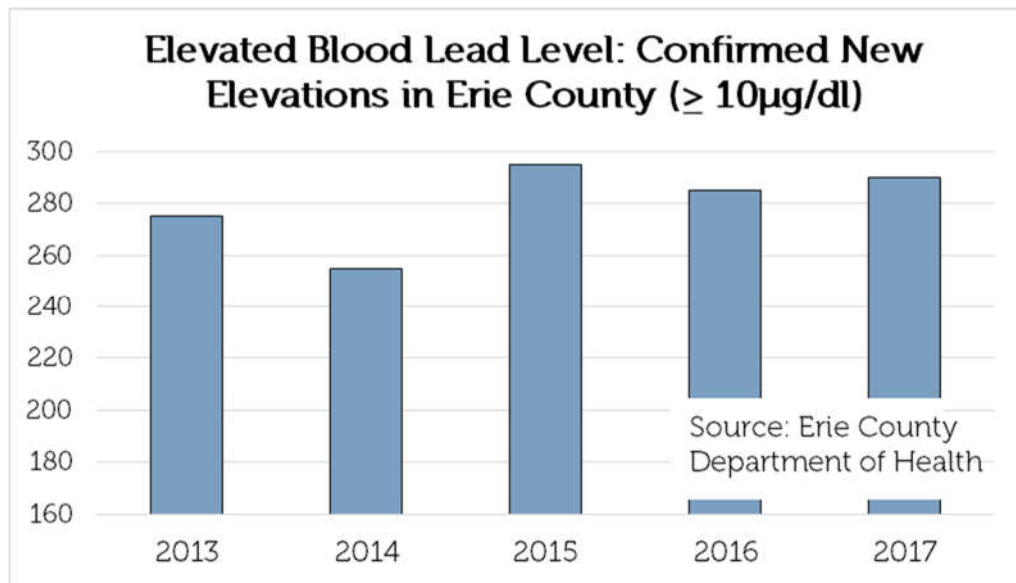


Figure 2 New EBLL for Erie County (>10 µg/dL)

The total number of EBLL tests is only one consideration. An increase in the total number of children tested would be expected to increase the number of EBLLs identified. According to data released by NYS Department of Health, the share of Erie County children tested with an EBLL of 10 µg/dL declined through 2011, then trended upward since. The same trend—including an unexplained spike in 2013—is observed at the state level. Erie County’s rate is persistently higher than the state’s. See Figure 3.

The principal source of lead contamination in Buffalo is lead-based paint in homes constructed before 1978. With a housing stock that is one of the nation’s oldest, Buffalo has over 120,000 housing units built before 1980 (the closest year to 1978 reported by the Census Bureau), all of which may contain lead based paint. Moreover, Buffalo is also unusual in the heavy predominance of smaller, wood-frame buildings as opposed to building types such as brick apartment buildings. As a consequence, Figure 4 shows Buffalo has among the highest rate of at-risk housing in the nation and certainly the highest among our comparison cities. While many of these homes do not have exposed lead hazards, many homes in under-resourced neighborhoods have significant deferred maintenance, creating acute lead hazards.

* The bulk of this report is based on a detailed analysis of all referrals of 15 µg/dL or higher, matched to property address for the years 2009-2016. The 2017 figures were just compiled and released by the Erie County Department of Health just as this report was being finalized.

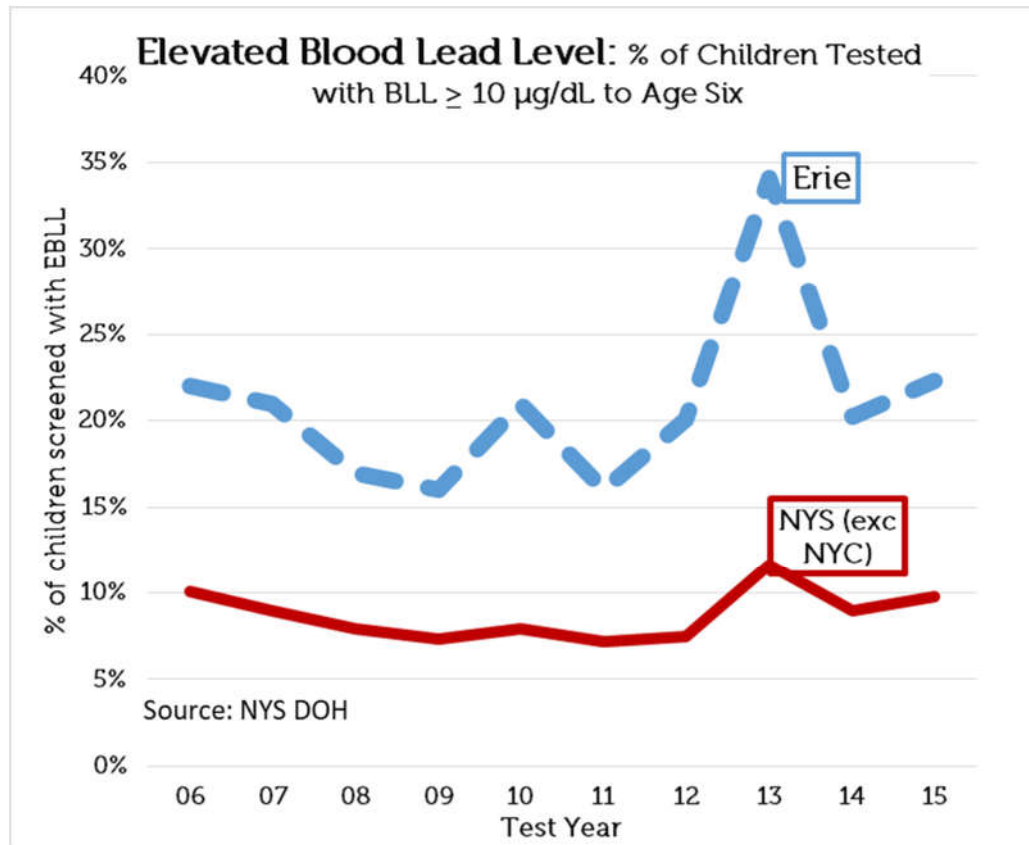


Figure 3
Share of Children Tested with EBLL (\geq 10 μ g/dL)

Across the nation and here in Erie County and the City of Buffalo, children in poverty pay a terrible price from lead contamination as their developing brains are particularly vulnerable to this toxic metal. Lead poisoning contributes to the persistence of urban poverty and, as a disproportionate share of the region's people of color reside in central cities and inner ring communities, it also serves to perpetuate health and income disparities by race and ethnicity. Children from neighborhoods of color are twelve times as likely as children from predominately white neighborhoods to be diagnosed with EBLLs.*†

* Percentage of children born in 2012 with at least two lead screenings by 36 months

† University at Buffalo Regional Institute, State University of New York at Buffalo, School of Architecture and Planning, and Make Communities. 2016. "The Racial Equity Dividend: Buffalo's Great Opportunity."

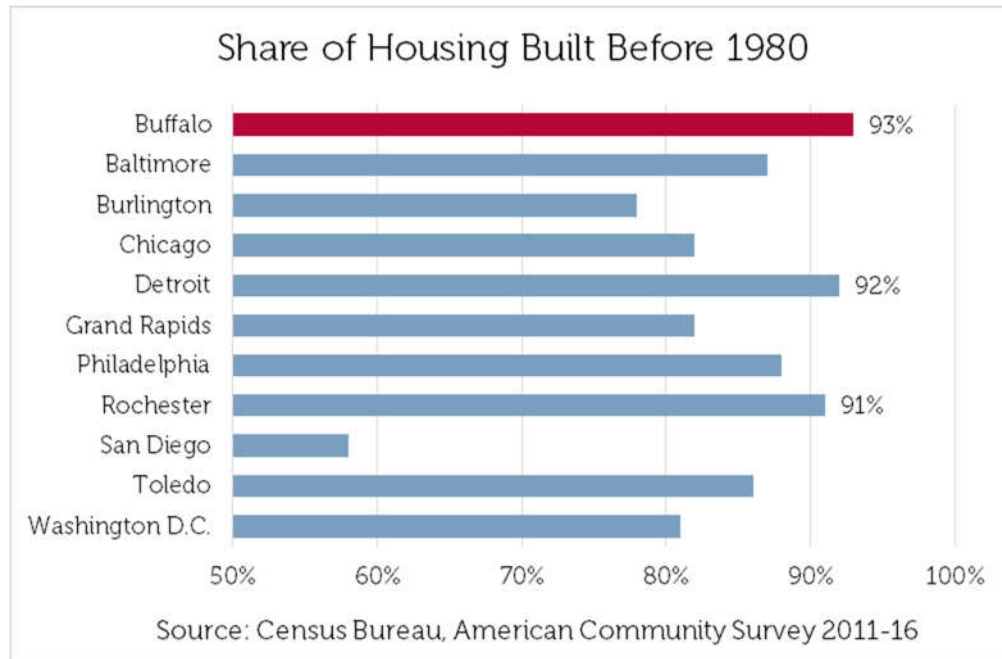


Figure 4 Share of At Risk Housing by Comparison City

Because lead poisoning is preventable by measures that minimize lead exposure, communities across the nation, including Erie County and the City of Buffalo, have taken on the challenge of lead poisoning prevention. The Western New York Coalition to Prevent Lead Poisoning advised this report. Convened by the Community Foundation for Greater Buffalo, the Lead Coalition serves a critical role in bringing together disparate partners on a regular basis to strategically affect cross-sector, inclusive, systems-level change.

Prevention Strategy

Prevention strategies are described as either “**primary**” or “**secondary**.”

- Primary prevention addresses conditions that could lead to poisoning if a dwelling were occupied by a vulnerable individual, particularly children.
 - In long-established cities like Buffalo, the properties targeted by a primary prevention strategy will be those built before the national prohibition of lead in paint, thus dwellings built before 1978. As many paint manufacturers began phasing out the use of lead much earlier, particularly in interior paints, the risk rises with the age of the property.
 - Although the risk posed by lead-laden dust is significant in some dwellings, the most serious problems occur in dwellings with deteriorated paint. As good

maintenance can be costly, communities in poverty are more likely to experience a problem with lead.

- Secondary prevention refers to the set of interventions that are triggered by an elevated blood lead test. Once a lead hazard is suspected, the public health authorities are empowered to identify the source of contamination and take steps to correct it.

Policy and practice addressing secondary prevention—the response to a proven case of lead poisoning—are well established in Buffalo and Erie County.

Summary of Current Local Initiatives

State Programs

New York's Strategic Plan for lead poisoning reduction, titled *Eliminating Childhood Lead Poisoning in New York State by 2010* was completed in 2004.*

In 2007, the NYS legislature passed, and the governor signed into law, a program to curtail childhood lead poisoning dramatically (PHL1370-a [3]). The Childhood Lead Poisoning Primary Prevention Program (CLPPPP) authorized health departments to gain access to high-risk homes for the purposes of education and inspection. This represented a significant policy shift, since previously health departments could only gain access to a home if a child had already been diagnosed with an elevated blood lead level.†

The program is a collaboration with counties, including Erie, and provides technical assistance and grants to support local remediation and policy development. CLPPPP is currently funded at \$10 million annually. This is an increase from \$7.7 million budgeted in FY 2009-10.

The most recent progress report for the CLPPPP is for NYS FY 14-15. ‡ It reports that:

Since the CLPPPP's inception, grantees have visited and inspected the interiors of almost 38,000 homes, identified confirmed or potential lead hazards in 12,840, and have cleared (deemed lead safe) 75.6% (9,703) of the units. As a result, over 11,020 children who were previously living in homes with

* See <https://www.health.ny.gov/environmental/lead/exposure/childhood/finalplantoc.htm>

† See http://www.nchh.org/Portals/0/Contents/NYSDOH_Yr8_Summary-Report_Final.pdf

‡ See <http://www.nchh.org/Program/NewYorkStateCLPPPPProgram.aspx> for progress reports.

confirmed or potential lead hazards are now at a greatly reduced risk for lead poisoning. . .

*Erie County conducted post-remediation follow-up and evaluation on 391 housing units where lead hazard control was completed between 2010 and 2013. Eighty-four percent of the housing unit exteriors remediated were found to be maintained and in good condition upon re-inspection.**

County Programs

In 2007, Erie County joined New York State Department of Health (NYSDOH) in launching an innovative pilot program focused on the *primary prevention* of lead poisoning. The goal of the Childhood Lead Poisoning Primary Prevention Program (CLPPP) was to develop interventions, which would eliminate or reduce lead poisoning hazards *before* children were exposed.

The Erie County Department of Health (ECDOH) implemented a three-part primary prevention strategy. First, ECDOH utilized the ability granted to local health departments by NYSDOH, to declare 'high-risk' areas in the "community of concern" zip codes. Previously, this had only been attempted for individual properties, which ECDOH expanded to entire streets or census tracts. Within the declared high risk areas, the exteriors of all structures were tested for lead and property owners were required to make repairs. Between 2007 and 2015, over 7,500 units were assessed. 4,846 were identified with confirmed exterior hazards and 4,214 (87%) were cleared of hazards. Second, ECDOH provides property owners under notice with the knowledge and materials needed to correct hazards in a lead safe manner. ECDOH sought and received certification to teach the EPA Renovation, Repair and Painting (RRP) course, which trains people to address lead hazards safely when renovating, repairing or painting. Since 2010, ECDOH has trained over 1,600 people as RRP Renovators, including Building Inspectors from communities all over the County. Finally, in 2010 the Erie County Sanitary Code was updated to include requirements for lead safe work practices and the presumption of lead in pre-1978 housing.

In February of 2016, Erie County Executive Mark Poloncarz announced plans for a "Lead Poisoning Primary Prevention Initiative". This Initiative builds upon and expands the scope of the ECDOH primary prevention activities to the entire County. The County Executive pledged \$750,000 per year for five years. As a result the County:

- Lowered the threshold for EBLLs from 10 micrograms per deciliter ($\mu\text{g}/\text{dl}$) to 5 $\mu\text{g}/\text{dL}$, aligning Erie County with the Center for Disease Control (CDC) standard.

* See http://www.nchh.org/Portals/0/Contents/NYSDOH_Yr8_Summary-Report_Final.pdf

- Hired a full time Registered Nurse to provide medical case management of children with EBLs of 5-9 µg/dL.
- Provides environmental intervention for children with lower blood lead level elevations still deemed harmful at 10-14 µg/dL and 5-9 µg/dL*.
- Hired additional inspection and professional staff to incorporate lead poisoning prevention in all of the County's housing based programs.
- Created a "Window Fund" for a window replacement program to assist home and property owners with making Erie County homes lead safe.
- Provided matching funds for a three year HUD Lead Hazard Reduction Demonstration grant to support efficient, cost-effective lead hazard reduction activities in privately owned homes in Erie County that are occupied and frequented by children under the age of six. Recruitment is focused, but not limited to, the Cities of Buffalo and Lackawanna.

City Programs

In May 2016, Mayor Byron W. Brown unveiled a multi-pronged initiative, "The City of Buffalo Lead Hazard Control Program – Legislate, Collaborate, Educate and Remediate." This initiative to reduce Buffalo residents' exposure to hazards from lead includes procedural changes and key amendments to the City Code and new resource allocation, including a dedicated call-in line through the 3-1-1 Call and Resolution Center. The Mayor also expanded and strengthened the City's protocol with respect to concerns about the presence of lead in drinking water. As a result, the City, in 2016 and 2017:

- Significantly increased enforcement of existing building codes, particularly around exterior chipping and flaking paint, by inspecting, and citing where appropriate, over 5,000 residences in zip codes with the highest concentration of children with EBLs as defined by the ECDOH.
- Required all landlords of non-owner occupied singles and doubles constructed prior to 1978 to provide a "Lead Paint Notice Form" to tenants explaining the likelihood of the presence of lead paint, and encouraging tenants to call 3-1-1 with concerns.
- Required landlords and property managers to comply with the Environmental Protection Agency's (EPA) "Renovation, Repair and Painting" (RRP) program that

* Although NYS law only requires intervention for elevations of 15 µg/dL or higher, Erie County began responding to elevations at 10 µg/dL in April, 2017.

reduces lead contamination from repair and renovation, including submission of RRP certification by all registered property managers.

- Lowered the “action level” for presence of lead in drinking water from 15 parts per billion to 5 parts per billion.
- Established a 3-1-1 call line for tenants and homeowners concerned with lead poisoning, and revamped the City website with additional resources and information on lead hazards.
- Encouraged residents to call 3-1-1 for free water testing as part of an expanded testing initiative.
- Tested drinking water in all City of Buffalo owned day care facilities and surveyed fixtures in all City of Buffalo owned buildings accessible to the public.
- Actively collaborated with the (ECDOH) and the Western New York Coalition to Prevent Lead Poisoning to publicize 3-1-1 and continue to develop a comprehensive lead poisoning prevention plan.
- Collaborated with the Western New York Coalition to Prevent Lead Poisoning to engage in wide spread public education through billboards and a new website, WipeOutLead.com.
- Worked with the Buffalo Public Schools to develop lead awareness materials in eight languages and distributed over 250,000 flyers about lead based paint hazards to parents.
- Provided financial support for this study.

Both the City and the County have improved their coordination in recent years, including co-funding a campaign to improve lead awareness. The City’s Department of Permits and Inspections is responsible for ensuring the safety of housing conditions. The ECDOH is responsible for protecting the health of residents. To ensure lead safe housing and healthy children, these two government agencies must have a close working relationship to coordinate appropriate action. This study demonstrates a new commitment to collaboration as City housing and County health data have been combined for this analysis.

All of this activity signifies progress, but defeating lead poisoning will require much more from local government and the entire community. As the City, County, philanthropy, non-profits and community leaders renewed their commitment to eliminating lead poisoning in 2016, their actions represent the first steps on the journey. This report is intended to sharpen their collective efforts to protect children from the devastating effects of lead poisoning and was designed to:

-
- Undertake a comprehensive review of City of Buffalo and Erie County policies affecting the risk of poisoning from lead-based paint;
 - Address gaps in existing policies and programs;
 - Compare policies and programs in place here with those best practices established elsewhere; and
 - Recommend a set of achievable, data driven policy reforms and evidenced-based prevention programs that will help the community take the next steps toward eliminating the scourge of lead contamination.

Demographics and Data

Testing

Blood lead level screening of children is an important part of a lead poisoning control strategy.

NYS Department of Health regulations require universal screening for lead poisoning of children under six years old. Primary Care physicians are required to test children at age one and age two*. Compliance is challenging, particularly among families without a regular connection to the health care system. An effective lead poisoning strategy must ensure that this regulation is followed.

Laboratories and health care providers who provide testing at point of care are obligated to report test results to the NYS Department of Health. Although all results are to be reported by regulation, some providers appear to submit results only when an EBLL is detected.

The variability in testing rates suggests that much remains to be done to ensure compliance with state law governing screening. Although primary prevention is the focus of this plan, effective screening will ensure that children who are poisoned receive timely treatment.

* NYS Department of Health. See https://www.health.ny.gov/regulations/nycrr/title_10/part_67/index.htm

Policy in Action: Lead Hazard Testing

*Philadelphia reports that 88% of children born in 2012 were screened for lead poisoning before age 3. In other cities the testing rate is well under half that rate or can only be roughly estimated. Philadelphia attributes this remarkable achievement to very aggressive monitoring of screening rates for all physicians with at least 10 children in their practices: "PDPH [Philadelphia Dept of Public Health] has identified blood lead screening rates for all physician practices that serve at least 10 children, and has started sending messages to those practices notifying them of their screening rates. The messages also include information on children that PDPH does not have screening results for, so that providers can reach out to those families and ask them to come in for screening. **

Testing rates across the state and the country vary considerably.

Erie County's testing rate has been higher than that of other NYS counties in most reported years. Figure 5 shows testing rates by comparison county.

Comparisons for screening and EBLLs are connected but compromised by the fact that the EBLL rate among tested children will depend on both the testing rate and the county's underlying risk profile (including the age of the housing stock, relative poverty and the owner-occupied/rental housing proportion). Unless nearly all children are being tested or the children tested are selected randomly—neither of which appears to be true—then the characteristics of the tested group will have a systematic impact on the EBLL rate. If Erie County is testing a higher share of "at risk" children than, say Orange County, then the reported EBLL rate for Erie would not be directly comparable with that for Orange. Moreover, a lower screening rate for Orange County may mean that kids with EBLLs aren't getting found, suggesting that the actual EBLL rate there may be higher than reported. The testing rate matters, as does the technology used to conduct the tests.

*See http://www.phila.gov/health/pdfs/Phila_Lead_Disclosure_and_Certification_Law_12_21_11.pdf

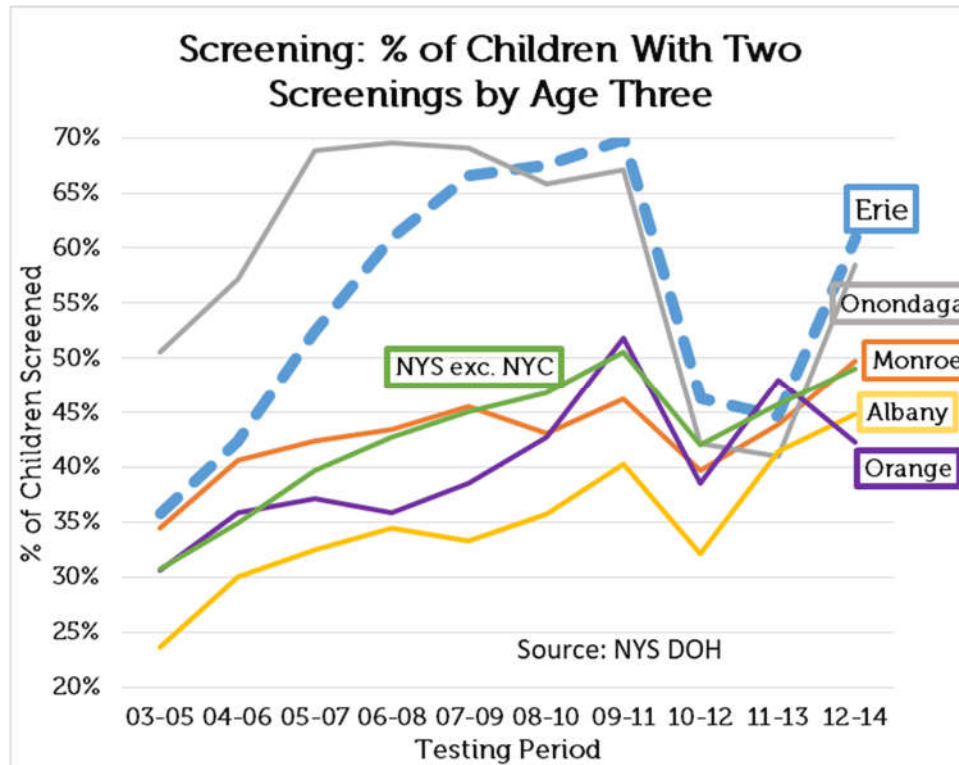


Figure 5 Testing Rate Trends for Comparable NYS Counties

ECDOH has aggressively sought to increase testing rates for children at both 1 and 2 years of age. Regular outreach and continuing communication with large pediatric practices is maintained by medical staff. Every month hundreds of “Reminder” letters are sent to families with children turning two to urge them to get their child screened. The importance of screening is stressed at all outreach events and during home visits with families. Any child under six identified during housing-based activities for any of ECDOH’s programs generates an in-house referral to the Lead Program to verify that the child is up to date on required screening. Lead program staff will follow-up and make sure the child is screened. Children without primary care or health insurance are also identified and families directed to both.

Comparative Lead Poisoning Statistics in NYS

The NYS Department of Health compiles and reports EBLL statistics by zip code and county. The way in which this data is collected and reported makes meaningful comparison across counties problematic for several reasons including the screening issues described above. In addition, the state threshold for action is 10 $\mu\text{g}/\text{dL}$, while some counties (including Erie County) have recently reduced the threshold to 5 $\mu\text{g}/\text{dL}$. Although NYS has begun releasing statistics for tests showing 5-10 $\mu\text{g}/\text{dL}$, state figures in this report remain based on the threshold level of 10 $\mu\text{g}/\text{dL}$.

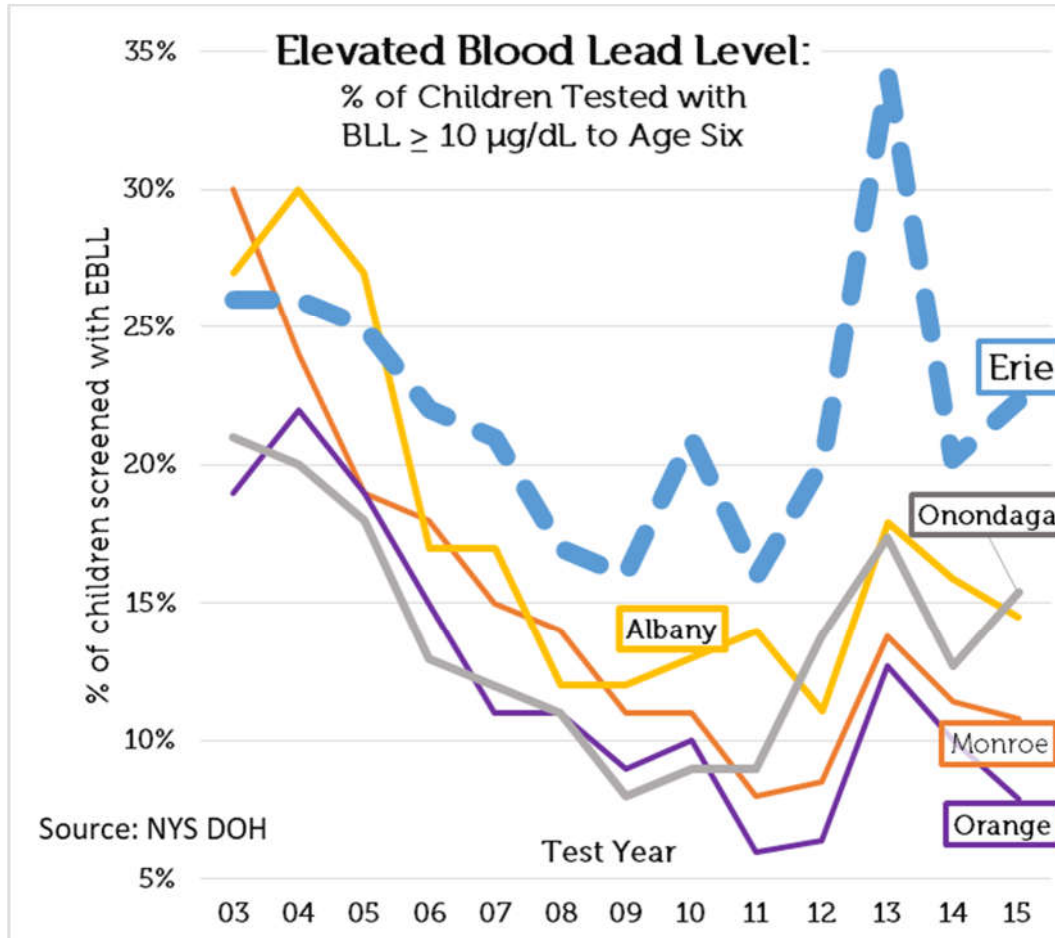


Figure 6 EBLL Rates for Comparable Counties

Erie County's rate of children with EBLL (at the 10 $\mu\text{g}/\text{dL}$ threshold) per 1000 children tested has been consistently higher than comparable counties (defined as counties outside NYC with substantial EBLL referrals).

State figures, combined with the CGR analysis of individual data points for Erie County, suggest that the problem in Buffalo has changed little since 2008. The same can also be said for some other NYS counties; the EBLL rate in Onondaga, for example, is second highest and has increased markedly since 2011.

Housing Characteristics & Lead Contamination

An effective lead poisoning prevention policy should target the neighborhoods, building and tenure categories most likely to endanger children. For the purpose of identifying the high risk dwellings, the City of Buffalo's property database was matched

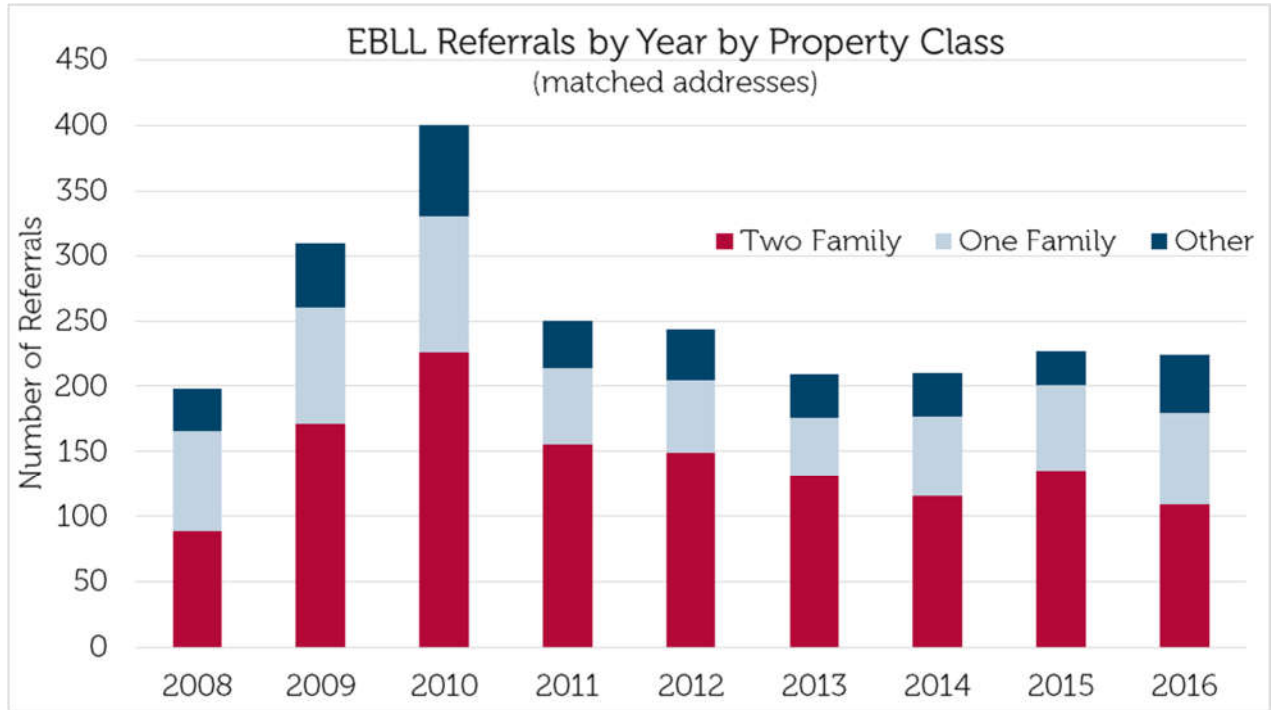


Figure 7 EBLL Referrals by Property Class (15 $\mu\text{g}/\text{dL}+$)

against the EBLL records under the jurisdiction of the ECDOH for cases of 15 $\mu\text{g}/\text{dL}$ and over (the state-mandated intervention threshold). As the residential address of an individual with an EBLL is covered by the federal Health Insurance Portability and Accountability Act (HIPAA) law, CGR entered into a Business Associate Agreement with the ECDOH, permitting access to the HIPAA-protected data. A description of the data management and analysis process plus detailed tables appear in the Appendix. Figure 7 shows the number of EBLL referrals of 15 $\mu\text{g}/\text{dL}$ or higher over time and the types of property where they occurred. The number of children with EBLLs has changed little from 2008 to 2016 with the exception of spikes in 2009 and 2010. This is contrary to the experience of many cities discussed in the Case Study found in the appendix. Erie County's rate of lead poisoning has not improved.

By combining City and County data, the analysis shows that the majority of lead poisoning is occurring in one and two family homes, and less frequently in multi-unit dwellings with three or more units. Roughly half of referrals are associated with doubles, typically with an upper and lower unit in Buffalo. Doubles, which represent a large portion of Buffalo housing, are not covered by the city's rental registration requirement if one of the units is occupied by the owner.

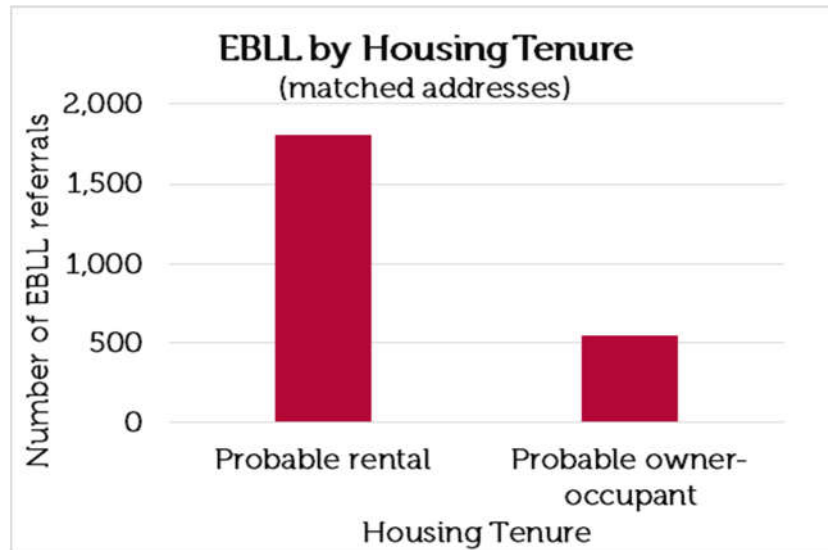


Figure 8 EBLR Rates by Housing Tenure (15 µg/dL+)

Figure 8 shows that most EBLR referrals come from rentals, with only approximately 20% of referrals apparently associated with owner-occupied dwellings. 80% of the EBLR referrals are from addresses that are probable rentals. For this reason, primary prevention efforts have been directed at those properties. However, additional policies need to be put in place to address the 20% of properties that are owner-occupied. Note that some landlords may falsely claim to live in a double to avoid the rental registration requirement, as it is not required for owner-occupied units.

Figure 9 combines data on the type and ownership of the property, clearly showing that rental doubles are responsible for the vast majority of EBLR referrals. Owners of buildings with 4 or more units (assessment classification 411) appear to be maintaining their properties to minimize the lead hazard. *Over the nine year reporting period, only 73 EBLR referrals were received for children living in apartment buildings.*

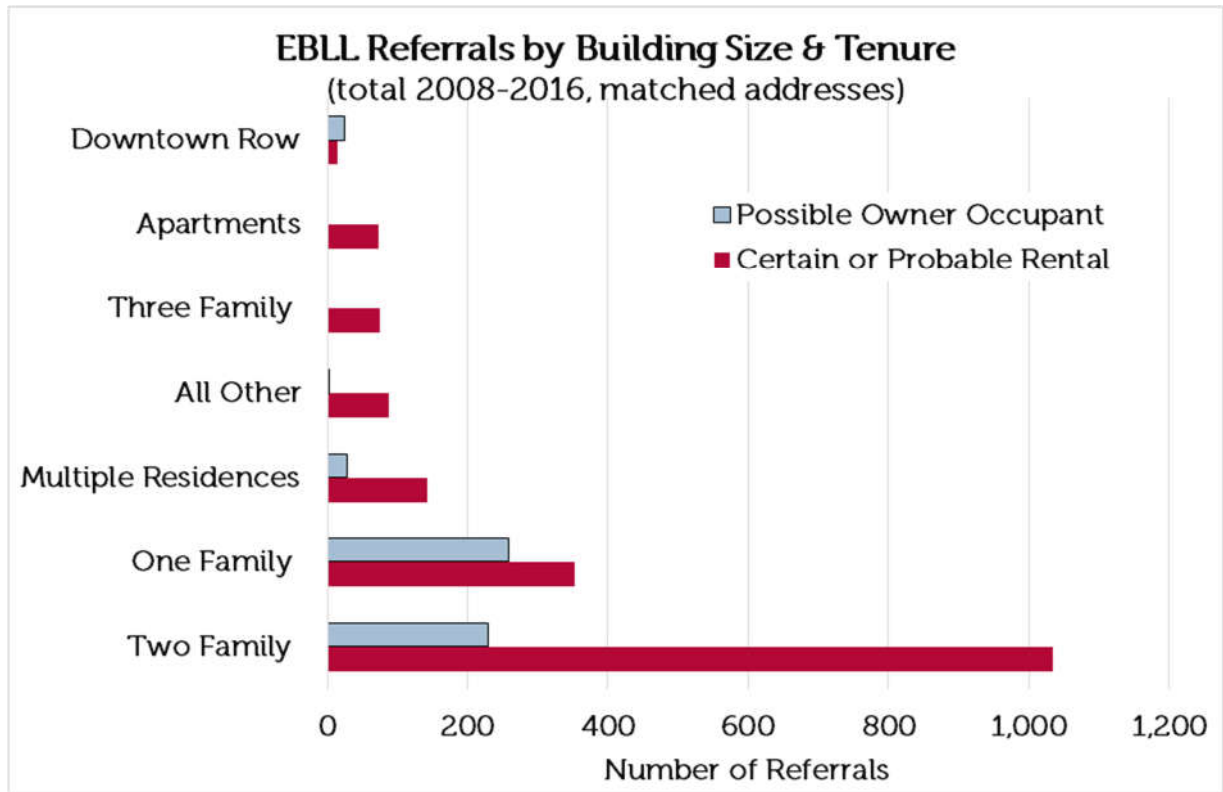


Figure 9 EBL Referrals by Building Characteristic (15 $\mu\text{g}/\text{dL}+$)

Rental Properties

The problem with EBL referrals is diffused, thus more difficult to address. Instead of a few owners or managers who each have responsibility for a large number of rental properties, the number of owners controlling multiple properties is relatively low. In other words, the problem is widespread and not the result of just a few "bad actors". Only two owners are associated with more than 10 referrals at this level. The distribution appears in Figure 10 below.

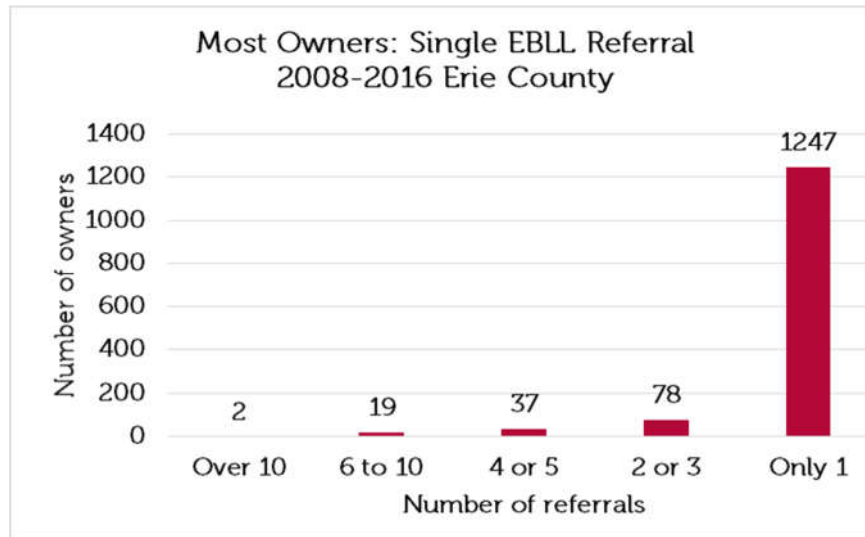


Figure 10 Number of Referrals per Owner (15 µg/dL+)

The data points show that few individual properties are “repeat offenders.” Forty-two addresses have 4 or more referrals, but many of these referrals are clustered around the same date, suggesting a single incident with multiple children or repeated testing.

Poverty

The maps on the following pages illustrate the relationship between household poverty and EBLL referrals. The shaded shapes on the map are the U.S. Census Bureau’s “census block groups.” The shading shows median household income—the shading is deeper where median household income is higher.

In the first map (Figure 11), the dots placed in each of the shapes represents the number of EBLL referrals to Erie County from 2009-2016. Larger dots indicate more referrals. A large dot in a lightly shaded area indicates more referrals and lower household income. As the Census Bureau designs the block groups to contain roughly the same population, the size of the dot approximates the share of children tested who were found to be lead poisoned.

It is expected that *higher* EBLL rates would be observed in census block groups with *lower* median household income (MHI). This is clearly apparent in the map following. *

* In statistical terms, this association between household income and EBLL frequency can be measured with the “correlation coefficient.” A correlation coefficient of 1.0 is “perfect” correlation, i.e. that an increase in one of the observed variables is associated with exactly the same increase in the other. If the correlation coefficient is equal to -1.0, then an increase in one variable is associated with exactly the same decrease in the other. In this case we would expect higher EBLL to be associated with lower MHI.

EBLL Referrals are Concentrated in Low Income Areas 2008-2016

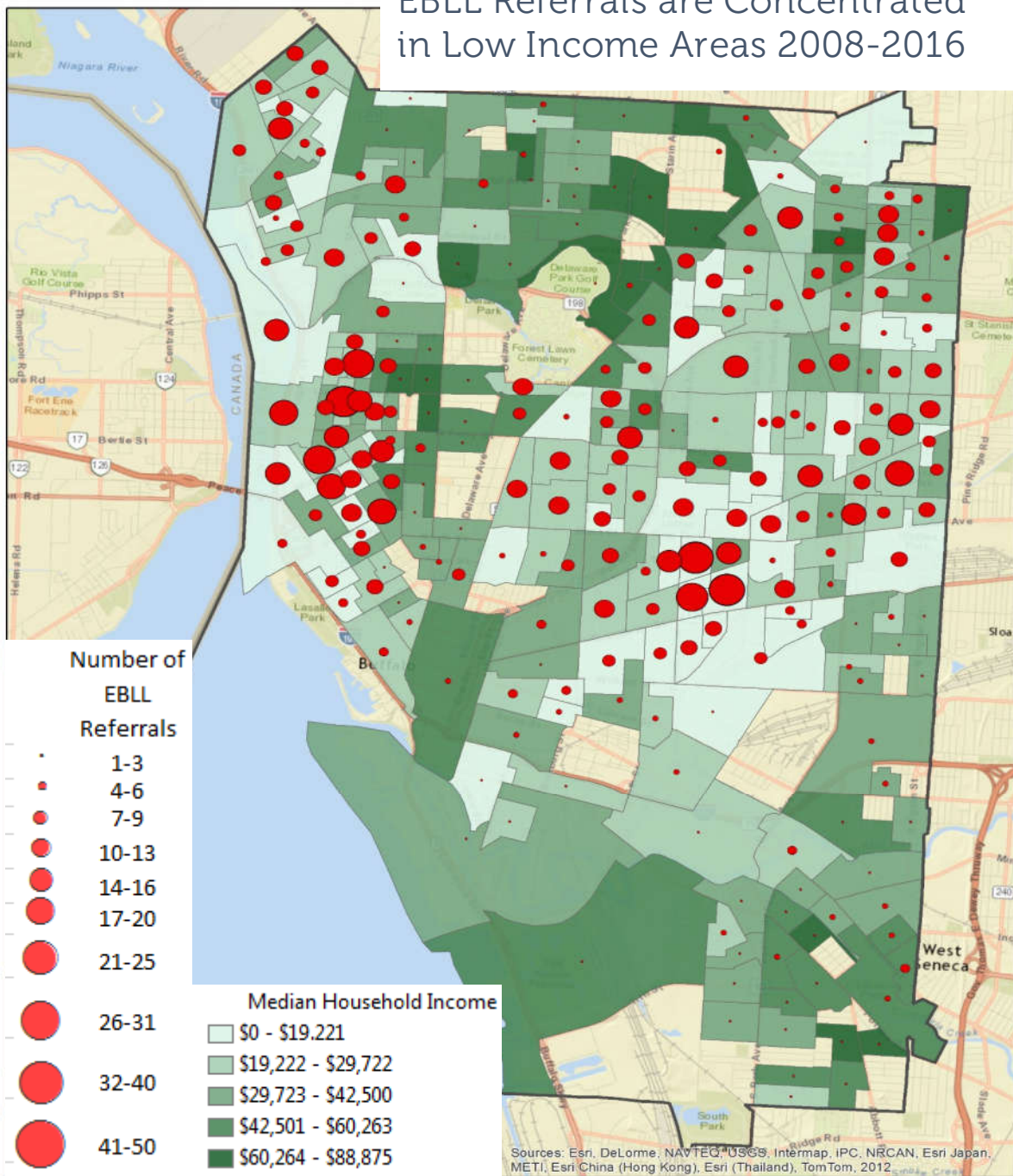


Figure 11 Map of EBLL Frequency by Census Block Group (15 µg/dL+)

In fact, the correlation coefficient is -0.41, which can be interpreted as saying that an increase of 100% in EBLL rate is associated with a 41% decrease in MHI. This is considered a strong negative correlation.

Average EBLL is Similar Across Census Block Groups 2008-2016

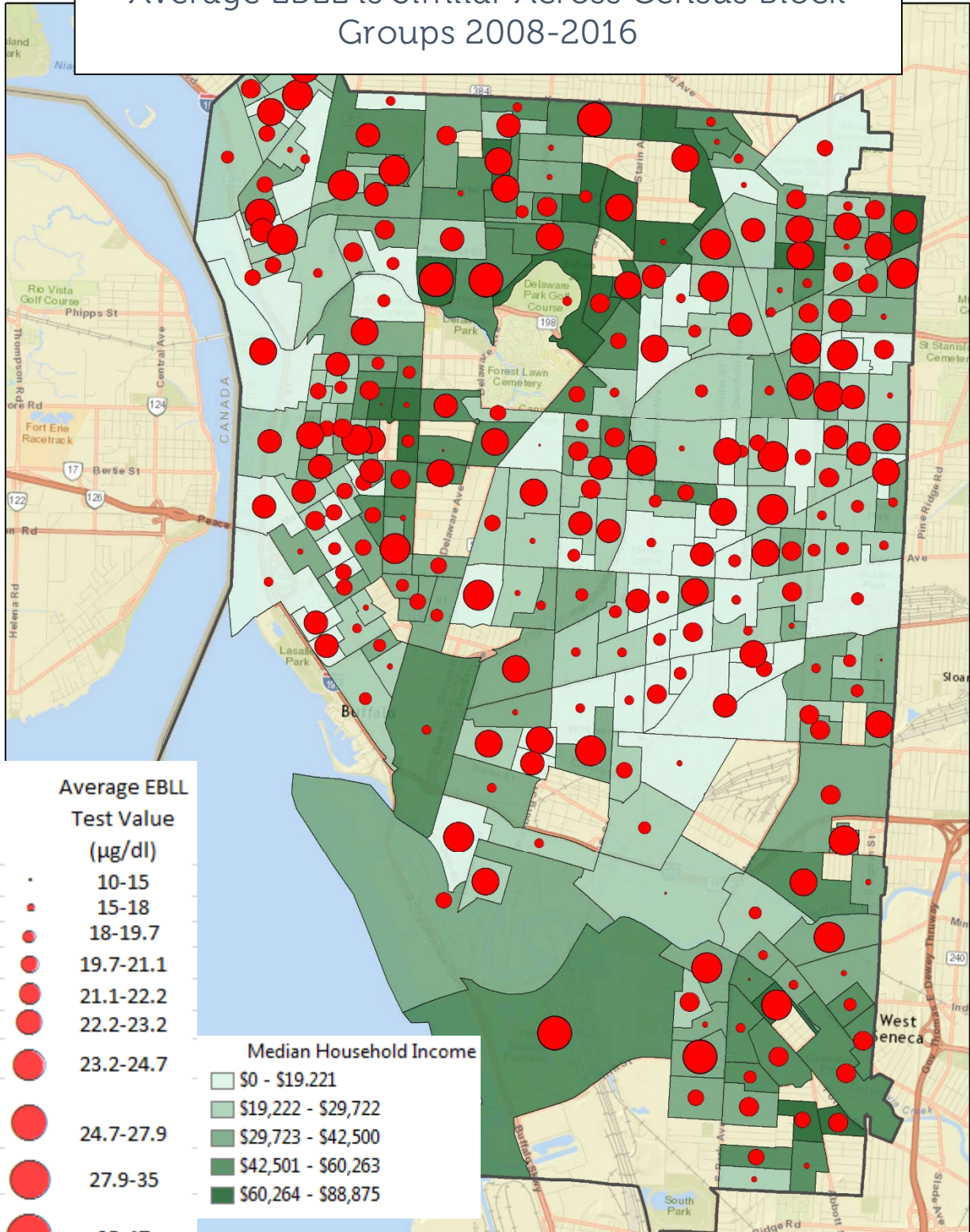


Figure 12 Map of Average EBLL over 15 $\mu\text{g/dL}$ by Block Group

In the second map (Figure 12), the dots represent the average of the EBLL level reported for residences within the census block group. It might also be expected that the average EBLL level might also be higher in lower MHI neighborhoods, but this is not the case. In other words, children in lower income neighborhoods are much more likely to get lead poisoning. But, for children with lead poisoning, the **severity** of that poisoning does not seem to vary with income.

An interactive map that displays the number of EBLL referrals, average BLL, and median household income for every Census Block Group in the City of Buffalo is here: <http://arcg.is/1vjfPT0>

Practical Policies for Reducing Lead Poisoning

A Framework for Change

Policy and practice addressing secondary prevention—the response to a proven case of lead poisoning—are well established in Buffalo and Erie County (see appendices for outline of current programs). The goal of this study is to identify strategies to reduce the incidence of lead poisoning, i.e. primary prevention. The following recommendations were developed collaboratively with key staff from the City of Buffalo, Erie County and the Community Foundation for Greater Buffalo, facilitated by the consultant team of Center for Governmental Research (CGR) and Partnership for the Public Good (PPG), and advised by the WNY Coalition to Prevent Lead Poisoning. Additionally, research into best practices found in peer cities was used to inform policy recommendations; interviews conducted with officials, tenants, landlords, homeowners, non-profit staff, community leaders, and other stakeholders in Erie County helped inform recommendations. Although City and County staff helped inform these recommendations, they have not yet been considered and adopted by the City of Buffalo Mayor and Common Council of the City or the Erie County Executive, Erie County Legislature, and the Erie County Board of Health.

Public debate and discussion will follow the release of this report and will likely result in changes and modifications to the policies proposed. Moreover, this report does not include specific legal language for consideration by the Buffalo Common Council or the Erie County Legislature, nor does the report include the detailed regulatory language required to implement proposed new policies.

Presumption of Lead in Pre-1978 Housing/ Lead-safe work practices

The policy discussion was framed around the idea of the presumption of lead in pre-1978 housing and requiring lead safe work practices for all work which may disturb painted surfaces.

Lead Safe, not Lead Free

When a dwelling is declared “**lead safe**,” it is deemed to pose little or no risk to inhabitants despite the likelihood that lead-based paint remains in place. A dwelling is declared “**lead free**” when remediation has removed all lead-containing material. Bringing a dwelling to lead safe status involves the application of “**interim controls**,” principally stabilizing deteriorated paint through partial removal and repainting, cleaning of lead-containing dust, and adding ground cover to contaminated soils.*

Awareness of the issue nationwide prompted an informative review of the lead poisoning problem and federal policy response by the Health Impact Project of the Robert Wood Johnson Foundation and the Pew Charitable Trusts. The report was published in August, 2017.† There are a number of other reports that have contributed to our knowledge of the problem and approaches to address it, including the Green and Healthy Homes Initiative’s *Strategic Plan to Eliminate Childhood Lead Poisoning*,‡ *Find It Fund It Fix It Policy Recommendations*§ from the National Center for Healthy Housing and the Earthjustice *Plan of Action to Prevent Childhood Lead Exposure***.

The Cost of Remediation

These deliberations were informed by an acute awareness of their potential cost to building owners and taxpayers. In a world of unlimited resources, the community would seek policies to make homes lead *free*, not simply lead *safe*. The overwhelming number of dwellings likely to contain lead paint makes elimination unaffordable, with 93% of all housing units in Buffalo built before 1980 (a ban on lead in paint came into force in 1978). The American Community Survey estimates that there are approximately 64,300 rental units in Buffalo, most of which were built before lead paint was banned. The ECDOH estimates that the cost of remediation that includes replacing “friction surfaces”—e.g. selected windows and doors, averages \$9,000 to

* National Center on Healthy Housing. See http://www.nchh.org/1012/html/interim_controls.htm

† See http://www.pewtrusts.org/~media/assets/2017/08/hip_childhood_lead_poisoning_report.pdf

‡ See <http://www.greenandhealthyhomes.org/sites/default/files/GHHI-BlueprintforAction-Final.pdf>

§ See http://www.nchh.org/Portals/0/Contents/FFF-Action-Drive-Transition-Document_Admin-Version.pdf

** See

<https://earthjustice.org/sites/default/files/files/President's%20Task%20Force%20Letter%20FINAL.pdf>

\$11,000 per unit, based on units renovated as part of the County's HUD funded Lead Based-Paint Hazard Control grants. These projects were subject to HUD guidelines, which require certified Lead Abatement contractors, rather than RRP certification, which increases the cost. If limited to rented dwellings in the City, the bill for such a program could total over \$400 million. Even at this cost, many dwelling units would still not be lead free, although friction surface replacement provides greater assurance of containment.

Defeating lead poisoning will require resources across the community in code enforcement, lead remediation, increased private and public sector investment, and community engagement. The recommendations in this report have made every effort to arrive at policies that will achieve meaningful, but affordable, reductions in lead poisoning. The cost of remediating lead per home ranges from a few hundred dollars to thousands, depending on the scope of work. Given the age of Buffalo's housing stock, the need is significant, and will require consistent resources for the foreseeable future.

"The biggest day-to-day issue is the lack of funding."

- Judge Carney, Housing

Current resources for lead remediation come from both public and private funding. The ECDOH has led the charge on public funding for lead remediation, winning regular lead grants from HUD's Office of Lead Hazard Control and Healthy Homes, including the Lead Hazard Reduction Demonstration grant. It also receives support from NYS's Department of Health for their Childhood Lead Poisoning Primary Prevention Program to visit homes for education and enforcement. As part of the County Executive's Lead Poisoning Primary Prevention Initiative, the County also has money set aside for a window replacement program that assists property owners and home owners with reducing lead hazards.

In addition, lead remediation is covered by a host of grants from state and federal sources to the City of Buffalo and community based organizations for residential rehab, energy retrofits, and weatherization that ultimately address lead hazards in the course of their work. The City recently generated additional funds for lead control measures through an increase in the rental registration fee. The City of Buffalo also offers a 50/50 Rehab Loan Program for one half of the rehab and repair costs (up to \$25,000) for code related repairs and lead based paint hazard reduction to purchasers and new owners in existing one and two family homes.

In 2010, the NYS Attorney General's Office awarded the Community Foundation for Greater Buffalo \$2 million to establish the Green & Healthy Homes Initiative Buffalo and fund home interventions and lead remediation efforts. In 2014, NYS Attorney General's office awarded the Community Foundation \$166,000 for the New Americans Project for outreach to immigrants and refugees. Attorney General Schneiderman

invested an additional \$346,825 in 2016 to be used for lead remediation with a preference for window replacement.

Rochester's experience indicates that while some violations are costly to remedy, many are not. While Buffalo and Rochester have different housing stocks, there are enough similarities between the two to warrant a comparative approach. A survey of Rochester landlords conducted by CGR after the program had been in place for several years found the following*:

- One-third of respondents did not spend any money on repairs in preparing for or responding to an inspection, 37% spent between \$1 and \$1,000, and the remaining 30% spent more than \$1,000, with window replacements contributing to higher costs for some landlords.
- Of those respondents who reported spending money on repairs, the average amount was \$2,618, with the median cost about \$950. Less than half of these landlords replaced windows; more than three-quarters repaired or painted windows.
- A majority of respondents reported doing their own lead repair work, which prompted the study team to recommend the city continue its efforts to educate and train workers so they don't inadvertently create new hazards.
- The average cost of clearing a single violation (more than one violation can be cited) was about \$150. During the study period, landlords could apply for a \$100 grant to help defray this cost. (Note: "Third party clearance" refers to an inspection after remediation that is conducted by a private firm, not the City of Rochester. These firms are routinely audited by the city officials.)

It's important to note that this survey occurred after Rochester's lead policy had been in place several years, and the low costs to clear inspection might reflect the fact that many landlords had already remedied the larger, more egregious and costly violations to pass the initial inspection. Nevertheless, **the cost of making these homes lead safe is affordable. The welfare of our children demands nothing less.** Properly maintained and monitored, so-called "interim controls" that achieve lead safety without lead removal have been proven to be effective[†] and are critical to addressing

* Boyce, Sarah, et al, "An Evaluation of Rochester's Lead Law: 2006-2008" Center for Governmental Research, December 2008. See www.goo.gl/k2m6e1

[†] "Adjusted floor and sill dust lead geometric mean dust lead loadings declined at least 85% from pre-intervention to 12 years after the intervention for homes with all replacement windows, some windows

lead hazards in a larger number of properties due to the lack of financial resources in many instances for owners to conduct full lead abatement of their property.

The Role of Enforcement

Enforcement of housing and sanitary codes are vital to the primary prevention of lead poisoning. Strong policy is critical but will not be successful if it is not implemented. It cannot be emphasized enough that it is not enough to pass an ordinance if that ordinance is not going to be enforced. This theme appears repeatedly in the case studies.

Protecting Occupants of Rental Housing

City of Buffalo Rental Registry

Eighty percent of lead poisoning occurs in rental properties in the City of Buffalo, so when focusing primary prevention activities, nothing is more important than the lead safe condition and maintenance of rental housing.

Three sections of the Buffalo City Code specifically address the maintenance and registration of rental housing. These laws can be found in Chapter 264, the Rental Dwelling Unit Registration; Chapter 265, detailing requirements for certain individuals who must register as "Property Managers," and Chapter 261, which outlines specific practices for lead safe renovations.

"When there is a serious problem, tenants usually move out immediately, before the inspectors come. But once they move out, the inspection is cancelled, the case is dropped, and new tenants move in. We need a way to either expedite inspections or ensure that the inspectors still come even if the tenants have moved out."

An effective mechanism for reducing lead exposure in Buffalo's rental units is to improve upon the City's Rental Registration program, which began in 2005. It was revised in 2016 to include lead paint hazard safety measures, and fees were raised in February 2018. The program currently requires the registration of all non-owner-occupied single and two-family homes and a payment of a small first year fee - \$20 dollars for single unit rentals and \$40 for doubles.* The owner is required to pay an

replaced and no windows replaced." Window replacement was found to be more effective, but interim controls still reduced lead levels dramatically without replacement. Dixon et al. Window replacement and residential lead hazard control 12 years later. *Environmental Research* 113: 14-20 (February 2012). <https://www.sciencedirect.com/science/article/pii/S0013935112000618>

* Rental properties with three or more units in the same building do not fall under the Rental Registration program but are instead subject to the City's Multiple Dwellings Law, which requires owners to obtain a Certificate of Occupancy prior to renting units, discussed *infra*.

annual renewal fee thereafter of \$25 for single unit rentals and \$50 for two-unit rentals. While the law currently allows the City of Buffalo to inspect interiors where lead paint hazards are suspected and fine landlords with deteriorated paint (which, in older homes is presumed to contain lead-based paint); it does not require an inspection as a condition of registration. Additionally, the City of Buffalo Department of Permits and Inspections has been conducting systematic inspections of residential exteriors, issuing citations and tickets for dwellings with chipping and peeling paint.*

Presently the Rental Registration law contains the following provisions:

- A Rental Registration fee is required to rent single and double units.
- The Rental Registration fee exempts owner-occupied units.
- The Rental Registration must be renewed annually.
- Owners subject to the Rental Registration fee and whose properties were built before 1978 must certify that they are aware their properties may contain lead and are aware that they must utilize lead safe methods when engaging in any renovation or repair.
- Owners must provide tenants with a “Lead Paint Notice Form” which explains lead-based paint hazards and encourages tenants to call 3-1-1 with concerns and submit an attestation that such form was received and signed by the tenant. The attestation must be filed with the City to renew the registration fee.
- Owners of dwellings found to contain lead hazards must remediate the hazard and may be subject to fines, but an inspection is not required. The Department of Permits and Inspections may revoke the Rental Registration certificate if the remediation is not performed.
- Building owners when seeking permits for renovation must certify that the company and individuals performing the work are RRP certified by the EPA.

Recommended Changes

- When renewing Rental Registration in the future, owners of rental housing subject to the Rental Registration requirement—i.e. owners of single and two family homes (“doubles”) for rent- **should be required to obtain evidence of having passed a lead inspection for deteriorated paint.** The City’s Department of Permit and Inspection Services should issue certificates of compliance which must be

↵ <https://www.epa.gov/enforcement/fy2016-enforcement-actions-lead-renovation-repair-and-painting-rule-rrp>

* Of 5,200 inspections completed recently by the Department of Permits and Inspections, 11% were cited for deteriorating exterior paint.

conspicuously posted in rental units. The recommendation is consistent with practices in Rochester, Detroit, Toledo and Baltimore, which also have a rental registry that require an inspection prior to occupancy. It is also consistent with a recommendation found in the recently released City of Buffalo Housing Opportunity Study.

- Approximately 39% of all housing in the City of Buffalo consists of doubles. If the owner occupies one of the two units, the entire dwelling is exempt from Rental Registration. **We recommend the Buffalo Common Council bring these units under the purview of Rental Registration requirement.** Were this to occur, the same deteriorated paint inspection requirement would apply to the rented unit in the owner-occupied double. The unit occupied by the owner would continue to be exempt from the inspection requirement. Based on guidelines established by the Department of Permits and Inspections, the other unit will also be exempt if occupied by a family member. Detroit and San Diego presently require all rental units, including one and two-family homes to be included on the rental registry, regardless of whether one unit is occupied by the owner or not.

Phasing

- Given the large number of dwellings involved, a phase-in process is recommended to scale up to capture all rental housing within a six-year period.
- The phase-in schedule should be based on geographic concentration of EBLL referrals, thus putting the census block groups at greatest risk in the early years of the program.

City of Buffalo Staffing for Inspections

- The City of Buffalo Department of Permit and Inspection Services and/or a private firm or non-profit organization should be empowered to conduct the inspections. Fees charged by the City of Buffalo should be set to cover the City's costs of increased inspections and to encourage the expansion of private inspection services.
- The Department of Permit and Inspection Services should establish standards for compliance with the City's ordinance governing deteriorated paint and develop guidelines for private inspection services by companies that are accredited and unrelated to the rental property owner, including accreditation standards for third party inspectors, property certification inspection protocols, and the training requirements of workers.
- As these new inspections will create a new market for the private sector, SUNY Erie or other training providers should explore the creation of a training program for

City residents who wish to be certified to inspect covered dwellings or to provide lead hazard reduction services. NOTE: The Erie County action plan titled Initiatives for a Smart Economy 2.0 includes at section 4.5.8.b the idea of training veterans to do lead remediation work.

- Any third party inspection system that is developed to meet the property certification standards should be accompanied by special measures that are put in place to protect against fraudulent third party certifications, including random audits of third party firms, site spot checks and debarment of firms found to have issued fraudulent reports. A robust audit process will be necessary to ensure compliance and to protect the integrity of the third party system.

Lead Clearance Renewals

- The first inspection certificate obtained as part of the Rental Registration renewal will expire in six years.
- Renewals of the inspection certificate (after the initial six year phase-in) will expire every three years.

Violations

- Owners of dwellings that fail an inspection for deteriorated paint should be required to submit proof that they or the person performing repairs is certified or has attended an RRP certification training program (if not already certified) before beginning repairs, as required by federal law under EPA regulations.
- A second inspection should be required after the work has been completed and additional remediation and inspections conducted until certification is obtained.

Noncompliance

- Landlords who fail to renew their rental registration according to the proposed regulations should be subject to graduated fines per a schedule to be developed and enforced by the Department of Permit and Inspection Services as well as an automatic interior inspection.
 - Persistent violators should be referred to Housing Court. As the City and County bring cases to Housing Court, it is recommended they explore all options at the disposal of the court to mitigate any unnecessary displacement.
 - In cases where occupancy is deemed unsafe utilizing established NYS Building and Fire Code, landlords should be required to provide temporary housing to tenants during repair and renovation.
 - In addition, the New York State Office of the Attorney General (NYSOAG) has taken an active role in enforcement. The NYSOAG's office has investigated and reached
-

settlements in numerous cases across the city of Buffalo against landlords with a history of property violations, including lead-based paint hazards. Maintaining open communication with the NYSOAG's Office, ECDOH, the City of Buffalo and the U.S. Department of Housing and Urban Development (HUD) should continue in order to prosecute landlords in violation and bring properties up to code.

Policy in Action: Rental Inspection in Rochester

A key to primary prevention in Rochester is gaining access to the interior of units for testing and requiring a visual exterior and interior inspection for possible lead sources. Reported EBLL screening results are used to identify "high-risk" housing by ZIP code, which requires further passing (or clearance) requirements with a dust wipe, regardless of visual inspection results. Inspections are carried out by city-certified risk assessors or a third party lead-based paint inspector (certified by the EPA's RRP standards), the latter of which are subject to randomized audits to ensure consistency in compliance.

"All inspections, including, but not limited to, inspections performed as part of an application for a certificate of occupancy . . . , a renewal of a certificate of occupancy, or based upon the filing of a complaint, shall include a visual assessment for deteriorated paint and bare soil violations. With respect to units in structures containing five or fewer units and located in the high-risk area identified by the Mayor or the Mayor's designee, when the visual assessment identifies no interior deteriorated paint violation, the owner shall cause dust samples to be taken and certified test results to be obtained . . ."

* See <http://www.cityofrochester.gov/article.aspx?id=8589939520>.

Certificate of Occupancy for All Residential Housing

The City of Buffalo requires that certain property owners obtain Certificates of Occupancy. To obtain a certificate, the owner must submit an application and agree to a "final inspection" conducted by the City. The inspection requires compliance with all New York State Building Codes and local ordinances to ensure health and safety, including remediation of deteriorated interior and exterior paint. If the applicant does not pass the inspection due to lead hazards, the provisions of Chapter 129-3 (F) are applied. Pursuant to Chapter 129-3 (F), a full remediation must occur before the Certificate of Occupancy is issued and the property is eligible for occupancy. Failure to pass that inspection will result in revocation of the Certificate. Moreover, lead-based paint violations are subject to fines, including a \$105 fine for chipping and peeling paint either on the exterior or interior of the residence.

"We didn't want to call the county to have our home tested for lead because we knew we had other housing violations and didn't want to get cited for them, as well. We couldn't afford to fix everything at the same time."

-Homeowner

Under current State law, only owners of buildings with three units or more are required to obtain a Certificate of Occupancy and must renew the Certificate every three years. This policy is one factor influencing the low rate of lead poisoning among apartment buildings: Over the nine year reporting period covered by this study, only 73 EBLL referrals were received for children living in apartment buildings.* Although some owners of singles and doubles request Certificates of Occupancy due to requirements of financial institutions at the point of sale, the City of Buffalo does not currently require one. It is recommend that the City of Buffalo phase in such a requirement at point of sale.

Recommendations

- **A Certificate of Occupancy should be required for all properties at the time of sale.** Based on sales of residential properties of 4 units or less from 2014-2016, this provision would affect about 1,900 properties each year.
- Recognizing that some sellers will lack the financial resources to correct deficiencies, it is recommended that sellers be permitted to sell properties with a conditional Certificate of Occupancy, assuming there are no immediate threats to

* A Certificate of Occupancy is also needed to build, add to, or alter any building that will be occupied. Notably, this provision excludes "enlargements or extensions of one- and two-family dwellings where the original floor area is not increased by more than 25%" therefore limiting the requirement to only new building and buildings that are adding significantly to the original floor plan.

life or safety. The buyer will be required to have the property inspected within six months of taking possession or have the Certificate revoked. No property may be granted a second consecutive conditional certificate of occupancy.

- Enforcement procedures, including a graduated schedule of fines, if deemed appropriate, should be developed by the Department of Permit and Inspection Services. Current fines remain unchanged since the original enabling legislation.

Enforce Lead-safe work practices

"My grandson was recently diagnosed with lead poisoning. I think the most likely source was his grandmother's house, who often babysits him. She was doing renovations on her own and hiring people she knows, so he was exposed to a lot of dust there."

-Buffalo resident

Although the foregoing has focused attention on home interiors, the risk of lead poisoning from exterior sources is significant. In 2004, Erie County compiled historical inspection data from housing units occupied by a child with a confirmed EBLL of 20 µg/dL or higher to identify the building components most often associated with lead poisoning. The data indicates that by a large margin, exterior components are significant contributors to lead poisoning and also are closely correlated with interior hazards.

Common sources of lead in housing units where children are poisoned are windows, doors, siding and porches. This contributes to a seasonal rise of lead poisoning rates in the summer, as windows get opened and closed, lead dust blows inside from exteriors, and lead dust from soil and porches gets tracked into homes (see Figure 13). Given its durability, lead-based paint was more commonly used on exterior surfaces than interior and was phased out of exterior uses later than in interior applications.

The most common source of lead contamination in residential soil is deteriorated paint on the exterior of homes, often exacerbated by deferred maintenance and the use of unsafe work practices that can precede painting. Currently, the Erie County Sanitary Code requires lead safe work practices for remediation of pre-1978 housing. City ordinances address this source by identifying deteriorated paint as code violations and by requiring lead safe work practices for remediation, consistent with the EPA's Renovation, Repair and Painting Rule (RRP). Neither the City nor the County can directly enforce the EPA's RRP Rule. Contractors are required to be in compliance with the EPA's RRP Rule. However, there is considerable strain on the EPA's resources for outreach and enforcement, resulting in only 123 enforcement actions across the country during fiscal year 2016, with only 3 in New York State.*

* See <https://www.epa.gov/enforcement/fy2016-enforcement-actions-lead-renovation-repair-and-painting-rule-rrp>

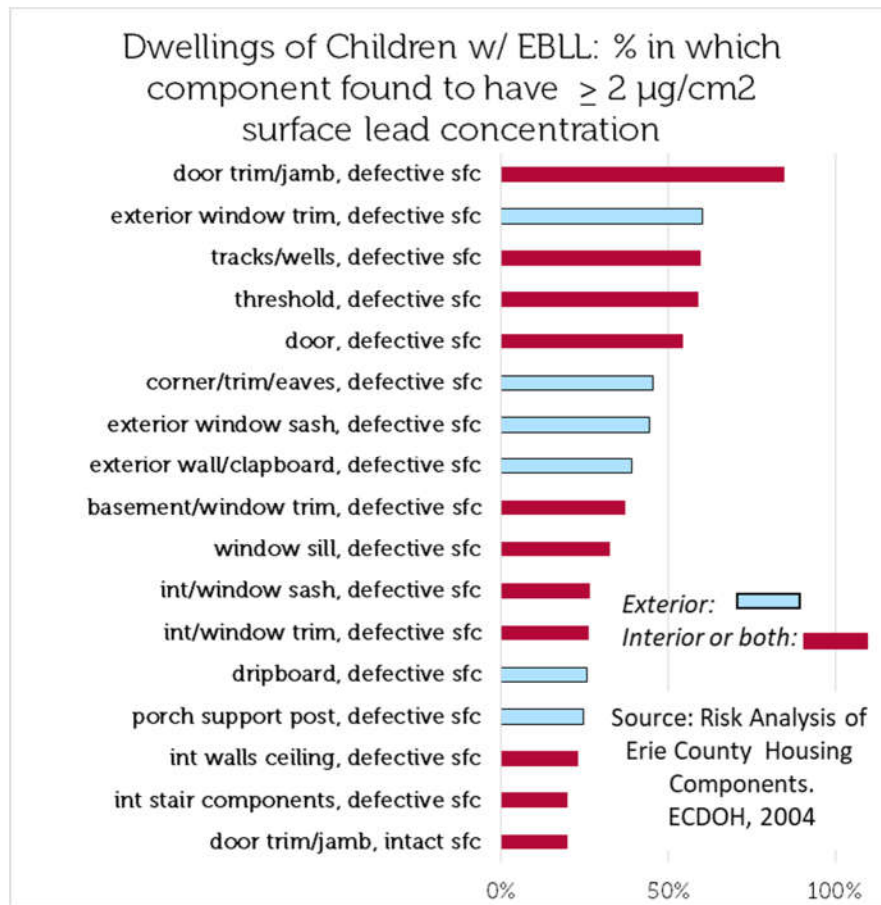


Figure 13 Source of Lead Contamination in Homes

Finally, there is a demonstrated correlation between the condition of exterior paint and interior paint. When a home has deteriorating exterior paint, the home is more likely to have deteriorated paint in the interior*.

Recommendations

- One of the key themes coming out of the peer cities review is the importance of enforcement. The ability to enforce RRP and lead safe work practices is key for both the City and the County. With limited resources for local enforcement and a shift in emphasis at the Environmental Protection Agency, it is recommended, with the support of the Western New York Coalition to Prevent Lead Poisoning, that **NYS assume responsibility for administration and enforcement of the RRP**

* This is confirmed by a pooled analysis of a dozen studies. See Lanphear, *et al*, "The Contribution of Lead-Contaminated House Dust and Residential Soil to Children's Blood Lead Levels", ENVIRONMENTAL RESEARCH, SECTION A 79, 51–68 (1998) ARTICLE NO. ER983859

program. According to the EPA website, 14 States and 1 Tribe in the U.S. have adopted the EPA Lead Abatement Program and enforcement of RRP.

- The ECDOH and Department of Permits and Inspections should seek the permission of owners to inspect a dwelling's interior when the exterior paint shows signs of neglect. If the owner refuses, the Department should seek an inspection order from Housing Court. This recommendation aligns with statutes in Toledo, Washington D.C and San Diego that grant city administration broad latitude to conduct inspections when the appearance of a structure warrants investigation.
- The Department of Permits and Inspections should be empowered to issue citations when contractors are found to be ignoring lead safe work practices and develop a set of graduated fines to ensure compliance. This recommendation is in line with best practices seen in Burlington, VT and Grand Rapids, MI.
- Erie County should amend the Sanitary Code to strengthen enforcement of lead safe work practices including Stop Work Orders, stipulations and fines.
- Building permits for repair and renovation should be issued only if the applicant provides proof that workers are EPA certified RRP workers. A simple attestation should no longer be deemed sufficient. For New York State examples, both the Village of Brockport and Town of Irondequoit in Monroe County require such proof.
- Develop additional lead worker and supervisor training to increase lead contractor capacity including green job training programs that provide free training and accreditation fees support to unemployed, underemployed and re-entry residents in at risk communities in the city.

Address Soil

Lead in soil can poison children through direct contact and ingestion of contaminated soil. In addition to the deteriorated paint resulting from deferred maintenance and the use of unsafe work practices, industrial uses often left contaminated soil as well. Uncovered soil can be a source of lead contamination for young children. Presently, the building code requires that ground cover be in place. In regard to other sources of lead outdoors, housing demolition may both disturb contaminated soil and produce dust that is lead contaminated. Lastly, abandoned industrial sites can be sources of contamination. Soil testing can be seen as a best practice in Chicago, Illinois.

*"Lead in the soil is a big problem in the summer. The wind blows it around, and then people track it (and the lead in it) into the house."
-Lead Prevention Specialist*

Recommendations

- Inspectors from the Department of Permits and Inspections should be empowered to cite property owners when the groundcover has been disturbed and apply a graduated series of fines to achieve this goal.
- In addition to complying with lead safe practices during the demolition, **the City's demolition specification should, consistent with the Green Code requirement, specify that sites of homes that have been removed should be seeded with grass or other vegetation as soon as possible after the demolition has been completed.** The City should include the cost of seeding in the demolition, especially as the number of demolitions has decreased.

*Policy in Action: EPA Removes Soil in Chicago Neighborhood Contaminated by Industrial Sources**

Chicago's long industrial history has left a toxic legacy that includes contamination of residential soils with lead. As clean up has proceeded, additional sites have been discovered and remediated or scheduled for remediation.

- *In 2013 the U.S. EPA, in partnership with the City of Chicago, completed cleanup of the former Loewenthal Metals site and adjacent properties.*
- *The Burlington Northern Santa Fe (BNSF) railroad is cooperating with EPA on additional lands it owns near the Loewenthal site.*
- *U.S. EPA has also been coordinating the remediation of lead contamination in the nearby Pilsen neighborhood, the probable result of activities by H. Kramer & Co. Cleanup of the 580 acre site consisted of excavating contaminated dirt in the yards and gardens of homes with lead in surface soil greater than 400 parts lead per million parts soil. As of September 30, 2017, yards at 15 properties were excavated, filled in with clean soil and restored.*

* See <https://www.epa.gov/il/environmental-issues-chicagos-little-village-pilsen-neighborhoods>

Tenants Receiving Assistance

Given the data available, 80% of poisoning occurs in rental properties, so when focusing primary prevention activities, it is imperative to strengthen efforts made when the County or a non-profit agency is helping to pay for or to place a family in rental housing.

"They don't condemn the property, so new tenants move in. Most stay without complaining because the bad conditions are still a step up from the last place they were living."

-Community organizer, Buffalo

Recommendations

- In cases where the Erie County Department of Social Services is guaranteeing a security deposit for a client with a child two years of age or younger, it should trigger a move-in inspection by a County Sanitarian to inspect for hazards and conditions conducive to lead poisoning, including the condition of all painted surfaces in pre-1978 housing. Department of Social Services pre-inspection documents should include a review of chipping and peeling paint.
- Non-profit agencies that place people into rental housing, such as refugee settlement agencies and supportive and transitional housing providers, should ensure that a lead clearance for those units has been obtained pursuant to the requirements of the Rental Registration certificate.

Policy in Action: Vermont Essential Maintenance Practices (EMP) Law*

All rental properties in Vermont that were built before 1978 are required to comply with this law, which was passed in 1996 and updated in 2008. It requires that property owners perform Essential Maintenance Practices annually:

- *Inspect the interior and exterior of the property, including out buildings.*
- *Identify areas where paint is in poor condition, and promptly fix it using lead safe work practices.*
- *Verify the installation of coil stock inserts in window wells.*
- *Remove any visible paint chips on the ground outside the building.*
- *Perform a specialized cleaning in common areas and at tenant turnover; use a HEPA vacuum to remove lead dust.*
- *Take precautions whenever remodeling to prevent the spread of lead dust.*
- *Sign a Compliance Statement certifying that EMP's have been done and provide a copy to your tenants, insurance carrier and VT Department of Health at least every 365 days.*

Lower Statutory Standard for EBLL

No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement. Effects of lead exposure cannot be corrected. Until 2012, children were identified as having a blood lead “level of concern” if the test result is 10 or more $\mu\text{g}/\text{dL}$ of lead in blood. The Center for Disease Control (CDC) is no longer using the term “level of concern” and is instead using the reference value to identify children who have been exposed to lead and require case management. Experts now use a reference level of 5 $\mu\text{g}/\text{dL}$ to identify children with EBLL. Prior to 2012, blood levels below 10 $\mu\text{g}/\text{dL}$ may or may not have been reported to parents. The new lower value means that more children will likely be identified as having lead exposure, allowing parents, doctors, public health officials, and communities to take action earlier to reduce the child’s future exposure to lead.

Presently, New York State uses 10 $\mu\text{g}/\text{dL}$ as the statutory standard for EBLL. While Erie County has proactively lowered their action level for medical follow up to 5 $\mu\text{g}/\text{dL}$, the

* See

http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_AL_RentalPropertyOwnerFactSheetFinal6.9.08PDF.pdf

rest of the State has not followed suit. New York State should lower the definition of EBLs in the Public Health Law to 5 µg/dL as recommended by the CDC, across the state. Additionally, NYS Department of Health (DOH) uses 15 µg/dL as an environmental action level. We recommend that NYSDOH lower the environmental action level to 10 µg/dL.

While lowering the action level for environmental intervention in the state and in cities such as Buffalo is not primary prevention, it will prevent higher level lead poisonings and the possible poisoning of siblings in the same home. States such as Maryland, Maine, Michigan, Nebraska, New Hampshire, New Jersey, Oregon and North Carolina, have already lowered their action level to 5 µg/dL for both medical case management and environmental investigation. While improved lead testing and screening rates are an important component of a prevention strategy, they are ineffective if the city, county and state do not follow up with the appropriate environmental investigation, enforcement and intervention treatment systems to reduce known lead hazards in homes of children identified as being at the most risk. In addition to lowering the statutory standard, NYS should also provide the necessary resources to local governments to implement the lower standard.

Public Education

Empowering Families

Effective public education is the bedrock of public health as it empowers citizens to advocate for the needs of their families and neighbors. In October 2016, the City of Buffalo developed lead education flyers in 8 languages, of which over 250,000 have been distributed. Mayor Brown and Superintendent Dr. Kriner Cash announced direct mailings to all 18,000+ Buffalo Public School families targeted by language in December 2016. Efforts such as these lead flyers are a great start to engage the community at large.

Additionally, Neighborhood Legal Services and Legal Aid provide assistance and education to tenants regarding their rights. Lead poisoning education by the City, County, medical community, and non-profit community should be targeted, interactive, specific and practical.

Given the attention placed on this by the Flint experience, there are many cities and states placing a new emphasis on lead poisoning and healthy housing. States,

"Our neighbors told us that as long as my son didn't eat paint chips, he would be fine. But then a finger prick test said that he had an EBL of 5.5. Only then did the County come out to test our house and give us lead information, which told us that it was the dust in the house, not paint chips"

-Resident on Buffalo's East Side.

including New York*, have developed a broad set of materials aimed at resident education. Minneapolis partnered with the State of Minnesota to create a video on lead safety in English, Hmong, Khmer (Cambodian), Lao, Vietnamese, Somali and Spanish†. The State of Michigan has a quite extensive set of materials available‡. The challenge is likely more about staffing and persistence than the specific approach. To underscore the findings of this study's data analysis, the need for better education must focus on solo owners and individual families.

- **Targeted and Interactive.** In-person communication with the most vulnerable populations, low-income renters in high poverty neighborhoods and New Americans, should be a central focus of public education efforts. Community health workers from the impacted communities should be hired to visit schools, places of worship, block clubs, neighborhood events, etc. and talk to people about prevention. Separate education campaigns with different messaging should be addressed to landlords, homeowners, do-it-yourself renovators, and professional renovators. Support for legal services educating tenants on their rights, especially as enforcement increases, should be in place. All helping professionals who visit homes should be highly trained in lead issues.
- **Specific.** The education should be focused on the key sources of lead contamination, including deteriorated paint and lead dust from "friction surfaces" (windows, doors, porches, and siding) and dust created from remediation and renovation.
- **Practical.** Residents should be provided practical guidance on how to prevent poisoning, including access to information, tips on how to request repairs from landlords, who to call for inspections, how to access local grant and loan resources for lead hazard reduction and housing rehabilitation, the importance of lead dust control in the home, etc.

For example, a link on the City's "Report Code Violations" website link should indicate that calls to either the City or the ECDOH will prompt an investigation of a renovation site that is out of compliance with lead safe work practices.

* See <http://www.nyshcr.org/AboutUs/Lead/>

† See <http://www.health.state.mn.us/divs/eh/lead/fs/index.html>.

‡ See http://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2983-19488--,00.html

Supporting Screening by Health Care Professionals

"My son is 4 and always gets his annual checkup, but he has never been tested for lead...Are there ways to hold doctors accountable for testing lead?"

- Resident on Buffalo's West Side

Primary care providers are critical contributors to the treatment and assessment of lead poisoning. The City and County report a high level of cooperation by these professionals when blood lead level tests reveal that a child has been poisoned.

Both primary care providers and laboratories need to be reminded, however, that all blood lead level test results must be reported to New York State to ensure accurate figures on the proportion of children with elevated levels*.

Not only is a high rate of screening critical for statistical purposes, but it will also ensure that all cases of lead poisoning are identified, affected children are treated, and contaminated dwellings are remediated. Recommendations to assist in increasing test rates include the following:

- Help Me Grow New York is a free resource connecting families to community resources and child development information. It is recommended that blood level screening questions and lead poisoning primary and secondary prevention educational information be integrated into their screenings and care coordination.
- Say Yes Mobile Health Clinics should offer lead screening for current Buffalo Public School students and their younger siblings at community schools. (NOTE: Pre-school children are at much greater risk from lead contamination. Testing of school aged children can help identify unsafe housing conditions for younger siblings.)
- Since 2009, the New York State Immunization Information System (NYSIIS) has included children's blood lead test results in addition to their immunization information. Health care providers and schools can easily access immunization information from NYSIIS; however schools *outside of New York City* (which has its own separate immunization information system) cannot view students' blood lead levels (BLLs). All schools in New York State need access to this information which is necessary to help schools identify children with a history of lead poisoning and carefully monitor their educational progress as recommended by the CDC. **NYS should grant school nurses across the state access to children's blood lead test**

* See

https://www.health.ny.gov/environmental/lead/health_care_providers/blood_lead_testing_reporting_guide.htm

results in NYSIIS. Without access to this data students cannot be appropriately evaluated for beneficial educational services. Additionally, this will allow schools to work with parents of children who have not been tested to work with the Say Yes Mobile Health Clinics or contact their primary care provider.

Resources for Lead Remediation and Increased Enforcement

The City's Housing Opportunity Strategy released in 2017 clearly shows that housing issues in Buffalo are related to the intersection of housing condition and income constraints. Many property owners in the high risk zip codes cannot afford to remediate lead hazards. Repairs that exceed the financial capacity of the property owners is a concern that needs to be addressed, particularly as increased enforcement is phased in.

Public funders, financial institutions and philanthropy should work together to develop a comprehensive program of grants, low-interest loans, and other financing to assist property owners who need assistance in making their properties lead safe. Knowing the limited resources currently available to address a problem of this magnitude, many innovative, long-term collaborative efforts will be required. Other cities have creatively supported this work, such as:

- The City of Rochester has a Windows Replacement Program, with HUD income guidelines. Up to \$5,000 is provided to owners of single-family owner-occupied or rental residential properties for windows so lead hazards in old window wells are removed.
- In Milwaukee, a regional bank has established a Target Area Home Improvement Program that makes loans of up to \$6,000 per unit as a match to existing grant funds.
- The Omaha Healthy Kids Alliance also works with banks to provide low-interest loans for lead remediation up to \$10,000.
- New York State can look to other states, such as Massachusetts, to model tax credit programs to help homeowners pay for remediating lead hazards.

Other ways of deploying assets currently in place include:

- Dedicating a portion of Community Development Block Grant (CDGB) and HOME funds to lead hazard remediation, as permitted under program regulations.
- Using Housing Court fines for building code violations to support enforcement and remediation.

-
- Assembling a pooled fund of public, private and philanthropic funds to leverage and match new opportunities as they emerge.
 - Scaling up the Green & Healthy Homes Initiative to braid various funding streams to ensure that lead remediation is conducted as a part of home repair, rehab, and weatherization and that innovative funding streams are developed to meet the demand for grant services.
 - Remediating *in rem* properties and providing purchase incentives for families with young children, as the City or Buffalo Niagara Land Improvement Corporation take title of properties.
 - Creating a revolving fund for the Housing Court receiver (currently Matt Urban Center), which takes control over properties when landlords do not remediate lead so the receiver can make repairs immediately and repay the fund as it collects rents.
 - Reallocating funds previously used for demolition to lead remediation as the need for demolitions declines.
 - Work with financial institutions to provide favorable financing for lead remediation through their Community Reinvestment Act obligations.
 - Requesting NYS Office of the Attorney General to continue to support lead remediation through allocation of settlement funds.
 - Working with NYS Medicaid to enable physicians to recommend lead inspection and remediation as an allowable expense for Medicaid recipients who are identified with EBLs of 5 µg/dl or higher.
 - Encouraging the state to address lead hazards through programs that support window replacement where allowable to improve energy efficiency (principally through the Weatherization Assistance Program and NYS Energy Research and Development Authority's Home Energy Efficiency Programs*) or to support historic preservation through window repair. Both programs could address windows, a major source of lead hazards by applying the Governor's call for "Health Across all Policies."
 - Encouraging the state to provide tax abatement related to the removal of leaded paint.

* <https://www.nyserda.ny.gov/All-Programs/Home-and-Residents>

Policy in Action: Financing Lead Paint Hazard Control

From Pew Trusts "10 Policies to Prevent and Respond to Childhood Lead Exposure"

*Massachusetts' lead law, enacted in 1971, is one of the oldest in the country and requires that any property built before 1978 and occupied by a child under 6 be "deleaded" by removing or covering lead paint hazards. The state also prohibits property owners from discriminating against families with young children when renting or selling. To help homeowners pay for remediating lead hazards, including replacement of windows, Massachusetts offers income tax credits of \$500 and \$1,500, depending on a property's needs, and administers a series of loan programs to support compliance with the law. Massachusetts imposes surcharges of \$25 to \$100 on the annual fees of certain professional licenses, including for real estate brokers, property and casualty insurance agents, mortgage brokers and lenders, small loan agencies, and individuals who perform lead inspections. The collected revenue, roughly \$2.5 million annually, is deposited into the Lead Paint Education and Training Trust Account for use by the state's Department of Public Health. In 2016, testing found that of more than 175,000 Massachusetts children tested, just 686 under age 6 had blood lead levels of 10 mcg/dL or greater, compared with 3,095 of about 194,000 children tested in 2001, the earliest date for which data are available online.**

* See http://www.pewtrusts.org/~media/assets/2017/08/hip_childhood_lead_poisoning_report.pdf.

Conclusion: Call to Action

Lead Safe Task Force of Buffalo and Erie County

Lead poisoning has had a well-established foothold in this and many communities for over a century. Eliminating it will require a very serious commitment across all sectors to mount an effort that is strategic, consistent, and accountable. Protecting our children from lead poisoning will require resources, infrastructure, disciplined planning and implementation.

To be successful, this community must make lead poisoning a high priority by assembling a respected Lead Safe Task Force modeled on the operating committee for the successful Say Yes partnership. Representation from the major players must include: the City of Buffalo, Erie County government, the Buffalo Public Schools, the medical community, non-profit leaders, philanthropy, property owners, parents, and the WNY Coalition to Prevent Lead Poisoning. This Task Force should be charged with prioritizing the recommendations of this report, building a thoughtful plan for policy change with an emphasis on primary prevention, and ensuring that the community is engaged in preventing lead poisoning over the long term. A check list summarizing recommendations for policy change is included in the appendix. The Task Force should also be charged with developing a financial tool box to secure and deploy funds for remediation where they are most needed.

The Task Force must be provided with adequate staff to ensure that the recommendations are implemented, monitored and reported to the community on a bi-annual basis. The Task Force must be focused on shared decision-making and shared accountability to our children. Toward that end, it is recommended that the law departments of the City and County develop an agreement that will permit the County Department of Health to share information on specific EBLL cases with the City's Department of Permits and Inspections and any City and County lead grant program. Data sharing is vital to a coordinated effort to remediate the most at risk housing and is allowed by a provision of the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) that permits the sharing of protected data through a "business associate" agreement. Finally, the Task Force should coordinate with the Buffalo Water Quality Working Group to ensure continued scrutiny of drinking water distribution lines.

Because lead contamination is so prevalent, preventing lead poisoning requires a multi-faceted strategy with accountability. Thus, the creation of a Lead Safe Task Force should be treated with a sense of purpose and urgency and resourced

adequately to move this agenda forward. Lead poisoning will not be eliminated overnight, but it can be accomplished with the dedicated action across all sectors.

Appendix (online only: See <http://www.cfgb.org/lead-action-plan>)

Checklist of Recommended Policy Change

The City of Buffalo and Erie County local laws will require amendment if these recommendations are to be implemented. The Lead Safe Task Force will be asked to set an aggressive timeframe for the implementation of the following recommendations.

City of Buffalo

- Require all landlords subject to the Rental Registration requirement to obtain a lead paint clearance inspection as a condition of maintaining their Rental Registration certificate.
- If a property fails to pass the lead clearance inspection, require that landlords remediate the hazard utilizing RRP certified worker(s) to ensure no additional hazards are generated in the remediation process.
- Provide for a series of increasing fines and penalties for landlords who refuse to comply with the lead clearance requirement.
- Expand the Rental Registration requirement to include rental units that are within owner-occupied structures.
- Require that sellers obtain a Certificate of Occupancy, which includes a lead-based paint inspection, when selling residential housing.
- Review, revise and possibly eliminate City Code Chapter 261 Lead-Based Paint Abatement and sections of the Chapter 113-1 Vacant or Damaged Buildings to reflect changes in accepted lead based paint remediation.
- Require that contractors and owners pulling permits for renovations provide current copies of their RRP certification instead of a check box.
- Require demolition contractors to provide for groundcover when demolishing property. Include a maintenance plan to avoid overgrown and/or ineffective cover.
- Empower the Department of Permits and Inspection to issue citations when contractors fail to utilize lead safe work practices.
- Empower the Department of Permits and Inspections to request an interior inspection of any home whose exterior has chipping and peeling lead-based paint.

Where there is additional reason to suspect hazardous interior conditions and refusal to comply, consider a Court Order.

- Establish legal authority for the City and County to share data on specific lead poisoning cases.

Erie County

- Amend the Erie County Sanitary Code to prohibit re-occupancy of a dwelling found to be in violation of the sanitary code without an inspection that confirms that the violation has been corrected.
- Amend the Erie County Sanitary Code to strengthen enforcement of lead safe work practices including Stop Work Orders, stipulations and fines
- **In cases where the Erie County Department of Social Services is guaranteeing a security deposit for a client with a child two years of age or younger, it should trigger a move-in inspection by a County Sanitarian to inspect for hazards and conditions conducive to lead poisoning, including the condition of all painted surfaces in pre-1978 housing. Department of Social Services pre-inspection documents should include a review of chipping and peeling paint.** This would be a requirement of properties not just in the City of Buffalo, where the report recommends a certificate of compliance, but across the County. Requiring move-in inspections in rental properties is currently a prerequisite in Burlington, VT; Detroit, MI; San Diego, CA; Grand Rapids, MI; and the State of Maryland with varying inspection requirements. By making the inspection and certificate of occupancy a requirement, the Department of Social Services will have the ability to withhold rental payment to landlords not in compliance, as is done in Rochester, NY.

New York State

- New York State should assume responsibility for administration & enforcement of EPA's Renovation, Repair and Painting Program (RRP).
- New York State should lower the 'environmental action level' for EBLL case management from 15 µg/dL to 10 µg/dL.
- New York State should adopt proposed language included in the Governor's Budget proposal addressing lead inspections by municipal code enforcement in

designated areas of high risk for lead poisoning and presumption of lead in pre-1978 housing*.

- New York State should grant school nurses across the state access to children's blood lead test results in NYSIIS.
- New York State should address lead hazards through programs that support window replacement to improve energy efficiency and/or historic preservation through the Governor's call for "Health Across all Policies."

Lead Interviews: Themes[†]

A series of interviews regarding lead poisoning and prevention was conducted with officials, tenants, landlords, homeowners, non-profit staff, community leaders, and other stakeholders in Erie County throughout the spring of 2017, and a lead town hall was held on June 8, 2017. Below we summarize some key points from those conversations.

- For **tenants**, the threat of lead poisoning is often part of a cluster of other housing, health, and life challenges – particularly for tenants living in concentrated poverty in old, badly maintained housing stock. Concern about chipped or flaking paint might be overshadowed by leaking roofs, water shut-offs, the presence of black mold, rodent infestations, or other problems that need immediate attention. Tenants may not complain about bad housing conditions for fear of a retaliatory eviction or for fear that city or county inspection activity might get the tenants themselves in trouble.
- An unusually large portion of Buffalo rental properties belong to small-scale **owners** with limited resources. These owners often work on the properties themselves or through informal arrangements and often lack the proper lead safety training. In many cases they are dealing with multiple repair problems and small amounts of capital. Unsafe renovations with renters on the premises seem common, and many landlords seem unaware of the free and low-cost trainings

* The proposed law adds a presumption that all buildings built before 1978 contain lead-based paint, requires that the paint not be deteriorated, and that periodic inspections be conducted to enforce the law, specifically that in "high risk areas" (as determined by the Commissioner of Health), "local code enforcement officers conduct inspections of residential rental property periodically and at specified times including, but not limited to, as part of an application for a certificate of occupancy, a renewal of a certificate of occupancy, or based upon the filing of a complaint. Such inspections shall include at a minimum a visual assessment for deteriorated paint and bare soil present within the dripline of the building." The law also establishes standards for clearance of properties found to be in violation. See <https://www.budget.ny.gov/pubs/archive/fy19/exec/fy19artVIIIs/HMH-ArticleVII.pdf>.

[†] Interviews were conducted and summarized by the Partnership for the Public Good

provided by the County. Also, a significant number of owners live outside the area, making communication and enforcement difficult.

- For **homeowners** with a lead-poisoned child, getting repairs done can be daunting. An inspector may find multiple problems that need to be addressed in addition to the lead paint. The County does not provide a recommended list of contractors, and finding an honest, properly trained contractor can be difficult. Buffalo has many low-income homeowners, and Housing Court has a backlog of cases where the owner simply does not have the resources to make the necessary repairs, and there is no funding stream available to help. In addition, parents may feel guilty and scared and be unwilling to talk about lead poisoning.
- There is a shortage of fully qualified **contractors**. According to a program coordinator at Belmont Housing, "Most contractors have RRP certificates, but they don't want to take the next step and become Lead Abatement Certified. They almost seem to be afraid of the responsibility of it, and there aren't many incentives to convince them to take that next step." Also, currently, when contractors or owners pull permits from the City of Buffalo for work that will disturb paint, the City requires them to check a box that they are RRP certified, but it does not require proof; and it rarely checks on work in progress to see that it is being done in a lead safe manner.
- There are many challenges in **enforcing** existing housing laws. Some question the priorities of City housing inspectors, who spend much of their time on exterior housing violations that have less impact on health and safety than lead. Others worry that tenants have limited options to force landlords to make repairs (unlike some states, New York lacks an easy way for tenants to bring non-complying landlords to court), and that tenants are often advised simply to move – leaving the repair problems for the next tenant to deal with. City and county lead cases in Housing Court are typically handled by inspectors, rather than attorneys. Fines often go uncollected.
- **Educational efforts** around lead poisoning may be somewhat outdated or ineffective, particularly when it comes to warning parents about the dangers of lead dust. As one parent said, "I knew that my windows had lead paint on them, but I wasn't worried because I thought my son could only be lead poisoned if he ate the paint chips and I knew I would never let him do that. I didn't know it came from dust, too. And now my son has lead poisoning." Many rental owners do not comply with their legal duty to warn of potential lead hazards and distribute the EPA booklet, and many tenants have language barriers. Educational materials often do not clearly explain the relative dangers of different lead poisoning sources and the simplest ways to decrease those dangers.

- **Funding gaps** prevent some lead remediation and prevention work from taking place. Gaps exist when there are other, non-lead-related housing code violations that must be addressed, or there is no lead-poisoned child currently in the home. Weatherization programs prioritize energy efficiency without including health impacts from lead, and so they rarely include window replacement. The *Green & Healthy Homes Initiative (GHHI)* was very helpful in allowing a more holistic approach to repairs, when it was operating, but its funding ran out. While new funding has been identified to reinvigorate GHHI, it is for a targeted geographic region and sustainable funding has yet to be identified.

Detailed Tables

EBLL Referrals, Erie County, NY

EBLL Range ($\mu\text{g}/\text{dL}$)	2013		2014		2015		2016		2017	
	All	New	All	New	All	New	All	New	All	New
City 10-14	444	168	357	146	361	150	442	165	394	164
City 15-19	194	38	186	48	184	58	171	44	175	49
City 20+	197	45	172	45	225	65	204	50	192	55
Suburbs 10-14	57	17	44	8	46	12	50	22	50	12
Suburbs 15-19	23	5	10	6	19	6	13	2	17	2
Suburbs 20+	16	2	16	2	16	4	19	2	22	8
Total	931	275	785	255	851	295	899	285	850	290

Source: Erie County Department of Health

Newly released data show that 466 children were tested in 2017 with blood lead levels of 5-9 $\mu\text{g}/\text{dL}$.

EBLL by Housing Tenure (15 $\mu\text{g}/\text{dL}$ +)

	Number of EBLL referrals	Average BLL
<i>Probable rental</i>	1,809	22
<i>Probable owner-occupant</i>	543	22
<i>Unmatched</i>	226	23
TOTAL	2,578	22

EBLL over 15µg/dL: Referrals by Year by Property Class

<i>Number of referrals</i>	'08	'09	'10	'11	'12	'13	'14	'15	'16
<i>One Family</i>	77	89	105	59	56	45	61	66	71
<i>Two Family</i>	89	171	226	155	149	131	116	135	109
<i>Three Family</i>	6	6	12	3	16	7	8	6	11
<i>unmatched addresses</i>	39	61	69	55	50	36	45	53	38
<i>Multiple Residences</i>	15	27	39	21	15	10	15	10	21
<i>Apartments</i>	9	7	13	8	5	11	7	6	8
<i>Downtown Row</i>	2	9	5	4	3	5	3	4	4
TOTAL	237	370	469	305	294	245	255	280	262
<i>Average EBLL</i>									
<i>One Family</i>	23	21	22	21	19	23	22	22	22
<i>Two Family</i>	24	23	23	22	22	23	22	24	23
<i>Three Family</i>	22	23	27	20	22	17	29	22	23
<i>unmatched addresses</i>	26	24	25	21	21	24	23	23	26
<i>Multiple Residences</i>	21	21	23	19	24	21	19	21	23
<i>Apartments</i>	27	18	25	19	20	21	25	34	21
<i>Downtown Row</i>	25	20	27	17	17	22	30	17	17
Weighted Average	24	22	23	21	21	23	22	23	23

Profile of Properties with EBLL Referral over 15 µg/dL to Erie County 2008-2016

	Certain or Probable Rental	Possible Owner Occupant	Total	In Rental Registry
<i>One Family</i>	352	258	610	335
<i>Two Family</i>	1,035	229	1,264	947
<i>Three Family</i>	74		74	9
<i>Unmatched address</i>	33	226	259	0
<i>Apartments</i>	73		73	2
<i>Multiple Residences</i>	142	29	171	130
<i>Downtown Row Type (detached)</i>	14	25	39	0
<i>All Other</i>	87	1	88	1
TOTAL	1,810	768	2,578	1,424

Analysis: Elevated Blood Lead Level Referrals

An effective lead poisoning prevention policy should target those parts of the city and those building and tenure categories most likely to endanger children. This analysis required that the City of Buffalo's property database be matched against the EBLL records under the jurisdiction of the ECDOH. As the residential address of the individual shown to have an EBLL health information is covered by the federal HIPAA law, CGR entered into a Business Associate Agreement with the ECDOH, which permitted access to the HIPAA-protected data. ECDOH provided CGR with all referrals from 2009-16 of 15 µg/dL or higher.

The following describes the process undertaken to match the EBLL records to the property database.

- Cleaned EBLL database addresses (2,813 records)
 - Edited/corrected street names (Delavan East v. East Delavan or E Delavan or "Delevan")
 - Matched street classification (e.g. whether St/Ave/Dr etc is included not and how written)
 - Dropped apartment designations (e.g. 3 or "back" or "upper) as these aren't listed elsewhere—note that this complicates analysis as an address may include multiple dwellings
 - Created search key based on number, street, zip
- Matched EBLL database address key with Erie County assessment database (360,000+ records) & Rental Registration (21,236 records)
 - Corrected 20 incorrect zips—match successful
 - 446 addresses remained unmatched
 - 39 addresses unmatched in assessment database DID match address in Rental Registration—building-specific info from RR IS used in analysis
 - 259 are within the City but don't match the existing tax centroid database.
 - The remainder are also missing from the file but are outside Buffalo, leaving 2,578 parcels.
- Edited individual records to improve owner occupied/rental classification
 - Compared property address to owner address for property class 210 (one family year round residence) and property class 220 (two family year round residence)—where they differed, added to "In Rental Registry" and assigned to "Certain or Probable Rental."
 - Although one unit likely rented, "two family" properties with matching owner/property address included in "Possible Owner Occupant".
 - All property class 230 (three family year round residence) properties included as "Certain or Probable Rental."
 - Unmatched addresses placed in "Possible Owner Occupant."

- Multiple residence refers to single tax parcel with multiple dwellings. It is possible that these could be owner occupied.
- The “Other” category includes an array of categories that are largely nonresidential, including schools and day care centers.
- Matched neighborhood characteristics to individual parcels
 - Each parcel was geocoded and assigned to a Census Block Group

Median household income by Census Block Group was downloaded from the American Community Survey 2011-15

Erie County Programs

For many years, the fight against lead poisoning was focused on *secondary prevention*. Local health departments across the State, like the ECDOH, continue to provide secondary prevention interventions to children with EBLs. These interventions include medical case management as well as investigation and identification of sources of lead exposure in the child's environment.

Erie County maintains three programs aimed at primary and secondary prevention of lead poisoning. Erie County was one of the first Counties to join the NYSDOH CLPPPP program in 2007.



Lead Poisoning Prevention Program

This program includes County funded personnel and a grant from NYSDOH with an annual entitlement period. The purpose of the program is to identify children under 6 years of age with EBLs, ensure medical follow-up, and eliminate the source of lead exposure. The program case manages children 0-6 years of age, provides medical referrals, investigates the sources of lead and provides educational home visits. The source of funds for the grant is federal monies channeled through the state. The program partners with the Community Foundation for Greater Buffalo for outreach in the community to promote awareness of the importance of lead screening, the dangers of lead poisoning, and Green and Healthy housing activities. Eleven (11) staff, including Sanitarian, medical, clerical and administrative work in this program.

Childhood Lead Poisoning Primary Prevention

This program is a grant from NYSDOH with an annual entitlement period. The purpose of this grant is to identify and address lead hazards in high risk zip codes in Erie County in order to prevent at-risk children from becoming lead poisoned. The Program accomplishes this through neighborhood surveys, home paint inspections and lead risk assessments, provision of services, distribution of incentive products for hazard control and education classes for property owners and residents in Erie County. The program partners with; 1) Belmont Housing Services of WNY providing lead poisoning prevention education for families and assistance for property owners in making properties lead safe; and 2) the Community Foundation for Greater Buffalo for outreach in the community to incorporate primary prevention of lead poisoning in Green and Healthy housing activities and job training. Fifteen (15) staff including Sanitarian, Educator, clerical and administrative work in this program.

Lead Poisoning Primary Prevention Initiative

The purpose of this Initiative is to aggressively enhance primary prevention of Lead Poisoning in Erie County. The Initiative will accomplish this by: lowering the 'action' level for an EBLL in Erie County from ≥ 10 $\mu\text{g}/\text{dL}$ to ≥ 5 $\mu\text{g}/\text{dL}$ and ensure medical follow-up; by incorporating primary prevention activities across all housing-based programs in the Health Department; by creating a "Window Fund" to assist property owners in replacing a major source of lead hazards; and by expanding the activities pioneered by the Primary Prevention grant to include all of Erie County. (Neighborhood surveys, home paint inspections and lead risk assessments, provision of services, distribution of incentive products for hazard control and education classes for property owners and residents)

This Initiative, created by County Executive Mark Poloncarz, is funded for five years for \$750,000 per year. The Initiative provides matching funds for the Lead Hazard Reduction Demonstration grant, a \$3,400,000 grant from HUD. The three year HUD grant will support efficient, cost-effective lead hazard reduction activities in privately owned homes in Erie County that are occupied and frequented by children under the age of six. Recruitment is focused, but not limited to, the Cities of Buffalo and Lackawanna. The program partners with; 1) Belmont Housing Services of WNY providing lead poisoning prevention education for families and assistance for property owners in making properties lead safe; and 2) the Community Foundation for Greater Buffalo for outreach in the community to incorporate primary prevention of lead poisoning in Green and Healthy housing activities and job training. Ten (10) staff including Sanitarian, medical, clerical and administrative work in the Initiative and LHRD grant.

The Erie County Health Department's web site has detailed more information about these programs*.

Case Studies: Preventing lead poisoning in selected cities

The Flint, Michigan water crisis brought new attention to the hazards of lead poisoning and prompted a number of cities to tighten existing laws and pass new ones. This series of case studies attempts to provide an overview of the regulatory process and the challenges entailed.

* The Erie County Department of Environment and Planning also provides lead remediation services through the Community Block Development Grant program. More information can be found at: <http://www2.erie.gov/environment/index.php?q=community-development>.

We have made an effort to gather consistent information on each of the included cities, but have not always been successful. Information on enforcement has been particularly difficult to obtain. There are lessons to be learned:

- Most cities have seen a steady and substantial decline in the share of children tested with EBLLs. Part of the decline can be attributed to the time elapsed since lead was removed from gasoline, paint, solder and other products.
- As the EBLL declines are not universal or uniform, it is reasonable to conclude that heightened awareness and improved policy have made a difference. New ordinances have been adopted in many cities and existing ordinances have been strengthened.
- Significant variation in testing rates and enforcement provisions make robust policy comparison difficult.

Secondary Prevention

Our review suggests that health departments universally possess the authority to address lead poisoning when it has been detected by blood screening. Secondary prevention is aimed at reducing or eliminating further exposure for children already lead poisoned and reducing the risk of exposure for subsequent residents of the contaminated housing unit. We did not attempt to assess the diligence with which various cities pursue this obligation or their effectiveness at ensuring compliance.

As programs and practices for secondary prevention are well-established in general and in the city of Buffalo, this study principally addresses **primary prevention**, interventions aimed at reducing the risk of initial lead exposure.

Primary Prevention Policy

Effective policy to reduce exposure to lead is a three legged stool.

- A policy requires a **legal framework** that defines what is acceptable management of lead hazards, particularly for property owners, and confers sufficient authority (including consequences for violations) on administrative agencies charged with enforcing what the law requires.
- A statute is only effective if it is enforced. **Enforcement** is resource-limited. Some statutes are more expensive to enforce than others. Penalties play a role here: Significant fines that are widely publicized, for example, can encourage more voluntary compliance. In all cases, policies that are rarely or never enforced lose their power to reform poor practices.

- Just as an effective **testing** regime is necessary for secondary prevention, measurement provides a critical feedback loop to legislators and administrators intending to reduce the risk of initial lead exposure. Testing that is consistent and rigorous will guide policymakers as they consider whether current statutes and the enforcement mechanisms they require are being effective.

The following case studies explore the interaction of these three components in selected cities.

Making Sense of Comparative Statistics

In the case studies that follow, we have relayed reported statistics on the share of children tested showing EBLL. Comparisons across the case study cities are inevitable but should not be considered as conclusive evidence of the relative effectiveness of one approach or another.

- The measured average EBLL rate is strongly influenced by the share of children tested. Context and policy will affect the testing rate. If children in poverty are missed, the reported EBLL rate will appear lower. Even with identical test rates, the EBLL share may not be comparable if different populations were tested.

For example, Philadelphia reports that 6.5% of children tested have an EBLL (5 $\mu\text{g}/\text{dL}$) and that 88% of children are tested. This would not be directly comparable with the report from Toledo: Ohio reports an average EBLL rate of 5.5% (also measured as 5 $\mu\text{g}/\text{dL}$) but a testing rate that appears to be about 23%. It is possible that Toledo's true rate is actually higher than Philadelphia's, were both to screen the same share of children*.

- **Cities and states establish different EBLL thresholds.** New York State designates the share of children tested with a blood lead level (BLL) of 10 $\mu\text{g}/\text{dL}$ or higher as "elevated" while Vermont's threshold for EBLL designation is 5 $\mu\text{g}/\text{dL}$. The same community would present with a higher EBLL in Vermont than in New York.
- One other factor influencing these statistics is the use of capillary v. venous blood tests. As capillary tests are more likely to yield a false positive, EBLL findings from these "finger stick" tests are ideally confirmed in a subsequent venous test. Some states report these results separately or may report only EBLL that have been confirmed with a venous test.

* See https://www.odh.ohio.gov/odhprograms/eh/lead_ch/lead_data.aspx

Case Study Summary

Detailed case studies follow. Here we offer a summary of findings and, in the table following, comparative statistics and policies.

- The complexity of measuring the incidence and severity of lead poisoning makes cross-city comparisons challenging. In the absence of near universal screening against a common benchmark and screening technique, it is difficult to rank one city's policies as definitively more or less effective than another's.*
 - The nature of the city's housing affects the starting point—age, share of rental housing in apartment buildings v. 1-3 unit dwellings, share of renter v. owner-occupied, etc.
 - New York State still reports lead poisoning incidence by a 10 µg/dL threshold while most comparison cities and their states have shifted to the CDC-preferred 5 µg/dL standard. Comparison across standards is very difficult.
 - Comparable screening rates will yield different averages if the income distribution of tested children varies by community.
 - Screening rates are reported on widely varying bases—share of children within a birth cohort, share of all children tested at least once in a specific year, share of children under a particular age threshold, share of children screened twice by a certain age will all yield a different reported screening rate for the same population.
- The key questions for policymakers should be:
 - Is the incidence and severity of lead poisoning declining in our community?
 - Is the testing regime in place in our community sufficient to identify active cases of lead poisoning and to guide policy development?
 - What steps can and should be taken to improve outcomes for our children?
- Most of the case study cities have established statutory authority to reduce lead poisoning but have struggled to allocate significant funds to enforcement. This issue was a common theme during CGR's interviews with city representatives.

* The year-to-year variability in outcome measures reinforces the conclusion that testing rates and other factors strongly influence the "share of tested children exceeding the threshold," the statistic most often cited. Multi-year averages are more reliable; single year variation, whether positive or negative, should be discounted.

- Even in the absence of rigorous enforcement, the incidence and severity of lead poisoning has been declining in most jurisdictions.
 - This improvement may be attributable to more effective public education, the threat of enforcement and reductions in background levels of lead from new paint, gasoline and other sources.
 - Publicity surrounding the Flint water crisis has certainly influenced public resolve and spurred the passage of new regulation. Attitudes and behaviors among both property owners and residents have likely been influenced, too. The events in Flint (which came to light in 2015 and 2016) are too recent to be reflected in lead poisoning statistics, however.
- Routine inspection of dwelling unit interiors, while authorized by ordinance in many jurisdictions, remains rare. In most cases, interior inspection is prompted by complaint or through a court order. This is related to the resource constraint noted above—routine inspection of rental housing is a daunting task.
- None of the case study cities have focused attention on owner-occupied housing. There is a presumption here that owners have sufficient incentive to address the problem as it affects their own families. Moreover, public health concern is appropriately weighted toward renters, as they have fewer resources and power, as group, to devote to the problem.

	Baseline Comparison	Testing Rate	Trend	Key policy tool	Enforcement
BUFFALO	2015: 2.2% BLL >10µg/dL (Erie County)	61% of children born 2012-14 screened 2x by age 3	2010: 2.1% BLL >10µg/dL (Erie County)	Buffalo has established a rental registration process and public education campaign in a city/county partnership. See body of report for additional detail.	See body of report for discussion.
BALTIMORE	2016: 5.7% BLL ≥ 5µg/dL	28% of children under the age of 6 were reported tested in 2016.	Statistics at the 5µg/dL level only now being reported; 2010-16 rate at 10µg/dL threshold showed reduction from 1.6% to 1.0%. Decline from 12,908 EBL children at ≥10 ug/dl in 1993 to 167 in 2016.	Baltimore relies on state law to govern lead safety, supported by housing code and Health Dept. Lead Violation enforcement. MD requires annual registration of all properties built before 1978 & lead hazard certification, incl dust test at unit turnover and in response to notice of defect. Landlords are required to provide relocation assistance to tenant when child tests for lead at 10 µg/dL or higher if the property is not brought into compliance immediately.	State issued 1,408 violations in 2017 for non-compliance with inspection certification and remediation standards of state lead law including a significant number in Baltimore City. City housing code enforcement agency refers all code chipping paint violations over 30 days to state for lead law enforcement.

	Baseline Comparison	Testing Rate	Trend	Key policy tool	Enforcement
BURLINGTON	2012: Published data for Chittenden County (Burlington is 1/4 of county pop) shows 10% BLL >5µg/dL	State of Vermont claims near universal testing, up from 62% in 2003.	In 2003, 18% of children tested had BLL >5µg/dL, 8 points above the 2012 figure.	All landlords must certify compliance with VT Essential Maintenance Practices, which includes visual inspections, remediation & provide annual statement of compliance.	City inspections occur every 5 years for new, renovated or violation-free units; more frequent for units w/ violation or upon tenant complaint.
CHICAGO	2013: 4% BLL >5µg/dL	>103,000 children tested in 2013	In 2010, 6% BLL >5µg/dL, thus 2 point reduction for 2010-13; 2008-13 reduction was 5 points.	Broad inspection authority granted to city officials; RRP certification required for window replacement; ordinance mandates that properties frequented by children be maintained free of lead hazards.	Fines are modest when compared to other cities, although penalties escalate for repeat offenders. Data on enforcement unavailable.
DETROIT	2015: 7.5% BLL >5µg/dL (v. 3.4% statewide)	Children under age 6: 37% tested (v. 20% statewide)	2010: 13% BLL > 5µg/dL, reduction of 6.5 points.; same testing rate.	All owners of pre-1978 rentals required to secure lead clearance, Certificate of Compliance & Rental Registration.	Fines are significant. Evidence suggests weak enforcement, however, with Detroit News reporting 4,174 in compliance in 2016 (out of estimated 136,000 units).
GRAND RAPIDS	2014: 8.2% BLL > 5µg/dL	25% of children under the age of 6 were reported tested in 2014.	In 2007, 22% BLL >5µg/dL, nearly 14 points higher than the figure reported for 2014.	A Certificate of Compliance with the City's lead ordinance is required of all rental properties before occupation. This is issued only after City interior inspection for peeling & flaking paint. Condition at time of testing determines expiration of certificate. Funds made available to owners for remediation.	The City publishes a list of all properties found to be in substantial compliance with the Property Maintenance Code: 14,000, about 42% of the estimated total, are included, suggesting substantial compliance.

	Baseline Comparison	Testing Rate	Trend	Key policy tool	Enforcement
PHILADELPHIA	2015: 6.5% BLL >5µg/dL	Children born in 2012: 88% tested by age 3	2010: 11.3% BLL > 5µg/dL; median BLL fell from 3.2µg/dL in 2010 to 2.4µg/dL in 2015	Mandatory certification applies to all pre-1978 rentals housing children 6 and under.	Of estimated 18,000 rental units housing children under 6, 2,000 had lead free/lead safe certificates filed with the city. Funding for prevention fell from \$11m in 2007 to <\$2m in 2016.
ROCHESTER	2016: 10.3% BLL > 5µg/dL (City & combined city/county zip codes); 6.5% for total county	NYS reports that 50% of county children born from 2012-14 were tested by age 3.	From 2013-16: Fell less than a point (essentially no change). Figures prior to 2013 limited to BLL > 10µg/dL: From 2010-16, declined from 3.7% to 1.6%. City notes that % BLL>10µg/dL fell by 1/3 when comparing 5 yrs before law and 5 yrs after.	Reported EBLL used to identify "high-risk" housing by ZIP code. Dust wipe required in these areas regardless of visual inspection results. Inspections are carried out by city-certified risk assessors or a third party lead-based paint inspector (certified by the EPA's RRP standards).	In the first two years of the program, 28,000 dwelling units were inspected with 12% failing either visual inspection or a dust wipe test. Program compliance has been consistently strong.
SAN DIEGO	2016: 1.9% > BLL 4.5µg/dL	16,000 children under 6 tested in 2016, ~16% of estimated 103,000 children	Published county EBLL rates fell from 3.6% to 1.7% from 2010-13 with same testing rate	Landlords of housing built before 1979 required to perform visual inspection at turnover; maintains Lead Safe Housing Registry.	Although statute asserts inspection power without complaint, this is not pursued; program closed 33 cases in FY'17. Enforcement relies almost solely on complaints.

	Baseline Comparison	Testing Rate	Trend	Key policy tool	Enforcement
TOLEDO	2015: 5.5% BLL >5µg/dL	23% of an estimated 23,000 children under age 6 were tested in 2015.	In 2010, 14% BLL >5µg/dL, thus the 2015 result is a significant improvement.	Law passed in 2016 requires all rentals of 4 units or less to file a Lead Safe Report completed by a certified inspector. Certificates expire 3 yr for properties that fail initial inspection, 6 yr otherwise. Must be renewed at date of transfer.	Enforcement powers are clearly articulated in the legislation, however the rigor of enforcement remains to be seen as law still being implemented.
WASHINGTON DC	2015: ~2% BLL >5µg/dL	91% of children aged 2-3 screened at least once; 42% twice	N/A	Strict disclosure requirements per "reasonably known" standard; tenants with children under age 6 may request lead clearance before taking occupancy.	Inspections triggered by tenant complaint & based on reasonable belief in imminent threat to health & safety.

Washington D.C.	248,189	81%	59%	\$1,362	40%	65%	61%	5%	\$ 46,754	\$ 25,231	95%
Toledo	119,698	86%	48%	\$651	45%	60%	52%	8%	\$ 39,770	\$ 23,696	88%
San Diego	306,686	58%	53%	\$1,427	44%	62%	54%	7%	\$ 34,548	\$ 20,317	90%
Rochester	88,995	91%	64%	\$779	52%	68%	62%	6%	\$ 42,019	\$ 21,730	89%
Philadelphia	593,537	88%	48%	\$943	48%	54%	42%	12%	\$ 26,249	\$ 15,562	86%
Grand Rapids	65,031	82%	46%	\$806	48%	62%	55%	7%	\$ 44,262	\$ 27,129	91%
Detroit	336,053	92%	52%	\$754	56%	66%	59%	7%	\$ 50,434	\$ 30,847	85%
Chicago	979,621	82%	56%	\$987	43%	69%	63%	6%	\$ 72,935	\$ 48,781	95%
Burlington	12,972	78%	60%	\$1,071	48%	67%	60%	5%	\$ 68,117	\$ 35,199	88%
Baltimore	258,954	87%	53%	\$974	45%	62%	54%	8%	\$ 31,684	\$ 19,830	92%
Buffalo	121,407	93%	59%	\$710	46%	59%	53%	6%	\$ 35,119	\$ 21,566	93%

Detroit

Statutory Framework

Detroit's lead poisoning statutes require stringent clearance and inspection protocols. Detroit's Property Maintenance Code was revised in 2010 to improve primary prevention*. Detroit requires the registration of all rental properties (renewed annually), which includes "1 and 2-family homes, multiple dwellings, apartment buildings, hotels, motels, shelters, rooming houses, etc. as well as rooms rented within a single-family, owner-occupied home."

Owners of pre-1978 rental units are obligated to submit a lead clearance report.† The lead clearance report begins with a lead inspection and risk assessment performed by a certified inspector or assessor. If the inspection and/or assessment identifies lead hazards, the property must be remedied by a certified abatement worker (pursuant to the rules promulgated under the Michigan Lead Abatement Act) or by implementation of interim controls by a certified renovator (an individual who has undergone Lead Safety for Renovation, Repair and Painting Training pursuant to 40 CFR 745(e)).

The lead clearance is required to obtain a Certificate of Compliance and Rental Registration from the city. Owners who rent properties without having obtained a certificate are subject to fines.

The Property Maintenance Code includes provisions to avoid conflict of interest between property owners, tenants, and those individuals performing assessments and/or remedies. After lead abatement/interim controls have been implemented, the owner must obtain post-remedy clearance. Only after the post remedy clearance report can the landlord register the pre-1978 property and obtain a certificate of compliance, as both requirements must be met for the property is legal to occupy.

Depending on the size of the property and the number of offenses committed, penalties for non-compliance issued by the city alone can range from \$500 to \$8,000. Offenses may be assessed on a daily basis. Moreover, these fines do not reflect the addition of penalties associated with violating conditions pertaining the Certificate of Compliance. Additional municipal, state and federal penalties also apply.

* See http://www.detroitmi.gov/Portals/0/docs/Forms/BSEED/Lead_Ordinance_Requirements_for_Rental_Property_Owners.pdf.

† Inspections may also be initiated based on receipt of tenant complaint (Sec. 9-1-35-(d)-2)

The municipal code makes no special provision for the right of entry of buildings not owned, operated, and/or maintained by the city, especially with regard to suspicion of lead hazards.

Testing

The Michigan Department of Health and Human Services (MDHHS) blood lead screening rates are low. Only a fifth of children under the age of six had been tested as of 2015 reporting. MDHHS is responsible for overseeing both the testing of children for lead poisoning and the provision of case management and follow-up services; however, MDHHS lacks infrastructure capacity and adequate funding to implement current law and program requirements. Funding at the federal and state levels has not kept pace with current Michigan requirements for EBL testing of all children in the Michigan Medicaid and Woman, Infants, and Children (WIC) programs.

MDHHS reports lead testing data by county and includes the number of children in the population, the number tested and the share of tested children with a blood lead level exceeding 5µg/dL. The 2015 Annual Report* indicates that 20% of children under age six have been tested statewide (using any screening method) with EBL reported for 3.4% of those tested. The EBL rate for Detroit was more than twice the state rate at 7.5%. MDHHS reports that 37% of Detroit's children under age six were tested. The results of testing are also reported by zip code.

Enforcement

The Census Bureau's American Community Survey estimates that rental housing units totaled about 136,000 in 2015. The Detroit News reports that 4,174 units complied with the inspection regime in 2016, however.

In response, Mayor Mike Duggan and Councilmember Andre Spivey have proposed tough new enforcement rules that would prohibit landlords not in compliance from collecting rent from tenants or evicting tenants. The mayor also announced that 7 new inspectors have been hired and has contracted with three outside vendors to help speed the process[†]. It does not appear that City Council has acted on the tougher enforcement rules, however.

Strengths & Weaknesses

- **Comprehensiveness:** A rigorous statutory framework for primary prevention in rental properties is in place. All rental properties are covered by the lead abatement statute. Fines for noncompliance can be significant.

* See http://www.michigan.gov/documents/lead/2015_annual_report_2_7_17_551735_7.pdf

†† <http://www.detroitnews.com/story/news/local/detroit-city/2017/05/24/landlords/102105486/>

- **Enforcement:** To date, the city has not devoted sufficient resources to enforcing the statutes passed by City Council, although recent press reports indicate that additional staffing has been secured. Significantly greater enforcement powers have been proposed but have not yet been approved by City Council. There is some question whether the stricter enforcement provisions would survive a legal challenge.
- **Evidence of impact:** Testing data released by the state of Michigan indicates a steady decline in the proportion of children with EBLL. The state's 2010 Annual Report indicates that with 37% of Detroit's children under the age of six having been tested with 13% showing BLL of 5 µg/dL or higher. As noted above, the most recent data, at the same testing rate, indicate that EBLL rate has fallen to 7.5%.
- **Key weaknesses in primary prevention structure:** Even without the proposed dramatic increase in penalties for noncompliance, the fine structure combined with better enforcement should be sufficient to achieve significant improvement, provided that enforcement actions are well publicized as a deterrent. The low testing rate remains problematic, however, opening up the possibility that apparent reductions in EBLL are an artifact of the process by which children are identified for testing.

Philadelphia

Statutory Framework

Philadelphia's Lead Paint Disclosure and Certification Law (Philadelphia Code, title 6, ch.6, section 6-800 [2011])* took effect in December 2012. The law amended the city health code to include mandatory lead free/lead safe certifications for targeted housing and more stringent penalties for non-compliance. Targeted housing is limited to pre-1978 units rented to families with children 6 years or under. Lessors of targeted housing are required to provide their tenant(s) and the city's health department with a certification form from a certified lead inspector. Certified lead inspectors are certified by the Philadelphia Department of Health, the state (as an "inspector-risk assessor"), or the EPA (as a lead dust sampling technician) (Section 6-800-(1)). Philadelphia requires that targeted housing units receive a lead free/lead safe certification prior to rental but within 24 months of the lease start; Lessors are obligated to disclose, in writing, lead free/lead safe certifications to tenants who in turn must acknowledge receipt of the certification via signature.

As in most localities, once a child has been found to have been lead poisoned, the city is empowered to enter the home, test and enforce any necessary remediation. Municipal law does not appear to give the city expedited right of entry access to

* http://www.phila.gov/health/pdfs/Phila_Lead_Disclosure_and_Certification_Law_12_21_11.pdf

homes at risk of (interior) lead poisoning. The law reads: “Prior to entering into a space not otherwise open to the general public, the code official shall make a reasonable effort to locate the owner or other person having charge or control of the space or premises, present proper identification and request entry (A-401.2.1 Non-public spaces).”

Remedies for noncompliance range from a maximum fine of \$2,000 per offense—each day of noncompliance constitutes a separate offense—to awarding tenants’ rent abatement, damages for harm, and attorneys’ fees and costs.

As of December 2016, § 6-814 (Bill No. 160609) was amended to ensure that Family Child Day Care facilities must comply with same certification requirements as targeted housing.

The city has also implemented an outreach and education program aimed at tenants and landlords, including running advertisements on public transit and through social media.

Testing

Philadelphia’s 2015 Childhood Lead Poisoning Surveillance Report indicates that 88% of children born in 2012 had been tested by age 3. Of children under the age of 6, 6.5% were newly identified as having a BLL of 5 µg/dL or higher (using any screening method)*.

Enforcement

The City estimates that children under the age of six reside in 18,000 rental units in Philadelphia. The *Final Report* of the Philadelphia Childhood Lead Poisoning Prevention Advisory Group†, issued June 30, 2017, reports that about 2,000 lead free or lead safe certificates were filed with the city between 2012 and May 2017. Despite the fines available to city inspectors under the statute, enforcement has been lax, although the city administration has committed to a more active stance.

The Advisory Group notes that funding for lead poisoning prevention from all sources (federal, state and local) fell from \$11 million in 2007 to under \$2 million in 2016.

Strengths & Weaknesses

- **Comprehensiveness:** The lead statute’s limitation to units with children under the age of six was acknowledged by the Advisory Group as a major weakness.

* https://beta.phila.gov/media/20161219112430/2015-Philadelphia-Childhood-Lead-Poisoning-Surveillance-Report_FINAL-1.pdf

† <http://www.phila.gov/health/pdfs/Lead%20Advisory%20Group%20Report.pdf>

- **Enforcement:** The limitation to rental units housing children under the age of six makes current statutes very difficult to enforce. Evidence suggests that few enforcement actions have been undertaken in any event. As noted by the Advisory Group, funding for primary prevention is insufficient.
- **Evidence of impact:** Data on testing and the results of that testing are quite good. The share of children under the age of six with BLL above 5 µg/dL fell from 11.3% in 2010 to 6.5% in 2015 (using any blood sample). The median BLL of tested children fell from 3.2 µg/dL in 2010 to 2.4 µg/dL by 2015.
- **Key weaknesses in primary prevention structure:** The Advisory Group's Final Report recommends expanding the statute to all rental housing built before 1978. Increasing the breadth of application will have little effect without stepped up enforcement. Non-covered units might very well include structures that possess a high risk of containing lead hazards and that are frequented by children 6 years or under; grandparent's homes are perfect examples. Moreover, since targeted housing is centered on protecting families with young children, there are possible fair-housing concerns whereby landlords might exhibit greater reluctance to provide housing to tenants with young families.

San Diego

Statutory Framework

San Diego takes as its premise that all structures (including dwellings) built prior to 1979 (estimated at 310,000 units) use lead-based paint in the interior/on the exterior, as asserted in the city's 2008 statute.* Landlords may rebut this presumption by having a certified lead risk assessor/inspector attest that the dwelling is free of lead hazards. City-led inspections are primarily triggered by tenant complaints and observed exterior conditions. The statute grants the city administration broad latitude to conduct inspections when the appearance of a structure warrants investigation.

Landlords are required to perform a visual inspection of deteriorated paint in all pre-1979 structures when an occupant vacates the dwelling and before unit turnover. Moreover, once a landlord receives notice about the existence of a lead hazard, the landlord must correct the hazard in line with city code (§ 54.1006). The process of correcting a lead hazard includes proper disclosure to tenants, specialized cleaning, and clearance inspections. If the landlord fails to perform this visual inspection and/or conform to statutory obligations to address lead hazards, the landlord will be liable for maintaining a public nuisance. Current municipal law permits San Diego to fine non-compliant landlords up to \$2,500 per day per violation (\$250,000 maximum).

* <https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/ep/081017leadord.pdf>

The city statute additionally stipulates that child-care facilities must require lead-poison screenings from parents of children ages 6 months to 7 years as part of the admission process.

City staff may only issue violation notices after inspecting the property or portion thereof, and determining a lead hazard exists. They may issue a "Notice to Comply" (NTC) based on visual evaluation of exterior paint, however, and report good success with property owners having the hazards remediated based on this. If owners do not comply, the city can go through the process of having an inspection warrant issued, which must be based on reasonable cause. Nonetheless, tenant complaints trigger most enforcement actions. Evidence of a child being harmed by lead exposure will trigger additional compliance activity.*

Staff report the encouraging news that referrals for EBLs from the county are down from 30 or 40 cases per year in the past to 6 or 7 currently. It is unclear whether the reduction in referrals reflects a reduction in the rate of lead poisoning or an administrative lapse on the part of the state of California (see Testing below).

San Diego has also instituted a "Lead Safe Housing Registry" listing rental properties that have had lead hazards remediated through a U.S. Department of Housing and Urban Development (HUD) funded grant program. Property owners agree "to give priority in renting these units to families with a child under the age of six for at least 3 years after the property had been "cleared" of lead hazards.†" Presently the list includes 38 addresses, 2/3 from 2016 and the remainder from 2017. Although this is a positive step, its impact will be limited unless it achieves significant scale.

Another issue in San Diego bears mentioning. The city has identified many cases of lead poisoning resulting from candies, home remedies and produce coming across the border from Mexico. This is a source of lead poisoning that should concern public health authorities across the United States. As a border town, San Diego experiences a higher incidence of exposure from these sources.

Testing

The State of California's Department of Public Health provided unpublished testing results for 2015 and 2016 for the city of San Diego. The most recent *published* statistics for the state and counties are from 2013, although more recent figures will be posted

* Thanks are owed to Christopher Lee, Lead Safety & Healthy Homes Coordinator, City of San Diego, for information on implementation of the city's statute (personal communication, 8/2/17).

† <https://www.sandiego.gov/sites/default/files/lshregistry.pdf>

very soon.* About 16,000 children under age 6 were tested in 2016. Of those tested, 1.9% were found to have a BLL of 4.5 µg/dL or higher. The share of children tested with EBLL above 9.5 µg/dL was 0.2%. As there are an estimated 103,000 children ages 0-5, this is a 16% testing rate.†

Enforcement

Just under 60% of all housing units were built before 1980.‡ If this rate is consistent across the city's 258,000 rental units, then about 150,000 rental units would have been built before 1980.

For the year ending June 2017, San Diego's lead abatement program closed 33 cases.

- A "Notice to Comply" was issued in 12 cases involving 26 residential units.
- A "Notice of Violation" was issued in 6 cases affecting 38 residential units.
- Abatement orders were issued in 4 cases involving 13 residential units.
- In a dozen cases, city citation of "Unsafe Work Practices" spurred cleaning of contaminated work areas in 26 residential units. §

San Diego staff interviewed observe that enforcement depends very much on levels of funding.

Strengths & Weaknesses

- **Comprehensiveness:** This is the most rigorous statutory environment of all the comparison cities. Not only are landlords obligated to provide evidence that a housing unit is lead safe, but the city administration is granted the power to investigate potential lead hazards, both interior and exterior, without the permission of the property owner or a request by a tenant. Fines for noncompliance are substantial and provide city inspectors with ample powers to spur corrective action.
- **Enforcement:** Code enforcement in the city of San Diego employs 14.4 per 100,000 housing units and allocates \$1,543 per 100 occupied housing units in the FY17 budget.
- **Evidence of impact:** The most recent results of lead poisoning in the city of San Diego are promising, although the testing rate is relatively low. That said, the improvement at the county level between 2010 and 2013 is considerable, with the

*<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/CLPPB/CDPH%20Document%20Library/BLL%20Counts%202012%20by%20LHD%20final.pdf>

† Joseph Courtney, Childhood Lead Poisoning Prevention Branch, California Department of Public Health, personal communication 8/14/17.

‡ U.S. Census, American Community Survey 2011-15 (ACS_15_5YR_DP04_with_ann).

§ Childhood Lead Poisoning Prevention Progress Reports provided by Mr. Lee.

EBLL rate falling from 3.6% to 1.7%. It is worth noting that the share of children testing above 9.5 µg/dL in 2013 was 0.2%. Roughly the same number of children were tested in each of these years.

Five year trend: For other case study cities we report a 2015-2015 trend. To preserve comparability, we report that the San Diego county EBLL figure for 2007 figure reported was 5.4%. The number tested in 2007 was about three-quarters of that reported in 2012, however.

- **Key weaknesses in primary prevention structure:** The statutory context for enforcement is in place, although resources devoted to enforcement limit the ability of staff to monitor compliance. Improvement in the share of children tested is certainly desirable. Thus while the power to conduct inspections is established in statute, a lack of funding means that this power is wielded rarely.

Washington D.C.

Statutory Framework

Washington DC's Department of Energy and the Environment (DDOE) presumes that paint used on any pre-1978 structure contains lead*. The district's Lead Hazard Prevention and Elimination Act asserts that "All dwelling units, common areas of multifamily properties, and child-occupied facilities constructed prior to 1978 shall be maintained free of lead-based paint hazards." Moreover, the ordinance allows tenants in households with, or regularly visited by a pregnant woman and/or a child under 6 years old to secure a private clearance report prior to occupancy.†

The Lead Act, in conjunction with supporting regulation, also requires strict disclosure requirements that apply prior to any tenant purchasing or leasing a pre-1978 property, the renewal of a lease or an increase in rent, or upon discovery of a new lead hazard. Disclosure requirements are strengthened by insisting that lead hazard information conforms to a "reasonably known" standard.

More broadly, the city will launch inspections upon written tenant complaint of potential lead hazards and based on reasonable belief of imminent threat to the health and safety of the occupants of the property (§ 8-231.05). The right of entry allows the city to inspect a property's exterior and interior, to conduct risk assessments, and to verify compliance with any portion of the law. An owner (the individual/entity who holds any portion of the freehold or leasehold interest on the property) who denies

* <https://doee.dc.gov/leadsafehealthyhomes>

† Personal communication, Amber A. Sturdivant, Branch Chief, Lead-Safe and Healthy Housing Division, Department of Energy & Environment, Washington D.C., 8/9/17.

the city access to conduct lead inspections will be in violation of the lead law and will become subject to the appropriate civil and/or criminal penalties. Further regulations protect tenants by obligating property owner's to provide temporary comparable alternative living arrangements for an affected tenant whenever DDOE requires relocation of the tenant due to the presence of lead-based paint hazards at a residential rental property.

Testing

Blood lead screening in Washington shows encouraging results. As of FY 2015, the District's Department of Energy and Environment reports that 91% of children between ages 2 and 3 received at least one blood lead screening. 42% of children in this age cohort had been screened twice. Over 15,000 children under the age of 6 had been tested as of FY15. Only 1.3% were identified as new confirmed cases with EBLL of 5 µg/dL or higher. Combining new confirmed cases, new suspect cases and EBLL recorded among children previously identified, the EBLL share is just under 2%.*

Enforcement

Violations of the lead law can result the following: issuance of a cease and desist order; placement of continuing and perpetual lien; infractions ranging from \$50 to \$16,000 for serious and repeated violations; civil penalties (where appropriate) not exceeding \$25,000 per day per offense such that each day of a violation constitutes a separate offense via a Notice of Infraction (NOI); criminal penalties (where appropriate) subject to the same monetary fines as civil penalties and inclusive of imprisonment for up to one year. The DDOE's enforcement authority additionally permits to issue Notices of Violation; Orders to Eliminate Lead-Based Hazards; Orders to Relocate Tenants; Notices of Suspension, Revocation, or Denial of a Certification; and Cease-and-Desist Orders.

Although tenants with young children have the right under the statute to request evidence of lead clearance before assuming occupancy, the request goes to the landlord, not the district. Compliance is not monitored—it would be surprising if responsiveness among landlords were not highly variable.

Broad authority is granted when violations have occurred, specifically: "the District government may deny any license, registration, or permit relating to the use or

* Lisa Gilmore, Branch Chief, Lead Safe & Healthy Housing Division, Personal Communication 8/16/17.

occupancy of a child-occupied facility or dwelling unit to an owner of that property if the owner is in violation of this chapter.”*

A request on the frequency of inspections and other enforcement actions is pending.

Strengths & Weaknesses

- **Comprehensiveness:** The statute provides sufficient power to the administration to address lead poisoning once it has occurred. It is not clear that a mechanism exists to enforce required disclosure of known hazards. There appears to be no mechanism to identify and remediate previously undetected hazards.
- **Enforcement:** Information obtained to date from the D.C. government suggests that inspections are largely driven by tenant complaint and are not triggered by a lack of compliance with reporting required under the statute.
- **Evidence of impact:** A request for data on the average tested EBLL and the rate of testing is pending.
- **Key weaknesses in primary prevention structure:** The statutory basis for enforcement exists but enforcement does not appear to be rigorous. Without published data on the rate and degree of lead poisoning, it is impossible to determine effectiveness.

Burlington

Statutory Framework

Burlington’s local lead law ordinance was enacted in 2009 and requires all landlords to certify compliance with the state’s Essential Maintenance Practices (EMP) and employ lead safe practices during repair and renovation[†]. EMP include visual inspections, remediation of lead hazards via lead safe practices, and strict disclosure requirements. Both landlords and child care facilities are required to sign a statement of compliance annually and provide the statement to tenants and the state of Vermont.

City inspectors are authorized to enter into rental homes on the basis of carrying out local, periodic inspections.[‡] If inspections are refused, Vermont District Court may issue search warrants for unit entry provided probable cause. Probable cause may be established pursuant to the following specified in Section 18-23:

- 1) The dwelling unit has not been inspected for more than a year;

* <https://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/Lead-Hazard%20Prevention%20and%20Elimination%20Act.pdf>

† <http://www.burlingtonleadprogram.org/free-services/city-of-burlington-lead-ordinance/>

‡ Does this right extend to units where the owner resides? Or is there less concern about lead hazards in the building given the owner’s presence, and hence, the need for inspection is lessened.

- 2) The dwelling unit or other units within the property have found to be in violation of any rule within the whole of Chapter 18;
- 3) Previous violations have been found in this unit before and the agency has no reason to believe that corrective action has taken place; and,
- 4) A written complaint filed with the agency for a particular unit and the agency has been denied entry.

Owners of rental target housing* are required to conduct a visual assessment of each unit annually and at tenant turnover to detect, and then appropriately remedy, deteriorating paint. Moreover, the owner(s) is required to perform a specialized cleaning of all interior surfaces save the ceiling, and subject to lead safe cleaning procedures, at tenant turnover. Furthermore, owners are required to make certain disclosures that go beyond federal and state requirements and provide tenants with educational resources.

Burlington has a number of enforcement mechanisms at its disposal. Failure to observe lead safe practices might result in a \$500 fine and/or a stop work order. The city reserves the right to suspend a certificate of compliance, without which a residence cannot be legally occupied. Depending on the circumstance, civil and/or criminal penalties may be assessed. Civil penalties range from \$75-\$100 whereas criminal penalties include fines between \$200 and \$500 and/or a maximum of 30 days in jail per offense; each day of noncompliance constitutes a separate offense.

Testing

The state of Vermont has been very successful at achieving near-universal blood lead screening for children. Looking only at Chittenden county (individual data for Burlington are not published), the share of children tested as a share of the birth cohort rose from 62% in 2003 to what state statistics indicate as near universal testing by 2010[†]. The most recent release at the county level, however, is 2012. In this year, the share of children tested with a BLL over 5 µg/dL was 10%, below the statewide average of 15%. Although a significant improvement from the 18% reported for 2003, the figure is still high. Statewide, 38% of children tested in 2003 showed BLL over 5 µg/dL based on a testing rate of 75%.

Enforcement

The city's Code Enforcement Division conducts periodic inspections to ensure compliance with EMP. Periodic inspections, which include identifying lead hazards, are

* Although "target housing" is not defined in the statute, it most likely refers to (rental) homes built prior to 1978, possibly exclusive of owner-occupied structures.

[†] See <https://apps.health.vermont.gov/ias/querytool?Topic=EPHT&Theme1=Lead>.

thus tied to the expiration and renewal of the certificate of compliance. A certificate of compliance's longevity is a function of the size/type of the rental unit and the number/severity of previous housing code infractions. In practice then, periodic inspections occur every 5 years for newly constructed, significantly renovated, or violation-free rental units, and every 4 years to 6 months or less for rental units found to have varying degrees compliance. Tenants are authorized to file written complaints which trigger inspections within 7 days of the complaint's receipt (18-24).

The local rental housing registry was never funded, which in turn, made tracking certificate of compliance expirations (the primary inspection trigger) ineffectual. Inspections are sporadic and largely driven by tenant complaints.

Strengths & Weaknesses

- **Comprehensiveness:** The statutory environment is sufficient, requiring landlords to comply with the state's Essential Maintenance Practices requirements. Although provision is made for periodic inspections, the owners to self-certify compliance makes rigorous enforcement a necessity.
- **Enforcement:** The City Council was never able to fund the provisions of the 2009 statute. Enforcement is limited to responding to tenant complaints.
- **Evidence of impact:** The most recent information comes from 2012 and indicates that the share of children under the age of three being tested is very high, reliably indicating that 10% of children showed an EBLL of 5 $\mu\text{g}/\text{dL}$ or higher. This is down slightly from 11% in 2010. The five year trend to 2012 is a reduction of two percentage points (from 12% to 10%).
- **Key weaknesses in primary prevention structure:** Progress at reducing EBLL is slow in Burlington. Although an ambitious and comprehensive statute was passed in 2009, lack of funds for enforcement hinder significant improvement.

Chicago

Statutory Framework

The Chicago Lead Ordinance* stipulates that "it is the duty of owners to maintain residential buildings, child care facilities, and schools in a manner that prevents the existence of lead hazards." And that "All buildings regularly frequented by children six years of age and younger must be maintained so they are free of lead hazards." This falls short of statutes that mandate a specific outcome, i.e. that dwellings be "lead safe" at a specific BLL standard, e.g. 5 or 10 $\mu\text{g}/\text{dL}$.

* <http://www.lead-safe-illinois.org/uploads/documents/benchbook-2-chicago-laws-with-summary.pdf>

The statute grants broad inspection authority to code enforcement officials:

7-4-090 Inspection of buildings and commercial establishments.

"An authorized representative of the City of Chicago charged with enforcement of this ordinance, upon presentation if requested of the appropriate credentials to the owner, occupant or his representative, may inspect *child care facilities, schools, dwellings and residential buildings* at reasonable times, for the purposes of ascertaining *that all surfaces accessible to children* are intact and in good repair, and for purposes of ascertaining the existence of lead-bearing substances. An authorized representative of the city may also inspect soil surrounding of said facilities and may also inspect commercial establishments for the purposes of ascertaining whether any lead-bearing substances or lead hazards are present. Such representative may remove samples or objects necessary for laboratory analysis. If a person entitled to withhold consent to an inspection refuses to allow inspection, a representative of the city may apply for a warrant to permit entry."

In 2011 the city addressed problems resulting from renovation, passing an ordinance requiring RRP certification for window replacement and work that disturbs painted surface totaling 6 SF in the interior space or 20 SF on the exterior.

Testing

Chicago's lead law requires evidence of lead screening for admittance to nursery school, kindergarten or day care which is likely to increase the testing rate, provided that the requirement is enforced. The Chicago Department of Public Health reports that in 2013 more than 103,000 children were tested and 4% were found to have EBLs.* Although the testing rate was not reported, the Census Bureau reports that each birth cohort in Chicago during this period included about 46,000 children, suggesting that the testing rate is high.

Enforcement

Fines between \$100 and \$500 may be levied for each offense. Each day a violation or noncompliance exists is a separate offense. "Any person found guilty of a third or subsequent violation or failure to comply within a two year period is punishable by a fine between \$500 and \$1,000 and/or incarceration not in excess of 6 months."

* Although Chicago has adopted the CDC's 5 µg/dL standard, these figures are based on a 6 µg/dL standard due to a problem with one of the testing labs.

Strengths & Weaknesses

- **Comprehensiveness:** Chicago's statute grants the city power to inspect and compel remediation where there is suspicion of harm. Proactive lead exposure reduction in housing units not targeted by actual harm appears to be limited.
- **Enforcement:** Unclear at this point in time.
- **Evidence of impact:** Using a 6 µg/dL or higher threshold, 4% of city of Chicago children screened for lead were found to have an elevated level of lead in the blood, down from 6% in 2010. The five year reduction (from 2008 to 2013) was 5 percentage points.
- **Key weaknesses in primary prevention structure:** Unclear at this point in time.

Toledo

Statutory Framework

In October 2016, the city of Toledo passed a tough new law governing the lead hazard. The Lead Safe Ordinance requires all rental properties of 4 units or less plus in-home family daycares built prior to 1978 to register with the Toledo-Lucas County Health Department*. Registration requires filing a Lead Safe Report completed by a Lead Safe Inspector who has completed approved training. Properties for which a Lead Safe Certificate has not been filed may not be rented or sold.

The "top tier of the most dangerous census tracts" must comply with the law by June 30, 2018. The second tier must comply with the law by June 30, 2019. All remaining census tracts must comply with the law by June 30, 2020. Lead safe certificates are issued upon submission of lead safe certificate application and a lead safe report. The lead safe report must be completed by a local lead inspector and must contain the results of and subsequent recommendations based on a local-lead inspection carried out by the local lead inspector (1760.03-2).

Local lead inspectors include those individuals licensed by the Ohio Department of Health, an EPA certified lead dust technicians, or persons who meet Lucas County Health Department licensing standards. Landlords are permitted to hire private lead risk assessor to perform inspections. The Toledo Lucas County Health Department reserves the right to perform inspections on a random basis or based on a reasonable suspicion that lead inspectors are improperly producing lead safe reports (1760.07-d).

* <http://www.lucascountyhealth.com/wp-content/uploads/2017/04/Toledo-Lead-Ordinance-4.18.17-Full.pdf>

The "Lead-Safe Certificate" shall expire from the date of issuance by the Director as follows:

- (1) three (3) years from the date of issuance by the Director for any property that fails the initial visual inspection or dust wipe test; or
- (2) six (6) years from the date of issuance for any property that passes the initial visual and dust wipe inspection.

A Lead-Safe Certificate must be renewed at sale, purchase, or transfer of ownership of the targeted buildings (1760.03-c).

No Certificate of Property Code Compliance may be issued to a targeted building unless the targeted building has a Lead-Safe Certificate (1763.021). The Certificate of Property Code Compliance is issued by Toledo's Division of Building Inspection to the subject property and is valid for three years from the issuing date.

The Department will also create an electronic Lead Safe Residential Rental Property and Family Child Care Home Registry to help track compliance with the implementation of law as well as inform prospective tenants (1760.13).

The County Health Department is permitted to enter on and into and inspect all premises, dwellings, dwelling units and accessory buildings to confirm compliance with the lead laws, provided that inspections take place at reasonable times, credentials are presented to the *occupant*, and that entry is requested and obtained. If entry is denied and there is probable cause to believe that a serious (read: lead) hazard exists, the County has legal recourse to take and gain entry (1303.09).

In the event that tenants determine that their landlord is noncompliant, tenants are authorized to take a private right of action against the property owner (1770.10) and escrow their rent for each month that the property owner is noncompliant (1770.11).

Testing

The most recent data for the City of Toledo area is from 2015. Total children tested under the age of 6 was 5,107 of an estimated 23,000 children, a testing rate of 23%. 5.5% of children tested with a BLL of 5 µg/dL or higher.

Enforcement

Fines for noncompliance include: \$50 per day administrative fine per dwelling unit with a maximum penalty of ten thousand dollars \$10,000 per year per dwelling unit for failure to observe statutory obligations for targeted properties, and \$500 per violation of lead inspection standards and protocols (1760.15 (a),(c)).

The Toledo law also requires the Lucas County Health Department to publish an Annual Report to summarize the Department's progress. The report must include the number of applications for Lead-Safe Certificates filed for, compliance status of, and disciplinary action taken by rental properties and home family daycares (1760.09-c).

Strengths & Weaknesses

- **Comprehensiveness:** This is a very robust and comprehensive statute. By focusing on smaller rental properties, the ordinance assumes that the majority of the lead contamination is occurring in the smaller units, not apartment buildings. By requiring lead safe certification before a
- **Enforcement:** As the statute is still being implemented, the level of enforcement has yet to be determined.
- **Evidence of impact:** In 2010, 6,550 children were screened in Toledo with 14% (912) testing at the 5 µg/dL or higher. As noted above, the 2015 results are much improved with 5.5% testing at 5 µg/dL or higher.
- **Key weaknesses in primary prevention structure:** A continued emphasis on the testing rate will help ensure sound measurement.

Baltimore

Statutory Framework

Unlike the majority of cities surveyed in this report, Baltimore relies more on Maryland state law than on to supplement its own municipal code to provide a legal framework around primary prevention work. Since the passage of the Maryland Reduction of Lead Risk in Housing Law in 1996, affected rental properties in Baltimore City and throughout Maryland have been required to mandatorily meet a lead remediation and inspection certification standard in pre-1950 properties. In 2015, the state environmental code was has been amended to make state lead laws more reflective of leading national practices and standards by expanding the law to mandatorily include 1950-1978 rental properties.

Owners of affected properties, which include any properties built before 1978, are required to register their affected properties with the Maryland Department of the Environment (MDE). Property registration must be renewed on an annual basis along with the payment of a \$30 per unit registration fee. The property list is publicly available on MDE's searchable website database or upon request. Rental property owners must also provide a lead informational pamphlet and a Notice of Tenants Rights brochure to the tenant at the time of tenancy and every two years thereafter.

Pre-1978 rental properties must meet full risk reduction standards and certification prior to unit turnover. To meet this standard, owners must pass a visual inspection to verify that there is no chipping paint and a lead d-containment dust clearance test, wherein dust samples from either the exterior or are collected from the interior of the affected property by a certified private inspector. If the property passes inspection, Risk Reduction Certificate is issued for the property. Affected rental property owners are responsible for lead hazard remediation abatement by way of using certified contractors and workers using lead safe work practice habits. Individuals that are accredited by Maryland's Department of Energy are permitted to conduct lead hazard abatement. MDE inspectors conduct regular spot checks of the third party inspection system to verify compliance and to maintain the integrity of the process.

According to prior Maryland state law, all children living in "at risk" areas for lead poisoning must be tested for EBLsL at 12 and 24 months; and the entire City of Baltimore was considered to be an at risk area. Starting in 2016, the State of Maryland implemented universal blood lead testing. At first blush, Baltimore's building codes appear to authorize proactive interior inspection of high-risk properties. Indeed, Sections 104.6.1.1-3 of Baltimore City's Revised Code indicate that neither a search warrant nor prior notice is needed if tenants request and grant permission for an inspection or if an inspection official reasonably believes that an imminent danger exists. However, several of Baltimore's lead-specific triggers for mandatory (interior) inspection are secondary prevention policies. In particular, probable cause for an interior inspection is established if a health care provider, the State Department of the Environment, or the Health Commissioner receives notice of a child with EBL of 105 µg/dL. The 105 µg/dL threshold is well above the CDC's action level of 5 µg/dL and is even less stringent than New York State's 10 µg/dL level.

That said, and as per state law, if an owner receives notice that a child 6 and under or a pregnant woman as an EBL greater than or equal to 10 µg/dL, the owner is required to provide permanent relocation assistance if the owner does not bring the property into compliance immediately. reasonable alternative living accommodations that are MDE-certified lead free. Within 30 days of receiving an the EBL notice or a notice of defect, the owner is responsible to meet the modified risk reduction standard and pass inspection certification. The MDE receives and monitors EBL notices and has a strong enforcement mechanism to increase compliance rates with by utilizing over four dedicated Attorney Generals to aggressively pursue enforcement actions against non-compliant rental property owners.

Baltimore City has a noteworthy housing code enforcement process through Housing Court that supports primary prevention by enforcing code violations for chipping, peeling paint. The City refers cases to MDE for enforcement of the Maryland state lead

law where housing code violations that cite chipping, peeling paint have not been satisfied within 30 days. In addition, the Baltimore City Health Department has a dedicated attorney who pursues compliance in Housing Court of outstanding Health Department Lead Violations. Lastly, private enforcement of the lead state law is provided through local District Court rent court actions where rental property owners are denied access to collect rent until their properties are brought in to compliance with the registration and inspection certification requirements.

Baltimore reports significant progress on the number of children with blood lead levels above 10 µg/dL. See chart below. Baltimore reports significant progress on the number

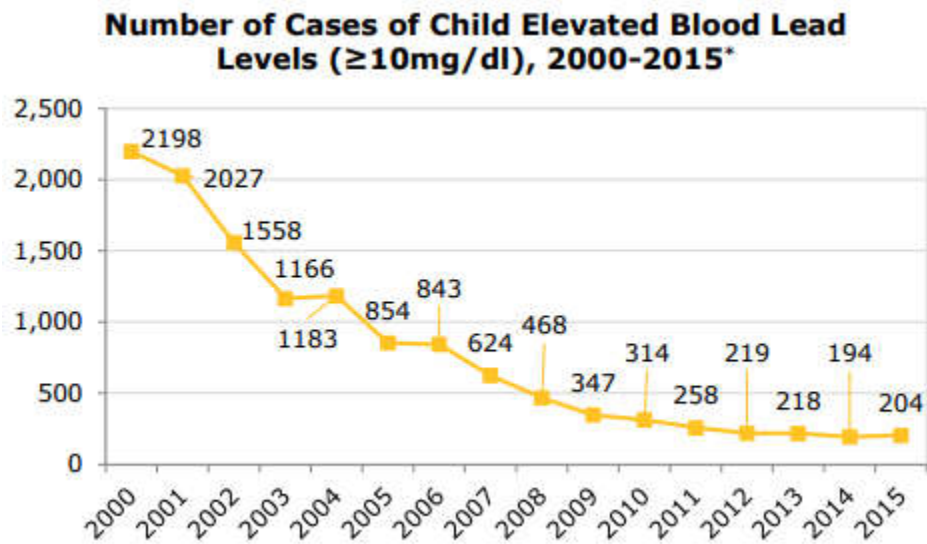


Figure 14 Baltimore Trend in EBLL

of children with blood lead levels above 10 µg/dL. See chart below.*

Testing

The State of Maryland reports that 34% of children under the age of 6 were screened in 2010 with 1.6% testing with a BLL of 10 µg/dL. Results for the lower 5 µg/dL were not reported at the county level in 2010 but in 2012 there were 6.5% of (1,224) children under age 6 in Baltimore City that were reported by MDE with blood lead levels of 5-9 µg/dL. 2016 results have been released which do include the share testing at the lower threshold. The testing rate for 2016 is reported as 28% with 1.0% testing at 10µg/dL or higher. At the more stringent 5-9 µg/dL threshold, however, 4.8% (804) were found to have EBLs and 5.7% at 5 µg/dL or higher in total.

* Baltimore City Health Department. See <https://goo.gl/sMbcbw>

Enforcement

Specific information on the use of enforcement measures was not readily available, although the reduction in EBLL would appear to suggest that City enforcement of housing and lead violations coupled with state lead law enforcement would appear to have been effective in helping producing a 99% decline in childhood lead poisoning since 1993 in Baltimore City from 12,908 children annually to 167 with EBLs of 10 µg/dl or higher.

Strengths & Weaknesses

- **Comprehensiveness:** The combination of Maryland and Baltimore City laws support a comprehensive primary prevention, monitoring and enforcement regime with significant private sector investment to meet rental property standards for lead safety.
- **Enforcement:** Strong enforcement at city and state level as well as interagency coordination of enforcement producing prevention results. Good usage of housing code enforcement for primary prevention objectives. Substantial local and state fines and penalties for non-compliance.
- **Evidence of impact:** As reporting at the 5 µg/dL level is only available for the most recent years, a long term trend is difficult to ascertain. EBLL at 10 µg/dL has come down significantly, however. Lead poisoning has declined by 99% in Baltimore City from 1993 to 2016 at blood lead levels of 10 ug/dl or higher. EBLs at 5 µg/dL or higher in Baltimore City declined from 1,443 children under age 6 in 2012 to 971 children in 2016.
- **Key weaknesses in primary prevention structure:** n/a

Grand Rapids

Statutory Framework

As of July 1, 2012, all rental properties in Grand Rapids are required to have a Certificate of Compliance before occupation. Certificates of Compliance are issued "only after the City has completed a comprehensive **interior** and exterior inspection of the property and has found it to be in substantial compliance with the City's Property Maintenance Code."* Certificates of Compliance are renewed on a two, four, or six year basis, depending on the conditions and history of the rental property. The city code mandates that "loose paint particles must be removed (*from the exterior*) in compliance with lead safe work practices (Sections 304.2, 304.2.1, 304.6 Property Maintenance Code)" and that "*interior* wall surfaces, including windows and

* <http://grcity.us/community-development/Code-Compliance-Division/Pages/Rental%20Properties.aspx>

doors, shall be maintained in good, clean and sanitary condition (Section 305.3 Property Maintenance Code).

Single family certifications must be renewed every 4 or 6 years, while two family certifications must be renewed every 2, 4, or 6 years.

Most of the resources funneled towards lead-abatement come from the city's Lead Hazard Control program. The program makes funding available to eligible landlords/homeowners to perform lead-remediation on their properties. Participation in the program is voluntary. As of 2016, the program had invested \$14 million in lead remediation repairs to rental and owner-occupied properties.

The city's Housing Rehabilitation Program publishes the number of homeowner units made lead safe per year. The city's Lead Hazard Control program also keeps track of the total number of homes that have been made lead safe.

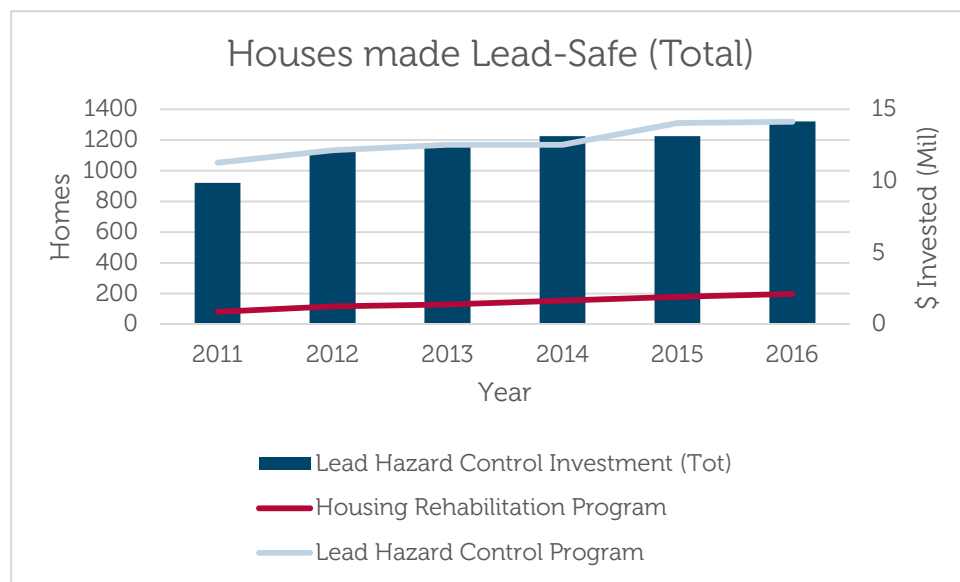


Figure 15 Grand Rapids: Houses Made Lead Safe (total)

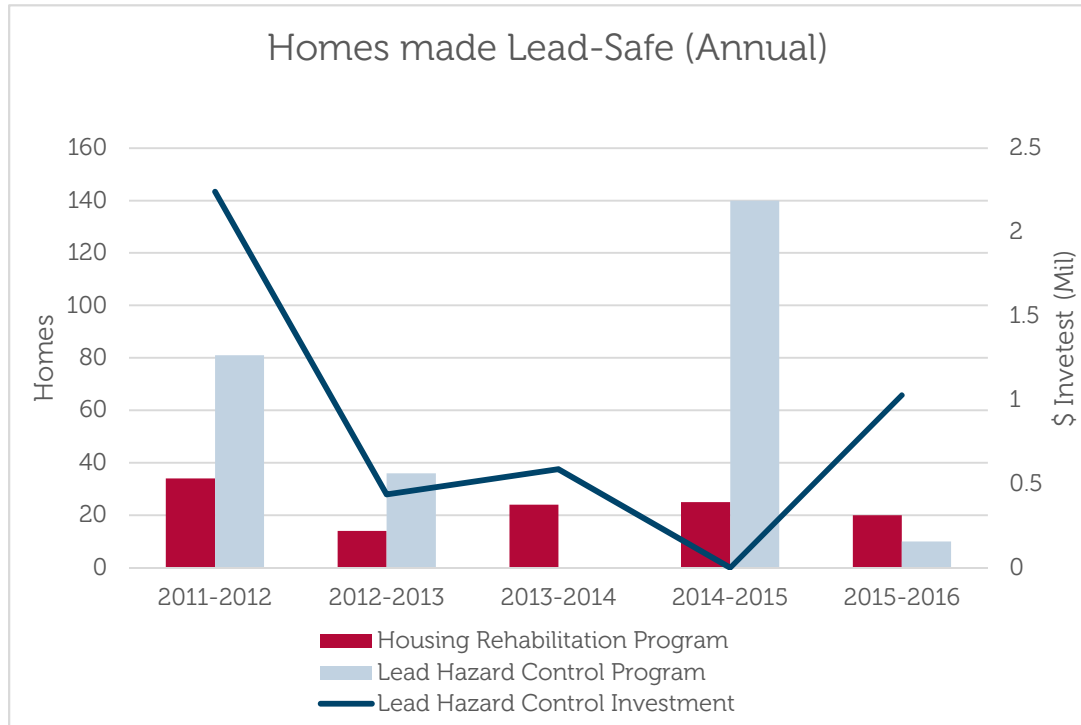


Figure 15 Grand Rapids: Houses Made Lead Safe by Year

Testing

The state of Michigan reports that 25% of children under the age of six had been screened as of 2014. Of that total, 8.2% were found to have a BLL exceeding 5 $\mu\text{g}/\text{dL}$ (both venous and capillary tests). 58% of children ages one and two were tested and results were the same.

Enforcement

The Housing Rehabilitation Office publishes* a list of all rental properties in the city that were inspected (both interior and exterior) and were found to be in substantial compliance with the Property Maintenance Code. The list includes more than 14,000 rental properties, 42% of the number of rental properties reported by the U.S. Census, suggesting a substantial rate of compliance.

*https://inspections.grcity.us/CitizenAccess/Report/ShowReport.aspx?module=Enforcement&reportID=303&reportType=LINK_REPORT_LIST

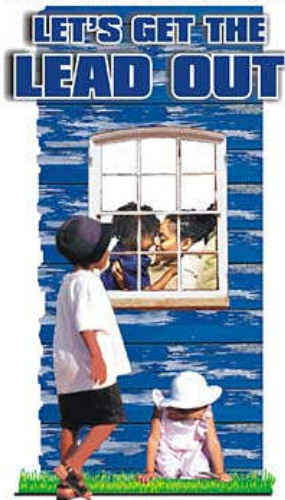
Strengths & Weaknesses

- **Comprehensiveness:** The Grand Rapids ordinance is comprehensive and provides for both interior and exterior inspection of all rental properties by the city's code compliance office.
- **Enforcement:** Although not all rental properties have been inspected and cleared by the city, the 42% rate of compliance is substantial and suggests a strong level of enforcement.
- **Evidence of impact:** Figures for 2007 show that 22% of Grand Rapids children under age six tested for lead were above the 5 µg/dL threshold, much higher than the figure reported for 2014 (8.2%) with the same share of children being tested.
- **Key weaknesses in primary prevention structure:** Although Grand Rapids has a strong program, the share of children tested still falls short of what would be desirable and suggests that the true rate of lead poisoning could be much higher than what is reported. Continued and expanded enforcement of the statute should help reduce the rate overall, however.

Rochester

Statutory Framework

What's a child's future worth?



The intent of Rochester's lead ordinance was to create a comprehensive, enforceable ordinance that involved stakeholders from various disciplines in addition to analysis of scientific, medical and housing data. Rochester's ordinance addresses data-driven identification of housing with potential for lead hazards, interior and exterior inspections, quality controlled lead hazard remediation, and compliance reporting.*

Similar to other municipalities, Rochester assumes paint on the interior and/or exterior of any residential building constructed prior to 1978 is lead-based. A lead hazard inspection is required before a certificate of occupancy for rental purposes is issued or renewed.

A key to primary prevention in Rochester is gaining access to the interior of units for testing, requiring a visual exterior and interior inspection for possible lead sources. Analysis of housing locations of reported EBLL screening results is used to identify

* Korfmacher provides a robust overview of the context within which Rochester's lead law was passed & implemented: Korfmacher, Katrina. "Boundary networks and Rochester's "smart" lead law: The use of multidisciplinary information in a collaborative policy process". *New Solut.* 2010 ; 20(3): 317–336. doi:10.2190/NS.20.3.f. See www.goo.gl/PJWR4n

“high-risk” housing by ZIP code, which requires further passing (or clearance) requirements with a dust wipe, regardless of visual inspection results. Inspections are carried out by city-certified risk assessors or a third party lead-based paint inspector (certified by the EPA’s RRP standards), the latter of which are subject to randomized audits to ensure consistency in compliance.

*All inspections, including, but not limited to, inspections performed as part of an application for a certificate of occupancy . . . , a renewal of a certificate of occupancy, or based upon the filing of a complaint, shall include a visual assessment for deteriorated paint and bare soil violations. With respect to units in structures containing five or fewer units and located in the high-risk area identified by the Mayor or the Mayor’s designee, when the visual assessment identifies no interior deteriorated paint violation, the owner shall cause dust samples to be taken and certified test results to be obtained . . . **

The city inspection department reports inspection findings to the Monroe County Health Department on an annual basis to facilitate program transparency, track progress and provide data for community stakeholders.

In the first four years of the Rochester ordinance, owners were reimbursed \$100 for lead clearance inspections (1,665 reimbursements were paid). Funding was discontinued after four years.

Another key factor in promoting lead inspections was Monroe County’s practice of sending rental assistance payments directly to landlords. The ability to withhold rental payments from landlords not in compliance with the lead ordinance serves as a powerful tool.

Testing

From 2007[†] through 2015, just over sixty-eight thousand, or 55%, of the children aged 6 years and younger that were screened for blood lead levels in Monroe County had city or combined city/county ZIP codes. Of those children, 3% tested with a blood level that was ≥ 10 $\mu\text{g}/\text{dL}$. This was one-third of the 9% rate that occurred over the five years prior to the new legislation.

In accordance with recommendations from the Centers for Disease Control, Rochester modified its definition of EBLL to a lower threshold of ≥ 5 $\mu\text{g}/\text{dL}$ in 2013. From 2013 through 2016, 10.3% of children screened that lived in a city ZIP code had an EBLL as

* City of Rochester Property Code § 90-55, Inspections for violations. See <https://ecode360.com/8677786>

[†] the first full calendar year after Rochester’s updated comprehensive lead law went into effect

defined under the new CDC guidelines. This is only a slight improvement from the 11.1% reported for 2013.

Enforcement

In the eleven years since the City of Rochester revised its lead ordinance, interiors of over 154,000 units have been visually inspected for deteriorating paint with an overall pass rate of 95%. Almost 43,000 of those units were in high-risk ZIP codes and were referred for dust wipe testing per the ordinance. Overall, 88% of referred units were given the wipe testing, of which 90% passed. Of the units that failed the initial dust wipe testing, 98% of units were cleared in subsequent testing.

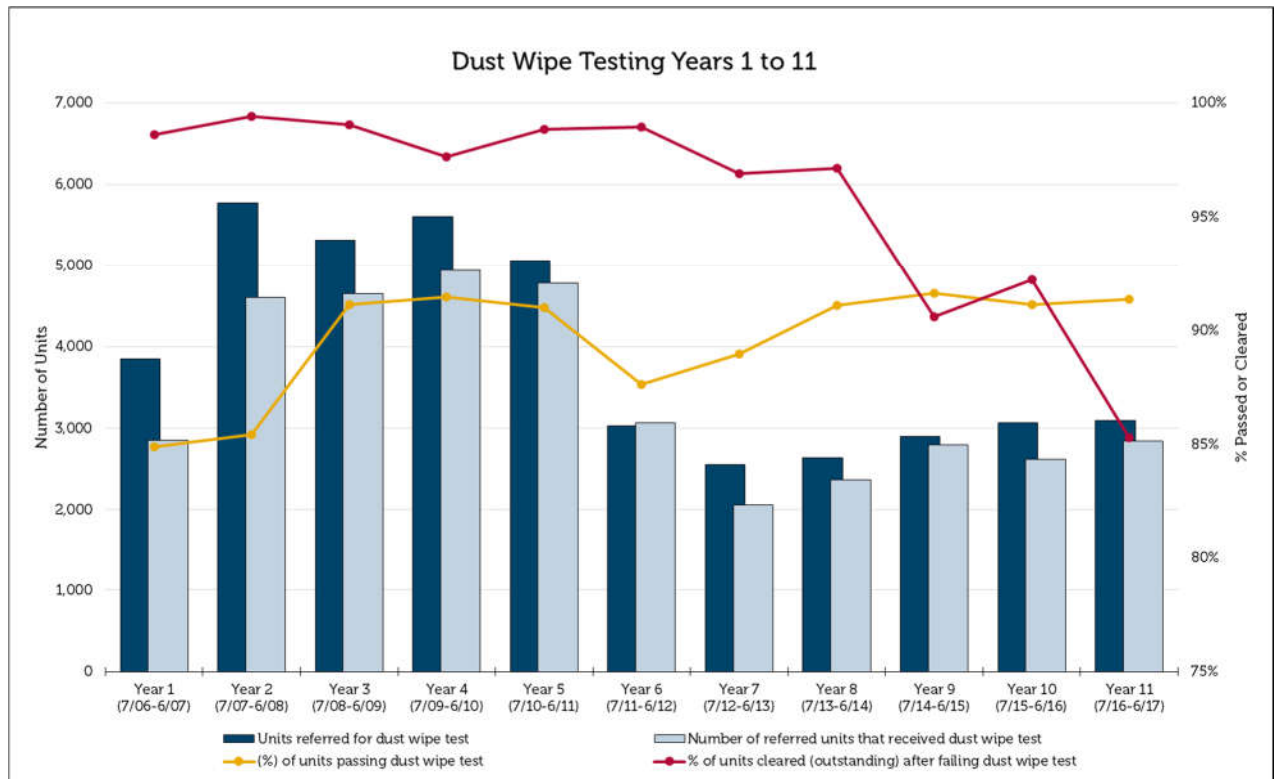


Figure 16 Rochester: Dust Wipe Testing Years 1-11

The reason for the drop in units dust wipe tested in Year 6 and forward is unknown. A possibility could be that in December 2011 an amendment went into effect that exempted building complexes with ten or more units, senior housing and studio apartments from dust wipe testing. A breakdown of building type within the dust wipe testing data was not available for confirmation of this theory. There has also been a notable decline in units that cleared dust wipe testing after an initial violation since Year 6, falling to its lowest in Year 11.

Almost 100,000 units have had inspections for exterior lead hazards (deteriorated paint or bare soil) since Year 1, with an overall pass rate of 86% upon initial inspection.

Cost of Implementation & Compliance

Rochester's experience indicates that while some violations are costly to remedy, many are not. A survey of landlords conducted by CGR after the program had been in place for several years found the following*:

- One-third of respondents did not spend any money on repairs in preparing for or responding to an inspection, 37% spent between \$1 and \$1,000, and the remaining 30% spent more than \$1,000, with window replacements contributing to higher costs for some landlords.
- Of those respondents who reported spending money on repairs, the average amount was \$2,618, and the median cost about \$950. Less than half of these landlords replaced windows; more than three-quarters repaired or painted windows.
- A majority of respondents reported doing their own lead repair work, which prompted the study team to recommend the city continue its efforts to educate and train workers so they don't inadvertently create new hazards.
- The average cost of clearing a single violation (more than one violation can be cited) was about \$150. During the study period, landlords could apply for a \$100 grant to help defray this cost.
- The City of Rochester incurred an average annual cost of about \$600,000 in lead-law related expenses (e.g., cost of additional inspectors, dust wipe tests, clearance reimbursements to landlords).
- During the study period, Monroe County received a State grant of about \$246,000, and in turn contracted with the City for services, which helped defray some costs.

Strengths & Weaknesses

- **Comprehensiveness:** Rental units built before 1978 must receive a lead clearance before a certificate of occupancy is issued or renewed. Housing identified as high risk is subject to a more stringent level of testing.
- **Enforcement:** A publicly available lead safe housing database is maintained, and periodic reporting to the Monroe County Health Department and other

* Boyce, Sarah, et al, "An Evaluation of Rochester's Lead Law: 2006-2008" Center for Governmental Research, December 2008. See www.goo.gl/k2m6e1

stakeholders is required. Random audits of third-party lead clearance contractors are also conducted.

- **Evidence of impact:** There were 1,234 children that had a blood lead level of 10 $\mu\text{g}/\text{dL}$ or higher in 2002, which dropped by 65% to 426 in 2007 (the first full calendar year after the ordinance went into effect) and was 206 in 2015. When the threshold for determining EBLL was lowered to 5 $\mu\text{g}/\text{dL}$ or higher in 2013, 689 children were identified as having EBLL, which rose to 782 in 2015 after a dip in 2014 to 470 children.
- **Key weaknesses in primary prevention structure:** Rigorous enforcement depends on continued funding of city inspection.