

Childhood Lead Exposure in Newark

Introduction

Newark's progress in reducing lead poisoning in children is a powerful success story of advocacy, policy change and education. But Newark's legacy of lead continues to leach into the bodies of its most vulnerable children.

Newark has made progress towards reducing the number of children exposed to lead. But far too many children remain at risk of lead exposure and more than a quarter of tested children continue to have some level of lead in their blood. Newark's kids need extensive targeted investment to end lead poisoning.

Although some programs exist to prevent or test for lead in Newark, families may not take full advantage of these programs due to limited community knowledge of these programs, the high cost of lead remediation and abatement and a lack of coordination with other programs.

City officials, health care providers and community-based organizations need to develop a lead prevention strategy that contacts families and children directly where they live, work, play and receive services.

*"My sister's son got lead poisoning. He was real hyperactive and it affected his learning. It happened two years ago, and now they're saying he has ADHD and it's probably because of the lead."
— Newark parent*

Impacts of Lead

State law now recognizes that children exposed to lead, even at low levels, are in danger of harmful mental and physical health outcomes.

Lead is a toxic metal that can cause lifelong harm to mental and physical health. When young children are exposed at even very low levels, it can lead to impaired brain development that cannot be reversed. Children may not show symptoms until they are in school, but child lead exposure has been linked with aggression, attention deficit hyperactivity disorder and poor memory. There is no safe level of lead for children.

Because lead exposure may not come with immediate symptoms, the problem can fly under the radar. But every so often, the public is reminded of the continued presence of lead. In early 2016, Newark public school buildings were found to have water sources with lead levels above the legal limit. This led to changes in state law and increased public awareness campaigns about lead.

Notably, the State of New Jersey passed legislation that reduced the amount of lead needed to trigger medical case management to 5 micrograms per deciliter, in line with federal recommendations. The State has also provided \$20 million in additional funding for lead prevention and treatment efforts, after underfunding these programs for years. [See page 5 for more details].

Timeline of developments in lead poisoning and prevention

1978

Use of lead paint is banned in the United States. Before 1978, lead paint and varnish were regularly used in homes and businesses. Newark was home to many paint manufacturers which regularly produced lead paint.

1996

New Jersey's universal lead screening law, which ACNJ helped to pass, required local health departments to screen all New Jersey children for elevated blood lead levels. This year, lead was finally banned from gasoline.

2000

A coalition of New Jersey advocacy groups, headed by the American Civil Liberties Union and ACNJ, began a campaign to improve lead screening rates. This coalition worked with state departments, local health departments, child care centers and health care providers to develop better lead surveillance and accountability systems for doctors, hospitals, insurance companies and local departments of health.

2004

The State of New Jersey began funding the Lead Hazard Control Assistance Fund, created by legislation authored by Newark state Senator Ronald Rice. This fund used a tax on paint cans to pay for lead removal and control projects. That same year, New Jersey published its lead poisoning elimination plan as required by the Centers for Disease Control and Prevention (CDC).

2004–2015

After the fund was created, governors and state legislative budgets diverted money from the Lead Hazard Control Assistance Fund to pay for other government programs. Between \$77 and \$154 million was diverted from the fund, leaving it with only \$23 million over this 12-year period.¹

2016

JANUARY: Governor Christie vetoes legislation that would have added \$10 million into lead paint removal from old housing.

MARCH: Newark Public Schools announces that 30 school buildings recorded elevated levels of lead in school water supplies.

OCTOBER: Governor Christie creates \$10 million lead remediation pilot program to 8 non-profit organizations throughout the state to remove lead from 500 housing units. La Casa de Don Pedro received a grant to remediate homes in Essex County including Newark, East Orange and Irvington.

2017

FEBRUARY: Governor Christie signs legislation lowering the blood lead level requiring health department action to 5 micrograms per deciliter and approves \$10 million in his budget to help local health departments pay for the added costs of providing services to these children.

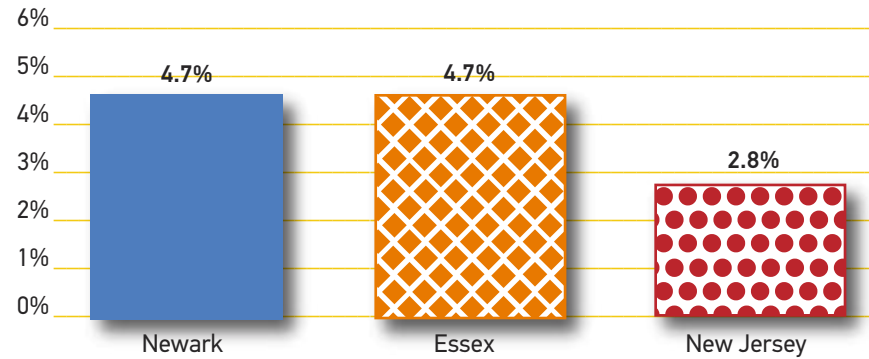
MARCH: Newark Public Schools announces that its repairs and replacements ensure that all students have access to safe and clean drinking water.

Special Section: Childhood Lead Exposure in Newark

Newark's rates of lead exposure have historically been above the state average and remain that way to this day.

As a result, the city has been the focal point for efforts to reduce lead poisoning and exposure.

Percentage of Children Under Age 6 with Elevated Blood Lead Levels, 2016*

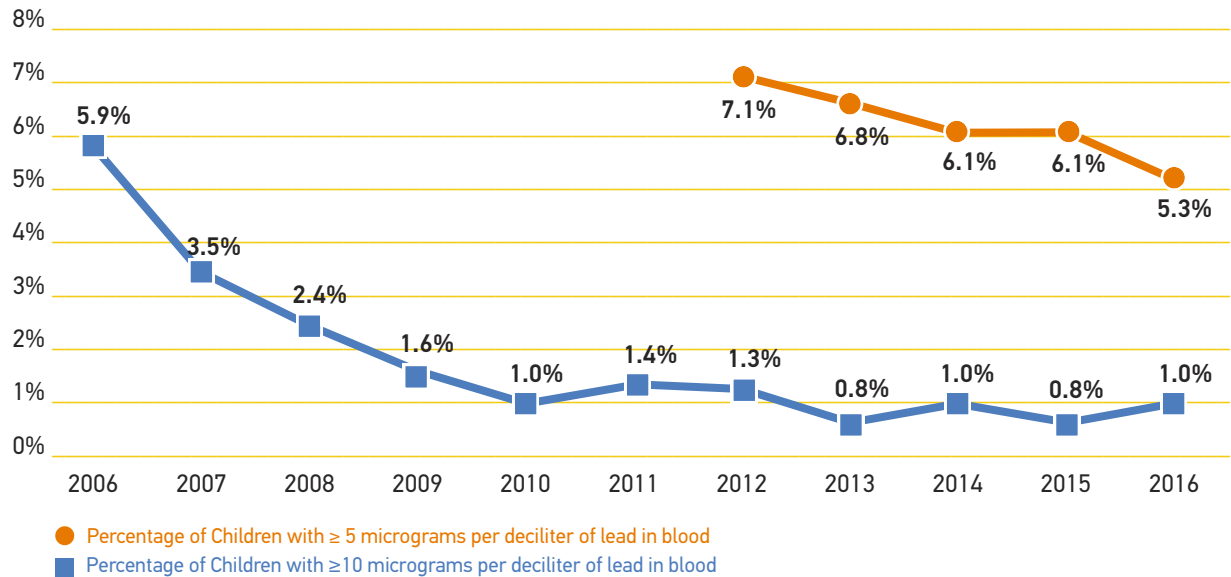


*Note: Elevated blood lead levels indicate children tested with 5 or more micrograms per deciliter.

Past Successes

Thanks to substantial state and federal investment, the number of children tested with high levels of lead in their blood has declined substantially since 2005. In the year 2000, an advocacy coalition, led by ACNJ and the ACLU, began a campaign to ensure that all children in New Jersey are tested for lead. This led to the State creating an information management system to track and monitor screening and treatment activities. Major state legislation in 2003 funded lead remediation and prevention efforts. Additionally, many New Jersey municipalities received federal housing grants to reduce lead hazards. Newark currently receives a federal Housing and Urban Development grant to reduce lead hazards in homes.

Percentage of Tested Newark Children 6–26 Months with Elevated Blood Lead Levels (EBLL)



Note: Data on children tested with 5-9 micrograms per deciliter of lead in their blood were not collected before 2012. In 2013, the New Jersey Department of Health changed its measure from children ages 6-29 months to children ages 6-26 months.

Notably, the number of children under ages 6-26 months tested with more than 10 micrograms per deciliter of lead in their blood declined from 5.9 percent in 2006 to 1.0 percent in 2016.

Newark has also seen a decline in the number of children testing at the new reference level of 5 micrograms per deciliter. New Jersey only began tracking this data in 2012 and the new lower reference level took effect in 2017.

Prior efforts to improve testing rates have continued to show positive effects. Newark continues to have a high rate of children being tested for lead poisoning – 57 percent for children under age 6, and 59 percent for children 6-26 months. This is substantially higher than the state rate for both age groups.

In short, Newark has continued testing a majority of children for lead in their blood, with fewer children being found with high levels each year.

“This winter, my kitchen window fell out. And we put it back but the windows in my house all need to be replaced. But they haven’t done anything except wrap the windows in plastic to keep the heat in.”
– Newark parent

Remaining Challenges

Despite the progress in Newark, the harmful effects of lead remain. Research shows that poverty and old housing stock are strong indicators of lead risk.²

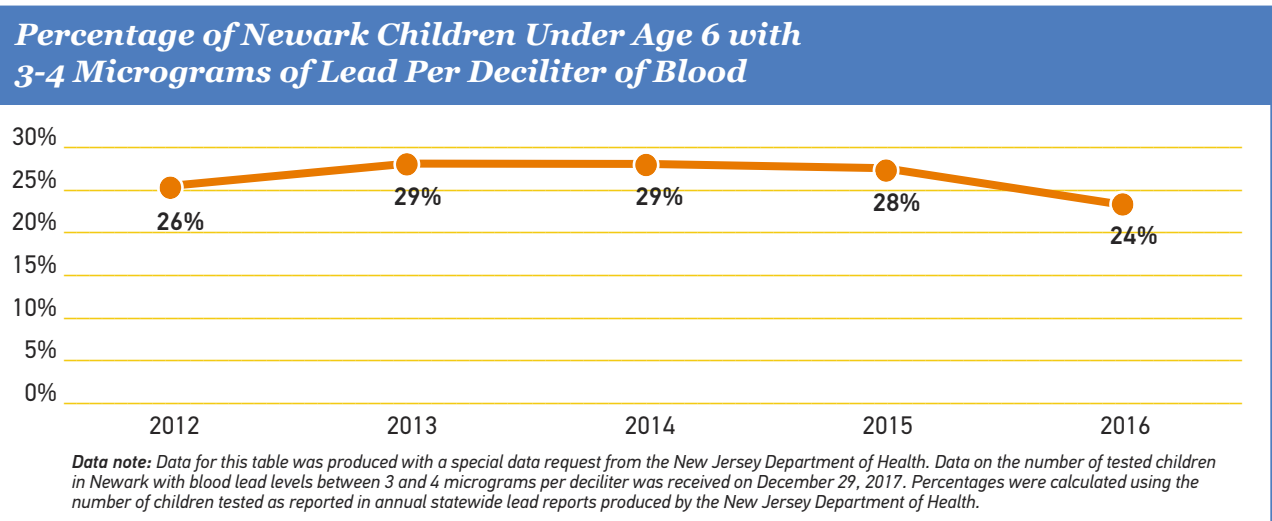
Newark has high rates of both. As indicated in this year’s Newark Kids Count, 37 percent of Newark families with children live under the poverty level. Additionally, Newark’s housing stock is relatively old, with 73 percent of households living in homes built before 1980, two years after lead paint was banned.

The most up-to-date science recognizes that even very small amounts of lead in a child’s body can cause lifelong damage. The State of New Jersey has recognized this fact by lowering the blood lead level necessary to trigger state action, from 10 micrograms per deciliter to 5. This reflects federal CDC recommendations.

But even below this 5 microgram per deciliter threshold, small amounts of lead can affect a child’s brain development, even impacting academic achievement in their teen years.³

Although the number of children with extremely high lead levels has declined over time, low-level exposure in Newark children remains pervasive. Roughly one quarter of Newark kids have some detectable lead in their blood – below the legal limit but still impacting their development.

Children who test in the 3-4 microgram per deciliter range are not required to receive additional medical case management, but they are likely being exposed to lead in their environment.



Programs That Target Prevention

When a child is tested for lead and has an elevated blood lead level, the City of Newark Department of Health and Community Wellness begins a process to find the source of a child’s lead exposure and eliminate it. If the lead source is found to be a home, the homeowner is required to abate or remove the lead.

Beyond this legally mandated abatement program, however, various services for lead prevention exist throughout Newark:

- La Casa de Don Pedro has received a \$1 million grant from the New Jersey Department of Community Affairs to help get the lead out of 1- and 2-family homes in Newark.
- The City of Newark Department of Health and Community Wellness provides free lead inspections to any family who requests them, as

well as free blood lead testing for children at its clinic. For information about these free services, call 1-800-734-7083.

- The City of Newark Department of Health and Community Wellness provides temporary lead-safe housing for families displaced by lead abatement work.
- The City of Newark Water and Sewer Department provides free lead testing for water and is providing homeowners with a program to replace lead water lines for free. Residents who suspect their water contains lead should contact the Department of Water and Sewer Utilities at (973) 733-6303 or by e-mail at waterandsewer@ci.newark.nj.us to arrange to have their water tested for lead and/or get a service line inspection for free.

Newark completes its home investigations and abatements at a lower rate than other New Jersey health departments with high caseloads and similar demographics.

Activity Status for Cases with Elevated Blood Lead Levels, 2016

Local Health Department	Cases Referred	Investigation Required	Investigation Completed	% Investigation Completed	Abatement Required	Abatement Completed	% Abatement Completed
Newark	86	38	6	16%	14	0	0%
Jersey City	61	45	44	98%	18	6	33%
Trenton	40	31	31	100%	24	3	13%
Paterson	29	26	26	100%	15	8	53%
Irvington	28	12	12	100%	9	1	11%
Plainfield	25	19	18	95%	16	8	50%

Note: Health departments may provide lead case management for cases outside their city limits.

There may be multiple causes of this slow abatement rate. One obstacle is the impact of the cost of abatement on landlords, particularly those who own only a few properties. Other factors that can lead to a longer abatement process include difficulty in identifying absentee property owners and lengthy enforcement actions against property owners.

Challenges for Newark’s Lead Remediation Program: Lessons from Focus Groups

Despite the availability of some resources to help reduce the burden of lead in Newark, the removal of lead in the city has slowed considerably. Programs face difficulty recruiting properties to be inspected and remediated.

“I think [the information you get from doctors] all depends on the health insurance you have and if it’s the clinic. If you’re a parent who doesn’t have the time and you’re rushing into the clinic or you’re waiting four hours to see the doctor, you’re not asking all the questions. The clinic doesn’t really give that much information especially if it’s just a normal checkup. It should be mandatory to give more information.”
– Newark parent

ACNJ performed focus groups with a total of 27 parents of young children at two early childhood centers in Newark (one in the South Ward and the other in the West Ward) to better understand the obstacles to using programs that address lead.

The participants demonstrated some understanding of how children are lead poisoned (paint chips, paint dust and drinking water coming through lead pipes) and how lead impacts child development (neurological damage). Parents also knew that their children needed to be lead tested and most recalled conversations with their doctors about testing. Newark preschool programs require that students have received a blood lead test as part of

the enrollment process. A few parents stated that although their children must have been tested at some point, they did not recall the lead test in particular or any conversation about the impacts of lead.

However, participants were largely unaware of programs to remediate lead in homes and other lead-related programs such as free lead screening provided by the City of Newark and lead inspection programs for homes. Of 27 participants, only two had previously heard of lead remediation programs, and they were both school employees. As participants noted, referrals from doctors to services beyond education about lead itself were minimal, as long as the blood lead levels were below the action level. Additionally, many programs require the cooperation of landlords, who may be reluctant to assume the cost of lead remediation and abatement repairs which often cost between \$10,000 to \$20,000. Participants wondered how the city was holding landlords accountable if they failed to act.

When discussing program enrollment, participants also were concerned about eligibility. Some programs have income caps that require residents to make under a certain income. Conversely, a few participants expressed concerns that families on Medicaid received lower-quality treatment from health care providers.

Yet participants remained hopeful that better information about the impact of lead and lead prevention efforts would yield positive results. Participants indicated that knowing about the long-term irreversible effects of lead on young children helped make it a higher priority for themselves.

Targeting the Highest-Risk Groups

Given the high cost of lead remediation and abatement, an effective lead removal strategy should involve targeting areas with a high concentration of older housing and children in poverty. Tested blood lead levels can identify clusters of housing that may have high risk for containing lead.

ACNJ requested ZIP-code level data on lead testing and high blood lead levels from the CDC to help identify high-risk areas, which could better target and allocate resources.

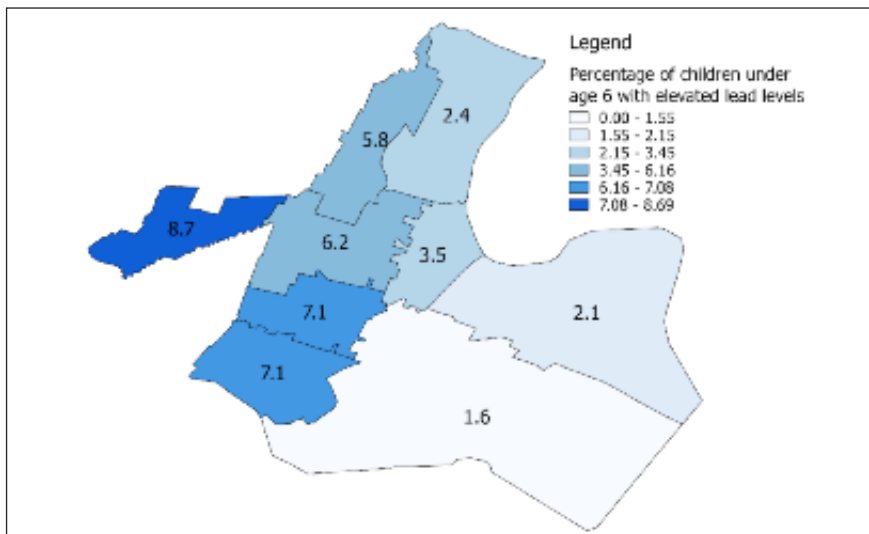
For example, in 2015 the West Ward’s Ivy Hill and Vailsburg sections (ZIP code 07106) had high rates of children testing at elevated blood

lead levels, with 8.7 percent of children with high blood lead levels, compared with 2.2 percent of children in the Ironbound (ZIP code 07105). However, the 07106 ZIP code routinely has the lowest percentage of young children who are actually tested for lead, with only 40 percent of kids under age 6 tested, compared with 70 percent in ZIP code 07108 (Clinton Hill).

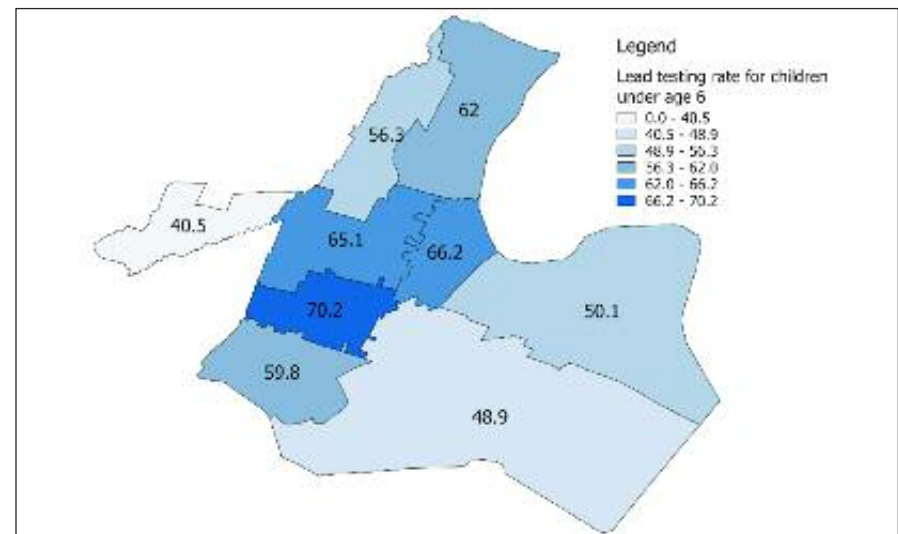
“People have lots of issues to worry about. Lead poisoning does not necessarily stand out in their mind, ‘Oh let me get a lead test.’ People have jobs, worry about paying bills and taking care of kids, so it’s hard to focus on lead.”

– Newark parent

Percentage of Children Under Age 6 with Elevated Blood Lead Levels (>5 micrograms per deciliter) (2015)



Percentage of Children Under Age 6 Tested for Lead (2015)



Data Note: The ZIP-code-level data was calculated using a data request from the CDC for the number of children tested for lead and the number of children with elevated blood lead levels by ZIP code. Percentages were calculated using population under age 6 from American Community Survey tables produced by the U.S. Census Bureau, Table B17020, 2015 Five-Year Estimates. ZIP code geography was provided by the City of Newark. For interactive maps, visit <https://acnj.org/kids-count/newark-kids-count/>

Focusing additional testing and inspection efforts in higher risk areas may help direct limited services where they are most needed and where children may be under-served. Improved data transparency and sharing is needed to further target neighborhoods block by block for intensive outreach and remediation efforts.

Traditional methods of transmitting information to families seem to have been minimally effective. Marketing efforts focused on advertisements and school bulletin boards did not seem to make an impact on the focus group participants. As one focus group participant noted, “Billboards or posters about lead poisoning [are not] very effective unless you’re really paying attention or looking for those signs.” Instead, families received most of their information from word-of-mouth communication and suggested distributing information at events where neighborhood residents already gather, using local information hubs such as houses of worship, barbershops and local gatherings such as block parties. Participants also discussed social-media-based videos and an updated city website, although there was disagreement about whether families in need would access these resources.

“Our difficulty has always been with how the city holds private landlords accountable for the things they’re supposed to do. Call code enforcement, and they might not necessarily come around... in a timely fashion. So that’s the difficulty for a lot of families, being able to hold private landlords accountable.”
 – Newark parent

Recommendations: How to Eliminate Lead for the Next Generation

There is no safe level of lead in a child’s body. As long as lead remains in the homes and environment of Newark, its children will remain at risk for lifelong cognitive and developmental problems.

As discussed earlier, federal, state and local advocacy successfully addressed the most severe lead hazards, but the persistent lead exposure will continue for the next generation unless drastic steps are taken. The next steps for protecting Newark’s children from lead will require innovation, investment and community engagement.

City

Distributing Information to the Public

- Utilize all city services that regularly contact families to distribute information about lead risks and prevention, including clinics, recreation/wellness programs, etc.
- Develop a public information strategy to disseminate information through existing local information hubs in target neighborhoods, such as houses of worship, local businesses, neighborhood associations, child care centers, etc.
- Develop a public lead-safe housing registry and map of tested homes with lead available for the public
- Distribute data on housing-based lead hazards, such as locations of homes identified as having lead present, failure rate of dust wipe and visual inspection tests, etc.

- Enter into data-sharing agreements with local community groups focused on lead to better target families with some lead exposure for information and referrals to additional services
- Proactively test uncovered soil around the city for lead levels and distribute findings publicly

Targeting Resources to High-Risk Neighborhoods

- Perform data analysis on existing lead and housing data to identify high-risk neighborhoods
- Set target of proactively inspecting all pre-1978 housing in specific high-risk neighborhoods, prioritizing general housing inspections with a focus on visual checks for peeling paint and a dust wipe of all homes within target areas to determine lead risk

Investigate Creative Solutions to Improve Lead Inspection in Housing

- Create an ordinance to require all rental units to test for lead at time of transfer
- Prevent landlords with open lead abatement cases from seeking eviction of tenants in court
- Pilot small community grants with target of inspecting and testing specific number of homes in target neighborhoods

Community Groups and Foundations

- Develop and expand lead education efforts to target child care, WIC clinics, houses of worship, local businesses and other places where children and families gather
- Create incentive programs for families to participate in home lead inspection
- Create incentive programs for landlords to participate in lead remediation or abatement efforts
- Train local neighborhood leaders on lead prevention to spread the word on lead

Health Care Providers

- Standardize follow-up information and questions for blood lead tests even when levels are below 5 micrograms per deciliter, to ensure that families understand their results and perform surveys to assess family housing for potential lead hazards (particularly peeling paint)
- Provide referral and follow-up counseling for preventive care (effects of lead, cleaning techniques, diet/nutrition and programs that may be able to remove lead from the home)
- Develop community health outreach workers who can help families navigate follow-up services if their child is found to have any detectable lead in their blood test

State and Federal Government

- Ensure continued and expanded funding of state lead remediation efforts, including full funding of the lead hazard and abatement fund
- Fully fund federal housing lead remediation and abatement grants and remove barriers to accessibility such as restrictions on neighborhoods, blood lead levels, etc.
- Distribute more detailed data on lead-tested children and abated homes and publish data more frequently (monthly or quarterly basis, with public data dashboard)
- Develop amendment to State Medicaid plan to leverage CHIP and Medicaid funding to pay for lead abatement and remediation for children with high blood lead levels, as Maryland has done
- Target Department of Community Affairs building inspections of multi-family dwellings to neighborhoods with highest lead risk (prior elevated blood lead level cases, high percentages of households in old housing and in poverty, etc.)
- Provide incentive funds or tax credits for homeowners and landlords to remediate or control lead

Conclusion

A comprehensive strategy for Newark to reduce lead poisoning and exposure at a large scale will require collaborative efforts between federal and state government, City of Newark departments, health care providers, community groups, municipal courts, community development corporations, houses of worship, philanthropic organizations and property owners throughout the city.

Children Ages 6-26 Months* Tested for Lead

	2012*			2013			2014			2015			2016		
	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL
Newark	5,435	24	7.1	5,337	30	6.8	5,228	31	6.1	5,163	30	6.1	4,908	26	5.3
Essex	11,730	26	6.8	10,835	31	5.9	10,678	31	5.5	10,664	27	5.2	10,792	22	4.8
New Jersey	103,380	22	3.6	92,572	25	3.0	90,683	27	2.9	93,128	25	2.8	94,909	19	2.4

*In 2013, the state health department began tracking children ages 6-26 months, rather than 6-29 months. The 2012 year in this table continues to reflect the older 6-29 months age range.

Children Under 6 Years of Age Tested for Lead

	2012*			2013			2014			2015			2016		
	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL	# Tested	% Levels 3-4 µg/dL	% Levels ≥ 5µg/dL
Newark	13,879	26	6.4	14,607	29	6.0	14,030	29	5.7	14,257	28	5.5	14,190	24	4.7
Essex	26,790	28	6.6	26,847	29	5.7	25,407	30	3.6	26,095	27	5.2	26,527	21	4.7
New Jersey	183,617	23	3.8	176,520	24	3.4	171,271	25	3.2	172,859	24	3.1	175,002	18	2.8

■ Data Sources and Technical Notes:

All data, unless otherwise noted, was provided by the New Jersey Department of Health, Public Health Services Branch, Division of Family Health Services. Annual reports on childhood lead exposure in New Jersey are available on the Department of Health website at <http://www.state.nj.us/health/childhoodlead/data.shtml>. Data on children testing between 3-4 micrograms per deciliter were provided by a special data request to the Department of Health on December 29, 2017.

■ References:

- 1 Todd B. Bates. "Why Does Lead Poisoning Still Afflict Tens of Thousands of Kids in NJ?" NJ Spotlight (Dec. 1, 2015). Available at <http://www.njspotlight.com/stories/15/11/30/why-does-lead-poisoning-still-afflict-tens-of-thousands-of-kids-in-new-jersey/>
- 2 William Wheeler & Mary Jean Brown. *Blood Lead Levels in Children Aged 1-5 Years – United States, 1990-2010*. Centers for Disease Control Morbidity and Mortality Weekly Report 62(13), 245-248 (April 5, 2013). Available at https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6213a3.htm?s_cid=mm6213a3
- 3 Nanhua Zhang et al. *Early Childhood Lead Exposure and Academic Achievement: Evidence from Detroit Public Schools, 2008-2010*. American Journal of Public Health, 103(3): e72-e77 (Mar. 2013). Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3673523/>. Todd A. Jusko et al. *Blood Lead Concentrations < 10 µg/dL and Child Intelligence at 6 Years of Age*. Environmental Health Perspectives 116(2), 243-248 (Feb. 2008). Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2235210/>.