



# Lead poisoning prevention in Delaware

Sarah Bucic, MSN

# Who is Lead-Free Delaware?



Lead-Free Delaware is a coalition of groups to end lead poisoning in Delaware.

March 5, 2019

To: Joint Finance Committee  
Rep. Quinton Johnson, Chair  
Rep. Stephanie T. Bolden  
Rep. Ruth Briggs King  
Rep. William J. Carson  
Rep. Kevin S Hensley  
Rep. Earl G. Jaques

Sen. Harris B. McDowell, Co-Chair  
Sen. Bruce C. Ennis  
Sen. Dave G. Lawson  
Sen. Trey Charles Paradee  
Sen. Bryant L. Richardson  
Sen. Laura Sturgeon

Re: Funding for DNREC and DHSS Lead Poisoning Prevention Programs

Dear Members of the Joint Finance Committee,

We are writing to ask that the General Assembly allocate funds to the Department of Natural Resources and Environmental Control (DNREC) and Department of Health and Social Services (DHSS) for lead poisoning prevention programs.





# What we have accomplished

Delaware first state to ban the outdoor use of lead paint (HB 456, 2018)

Restarted the Childhood Lead Poisoning Advisory Committee (HB 89, 2019)

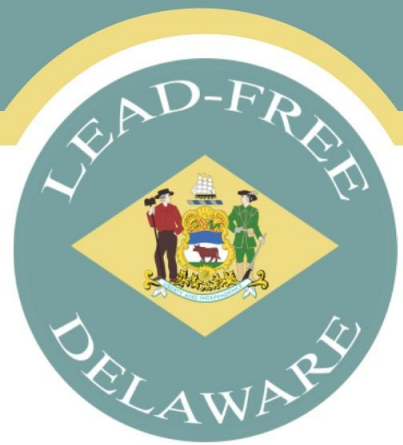
Supporting increased identification of children with elevated blood lead levels

Air quality permit now required for dry abrasive sandblasting of lead paint of outdoor water tanks in Delaware (Jan 2019)

**2018:** All soil around water towers in Newark, DE being tested for lead

**2018:** Remediation of yard post-incident at Windy Hills Water Tower (Newark)



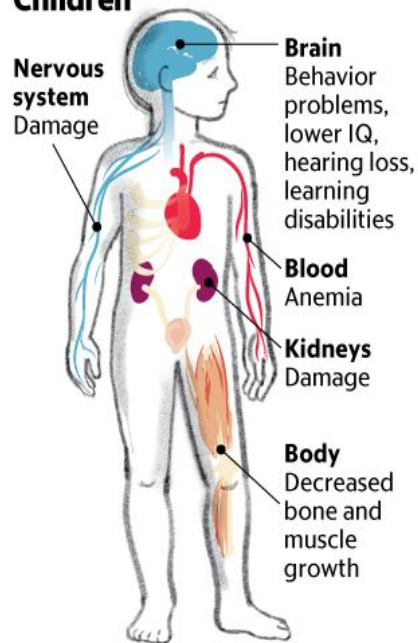


# Lead: There is NO safe level

## Lead exposure

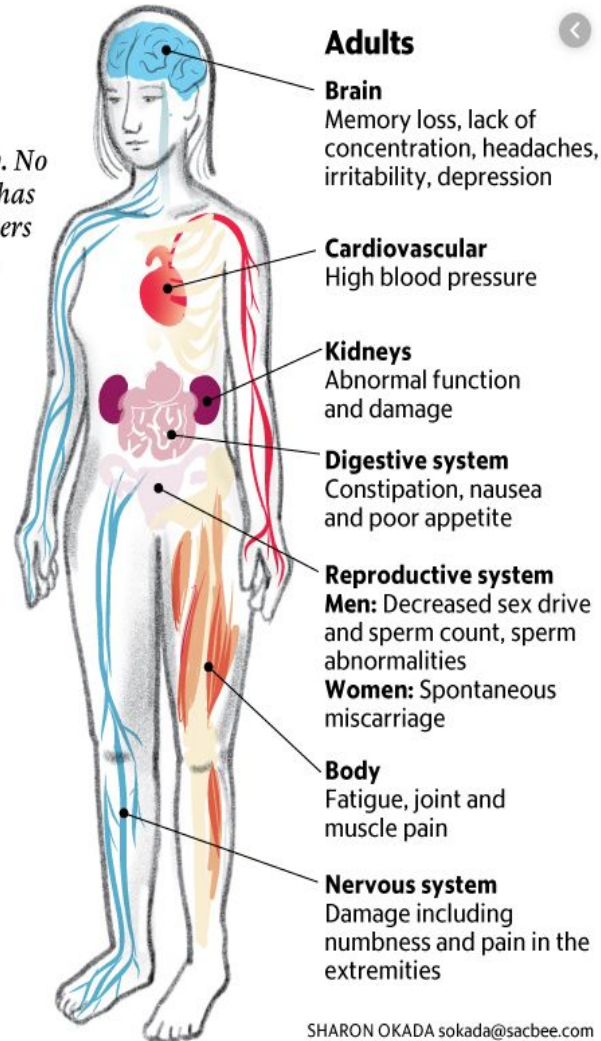
*Although often without obvious symptoms, lead exposure can affect nearly every part of the human body. No safe level of lead in the bloodstream has been determined by the federal Centers for Disease Control and Prevention.*

### Children



Sources: Centers for Disease Control and Prevention; National Institutes of Health

### Adults



SHARON OKADA sokada@sacbee.com

Lead exposure can change a child's trajectory in life.

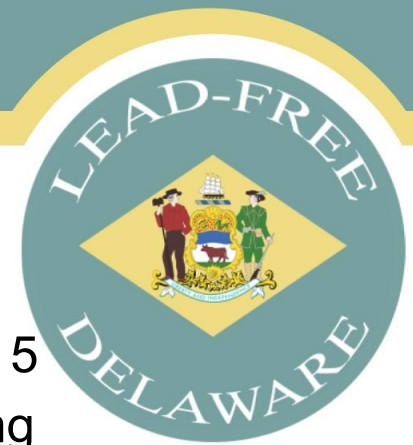


## **Learning Outcomes**

- Lower IQ
- Lower test scores
- Poor performance in reading, science and math

## **Behavior Outcomes**

- Reduced impulse control
- Behavioral problems in school, family and society

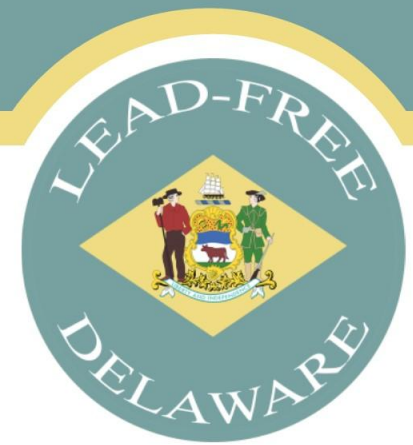


## Why the focus on children?

- 90% of a child's brain development is completed by age 5
- Young children are high risk as bodies are still developing
- Increased hand to mouth behavior which is problematic when lead dust is present
- Even small amounts of lead in blood are harmful to learning
- As blood lead levels increase, the severity of learning and behavior outcomes also increases
- The most important step parents, doctors, and others can take is to prevent lead exposure before it occurs
- Lead poisoning is preventable

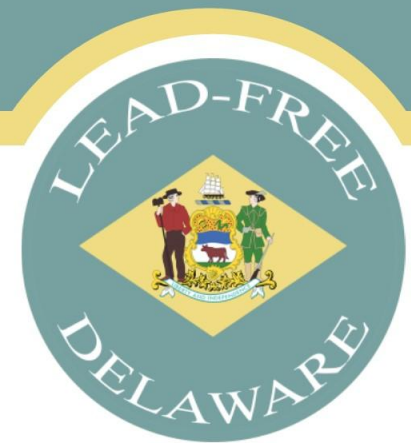
**Early Blood Lead Testing is Critical!**

# Lead poisoning: Still a problem in 2020



- 1978: Indoor lead paint banned, old housing remains a threat
- Until 1986: Lead used in solder, pipes & plumbing
- Outdoor lead paint remains legal to apply in 49 states
- Lead chips, grit and dust from lead paint and its removal, contaminated water, polluted soils and air emissions, certain occupational and recreational activities of individuals and their families, including certain artistic pursuits, marksmanship/shooting firearms, and consuming game
- Other unknown exposures (toys, cosmetics)





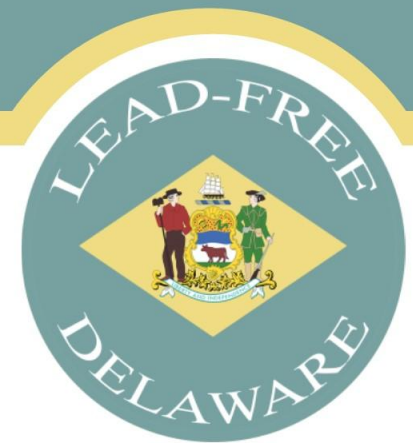
# Childhood Lead Poisoning is still a problem in Delaware

**Blood Lead Levels ( $\mu\text{g}/\text{dL}$ ) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group**

Year	State	Total Population of Children <72 Months of Age	Total # Children Tested		Children with Confirmed BLLs $\geq 5$ $\mu\text{g}/\text{dL}$	
			Number	Percent	Number	Percent
2012	Delaware	67,317	10,160		241	2.0%
2013		67,096	13,659		381	3.0%
2014		67,153	14,146		319	2.0%
2015		67,120	14,448		373	2.6%
2016		66,924	15,690	23	339	2.2%

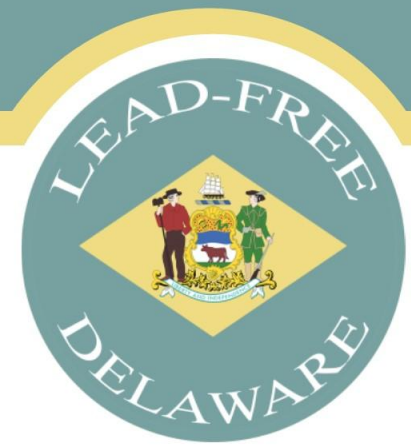
Data provided by Delaware's Department of Public Health.

Delaware's testing rates are low, so we are likely underestimating the number of children exposed to lead.



## In Delaware, 2019:

- Less than half Delaware children (less than 44%) receive blood lead testing required by State law
- Childhood Lead Poisoning Advisory Committee stopped meeting in 2012
- School district testimony: 25%-33% students arriving to Kindergarten without any blood lead testing



## Delaware Children & Lead Statistics

11,166 = Births in 2015

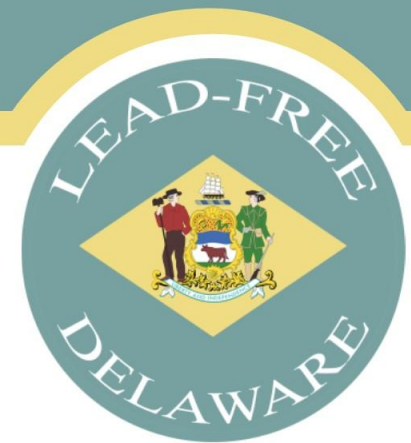
4,879 = Number of children 12-14 months old who received a blood lead level test in 2016

43.67%\* = percentage of children 12-14 months old receiving a blood lead level test in 2016

\*This number should be much closer to 100%!

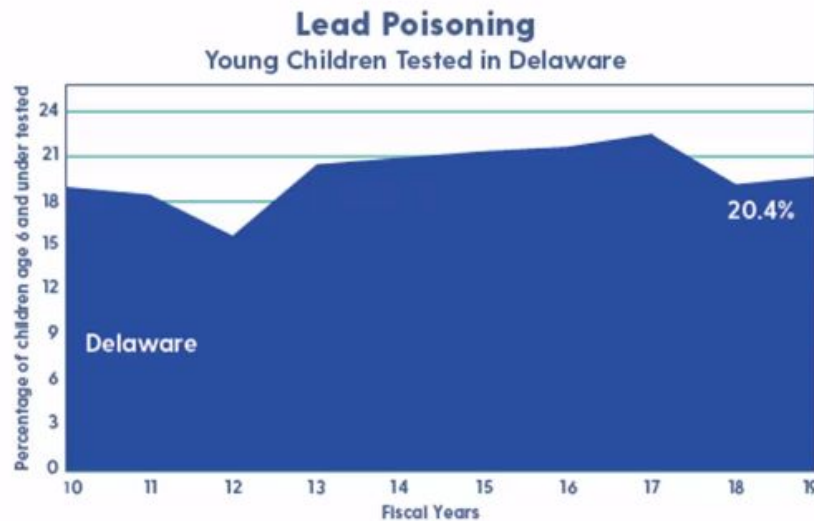
(All above data provided by Delaware Dept of Public Health, 2019)

Only 1 in 5 kids in Delaware gets tested for lead before age 6  
(Kids Count, 2020)



**25 YEARS**  
OF KIDS COUNT IN DELAWARE

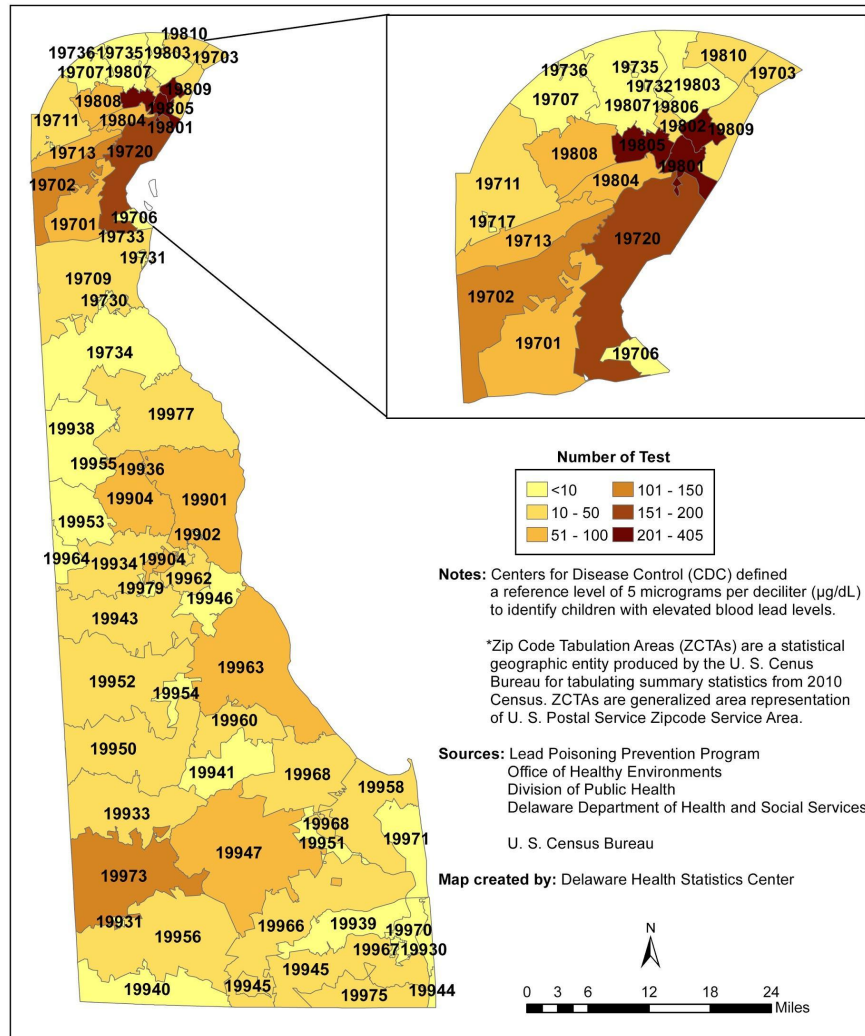
*Now & Then*



Source: Delaware Department of Health and Social Services, Division of Public Health, Childhood Lead Poisoning Prevention Program

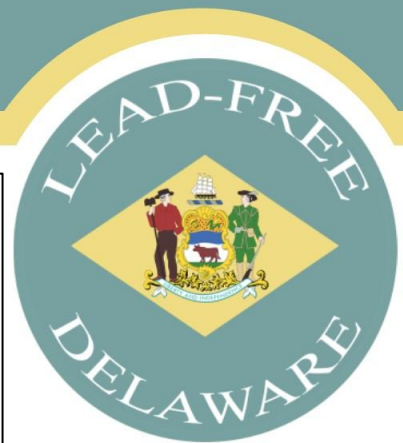


## Number of Test Results with Elevated Blood Lead Level of Children Under Six Years Old by ZCTA\*, Delaware 2010-2017



- Childhood Lead Poisoning is a statewide issue
- Map reflects only children who have been identified
- Lead poisoning affects children and families nationwide
- Majority of states appear to successfully identify fewer than half of children with elevated blood lead levels (Roberts et al, 2017)

Map provided by Delaware's Department of Public Health, Delaware Health Statistics Center, March 2019.



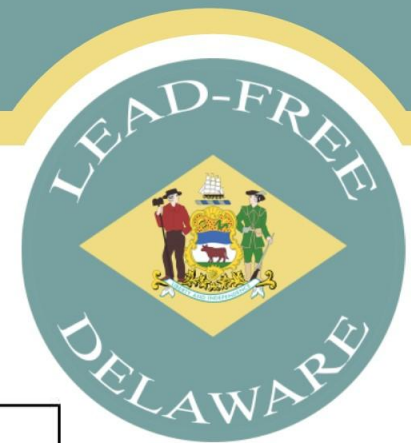
“If rich white kids were getting poisoned, there would be a law on the books that says, “No lead in houses”

Lawyer, Brian Brown, Baltimore Sun (2015)

“If you were going to put something in a population to keep them down for generations to come, it would be lead.”

Detroit Pediatrician, Mona Hanna-Attisha, MD



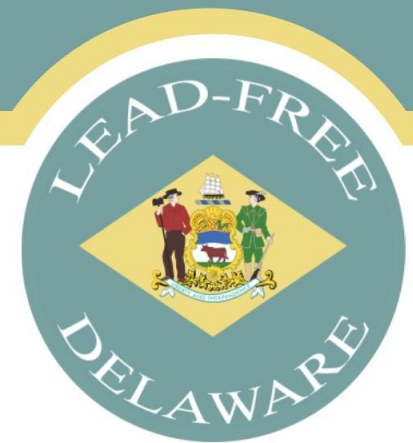


# Lead exposure contributes to serious learning and behavioral outcomes.

Blood Lead Levels	Educational Impact	Size of Study	Location of Study
≤ 3 µg/dL	Decreased end of grade test scores	More than 57,000 children	North Carolina (Miranda et al. 2009) <sup>1</sup>
4 µg/dL at 3 years of age	Increased likelihood learning disabled classification in elementary school	More than 57,000 children	North Carolina (Miranda et al. 2009) <sup>1</sup>
	Poorer performance on tests	35,000 children	Connecticut (Miranda et al. 2011)
5 µg/dL	30% more likely to fail third grade reading and math tests	More than 48,000 children	Chicago (Evens et al. unpublished data)
	More likely to be non-proficient in math, science, and reading	21,000 children	Detroit (Zhang et al. 2013)
5-9 µg/dL	Scored 4.5 points lower on reading readiness tests	3,406 children	Rhode Island (McLaine et al. 2013)
≥10 µg/dL	Scored 10.1 points lower on reading readiness tests	3,406 children	Rhode Island (McLaine et al. 2013)
10 and 19 µg/dL	Significantly lower academic performance test scores in 4th grade	More than 3,000 children	Milwaukee (Amato et al. 2012)
≥ 25 µg/dL	\$0.5 million in excess annual special education and juvenile justice costs	279 children	Mahoning County, Ohio (Stefanak et al. 2005)

Educational Services for Children Affected by Lead Expert Panel. Educational interventions for children affected by lead. Atlanta: U.S. Department of Health and Human Services; 2015.

Early education can improve outcomes in children exposed to lead.



- Improve brain functioning during the critical time of brain development
- Reduce reliance on special education
- Students can begin kindergarten with a general education class

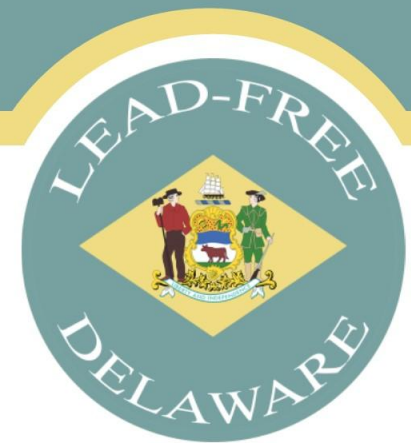
# Individuals with Disabilities Education Act (IDEA)



Provision	Population	Services	Key Element	Activities
<b>IDEA: Child Find</b>	Children from birth–21 years of age, including those enrolled in all public and private schools.	Policies and procedures to identify, locate, and evaluate children suspected of having a disability.	Coordination with referral sources such as physicians and agencies.	Public awareness, referral, screening, eligibility determination, tracking, and interagency coordination.
<b>IDEA: Part B</b>	Children 3–21 years of age.	Provides for special education and related services.	Individualized education program (IEP) specifying services and supports the child will receive.	Education in the least restrictive environment appropriate.  Early intervening services provide additional support to struggling students in general classroom.
<b>IDEA: Part B, Section 619</b>	Children 3–5 years of age (Section 619 preschool program).	Provides grants for preschool services.	Children with disabilities receiving services in inclusive settings.	Transition activities between IDEA Part C and Part B.
<b>IDEA: Part C</b>	Children birth through third birthday.  State option—extended Part C service from third birthday through kindergarten.	Provides early intervention services for infants and toddlers with developmental delays or diagnosed conditions with high probabilities of resulting in developmental delays.	Uses an individualized family service plan (IFSP) specifying services for a child and his/her family.	Provides services and education to children in their natural environment.

Educational Services for Children Affected by Lead Expert Panel. Educational interventions for children affected by lead. Atlanta: U.S. Department of Health and Human Services; 2015.

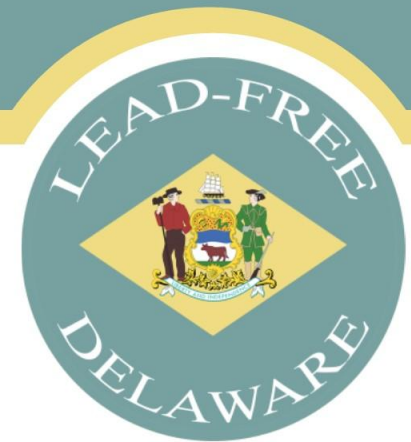
IDEA Part C eligibility is established by the states; Delaware lowered the threshold from 45 µg/dL to 10 µg/dL in 2017



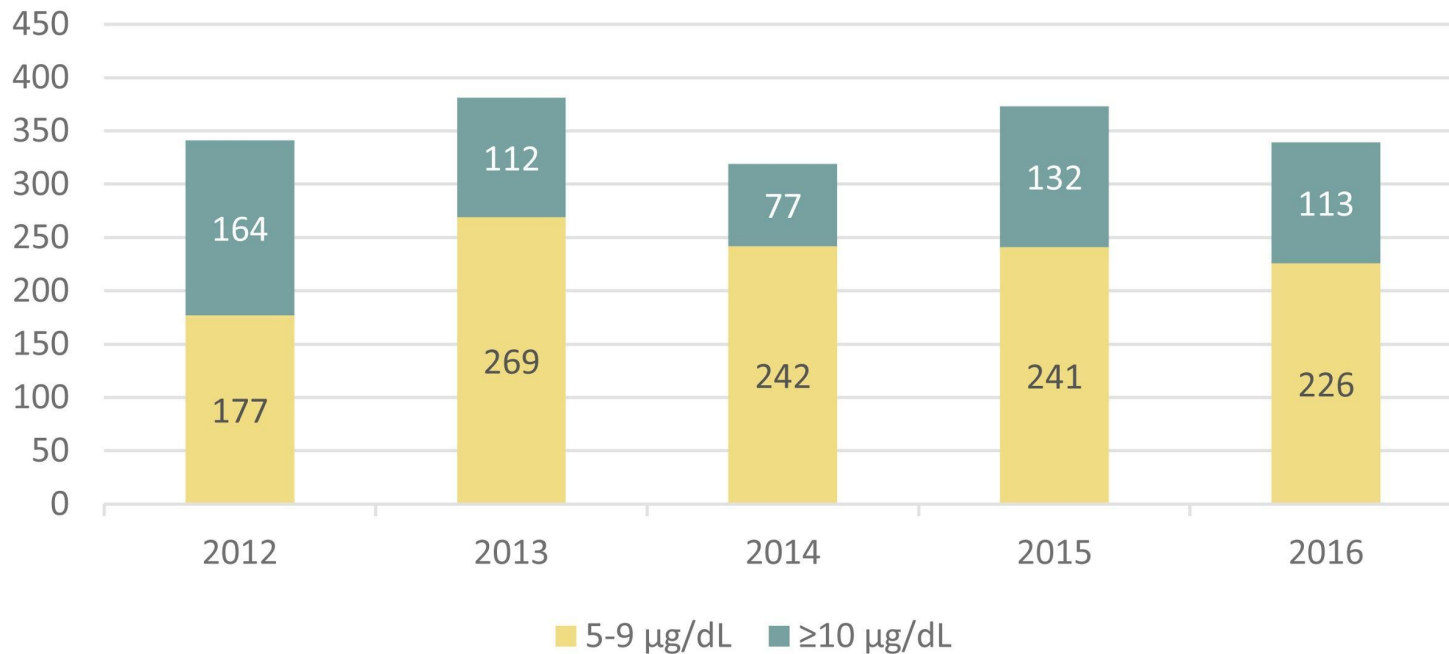
**Established Condition & Commonly Used ICD-10 Codes v. 8/7/17**

<b>Est Cond?</b>	<b>ICD-10</b>	<b>Diagnosis for Part C Established Condition</b>
Yes	E75.23	Krabbe disease
Yes	E75.4	Kuf's Disease
Yes	C96.6	LCH Langerhans Cell Histiocytosis
No	Q31.5	Laryngomalacia (Congenital)
<b>Yes</b>	<b>Z77.011</b>	<b>Lead Exposure (Toxic) If level 10 or higher*</b>
Yes	Q23.3	Leaking Heart Valve – Cong. Mitral Insufficiency, if severe
Yes	G04.81	Leukoencephalitis
No	D18.1	Lymphangioendothelioma
No	D18.1	Lymphangioma (Cap., Cavernous, Cystic)
No	D18.1	Lymphangiomyoma

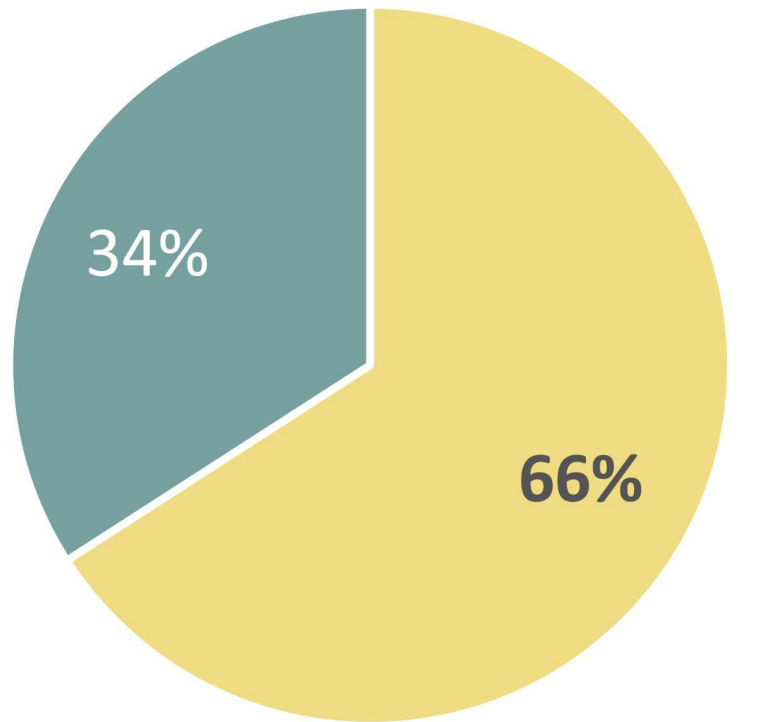
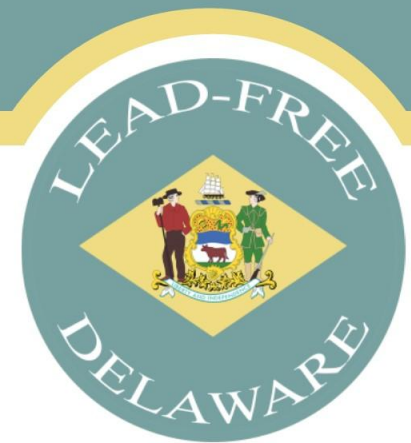
Even the lower IDEA Part C eligibility is missing too many impacted children in Delaware.



Elevated Blood Lead Levels in Delaware Children Age 6 and Under



Data provided by Delaware's Department of Public Health (2018) and Delaware Kids Count (2019).

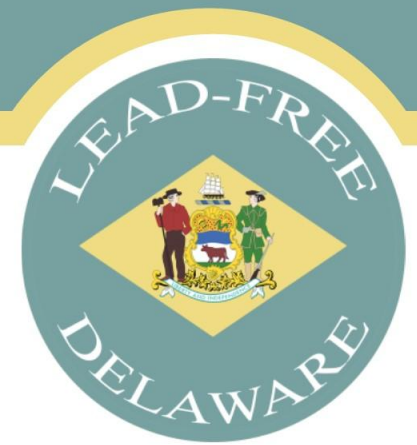


■ 5-9 µg/dL   ■ ≥10 µg/dL

Elevated blood lead levels by percent, Delaware children up to age 6, 2012-2016.

Even the lower IDEA Part C eligibility threshold for lead poisoning is missing too many children with lead poisoning.

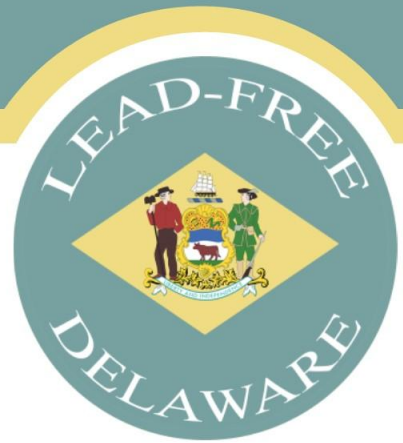
Data provided by Delaware's Department of Public Health (2018) and Delaware Kids Count (2019).



We have been advocating to lower the eligibility level to 5  $\mu\text{g}/\text{dL}$

State of Delaware and CDC define elevated blood lead levels at 5  $\mu\text{g}/\text{dL}$

Learning and behavioral outcomes as low as 5  $\mu\text{g}/\text{dL}$  can negatively change a child's life without educational intervention



# Environmental exposures

Since 2015, Tri State Bird Rescue, located near Newark, has treated 49 birds for lead poisoning:

- 23 bald eagles
- 6 Canada geese
- 6 turkey vultures
- 5 black vultures
- 4 mallard ducks
- 2 snow geese
- 1 common loon
- 1 common raven
- 1 red-tailed hawk.

Brought to their facility from locations in:

- Delaware (10)
- Maryland (26)
- Pennsylvania (9)
- New Jersey (4)

## Bald eagle killed by lead poisoning in Delaware; another's wing caught in trap

**Maddy Lauria** The News Journal

Published 1:56 p.m. ET Jan. 8, 2019 | Updated 11:04 a.m. ET Jan. 9, 2019



# Environmental exposures



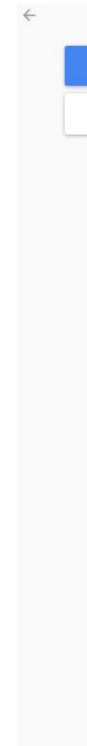
## Philadelphia finds lead contamination at two more playgrounds

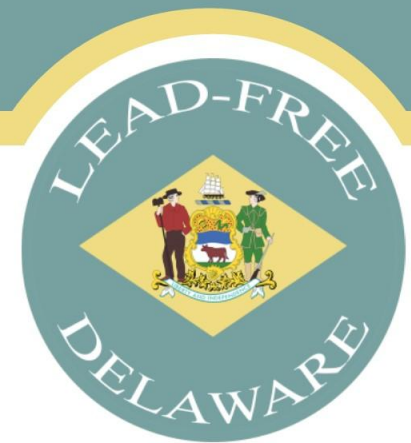
by Frank Kummer, Updated: June 13, 2019



DONALD KAHLER / GOOGLE MAPS

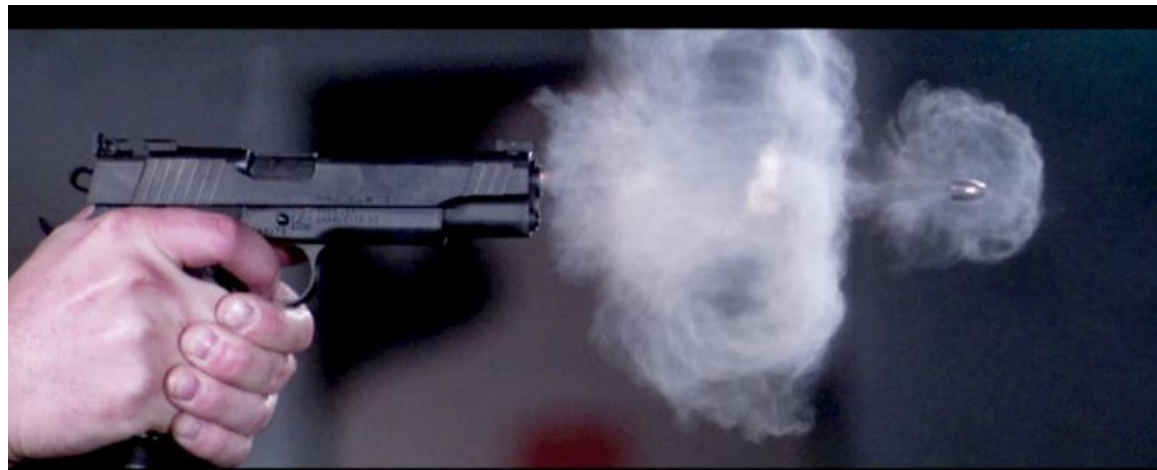
Lead, tied to numerous developmental problems in children, has been found at two more city playgrounds — East Poplar in North Philadelphia and Disston in Tacony, city officials said Wednesday.

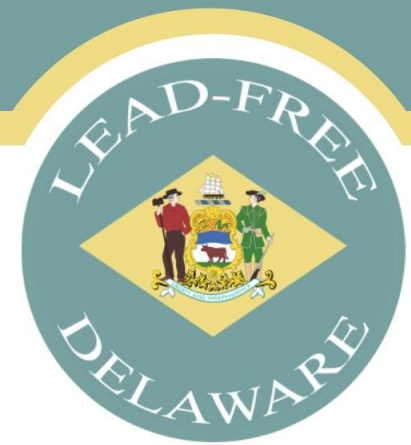




## Environmental Exposures

- Lead poisoning elevated risk:
  - Shooters, including firing range personnel, firearms instructors, those who use firing ranges for employment training or recreation, and the family members of firing range users
  - Hunters, those who consume wild game, wildlife, and victims of gun violence are also at increased risk of lead poisoning.
- **Firearms use is considered the largest unregulated occupational and non-occupational source of adult lead poisoning in the United States, exceeding lead paint.**



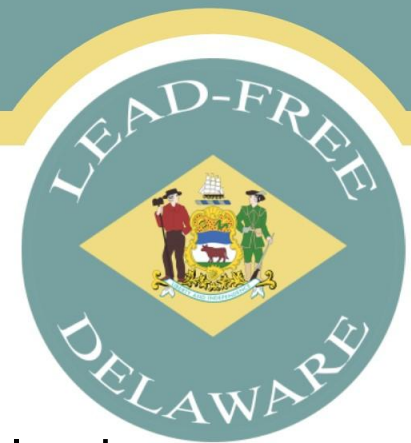


## Maryland - model to follow:

### Universal testing to find risk areas

Testing of all Maryland children ages 12 and 24 months: For a period of three years, all Maryland children under the age of 6 years should be tested for lead exposure at 12 and 24 months of age, based on a determination by DHMH that all ZIP codes and census tracts in the State should be considered “at risk” under the requirements of Maryland Code Annotated, Health-General Article, § 18-106, and Code of Maryland Regulations (COMAR) 10.11.04.

Larry Hogan, Governor, Boyd K. Rutherford, Lieutenant Governor, Van T. Mitchell, Secretary, MARYLAND TARGETING PLAN FOR AREAS AT RISK FOR CHILDHOOD LEAD POISONING (October, 2015)

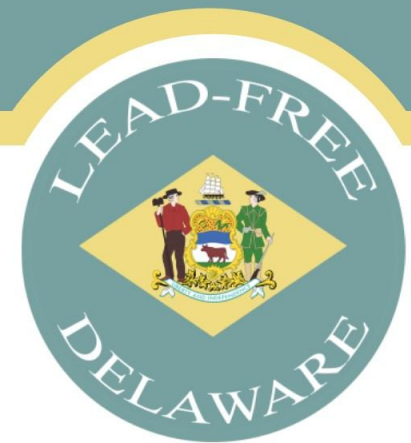


## Maryland - model to follow:

Mandatory proactive rental inspections and remediation of lead hazards

Required for all pre-1978 rental properties in Maryland

- Register property with Maryland Department of the Environment (MDE) and pay \$30.00 annual fee per unit;
- Requires Lead Risk Reduction Inspection Certification prior to occupancy or within 30 days in response to a Notice of Defect/EBL to verify that there is no chipping, peeling paint and the property passes lead dust clearance inspection;
- Provide tenants with a copy of lead informational pamphlets (“Notice of Tenant’s Rights” and “Protect Your Family From Lead in Your Home”) and the Lead Risk Reduction Certificate for the property at the time of occupancy.



## New Castle County Lead Abatement Program

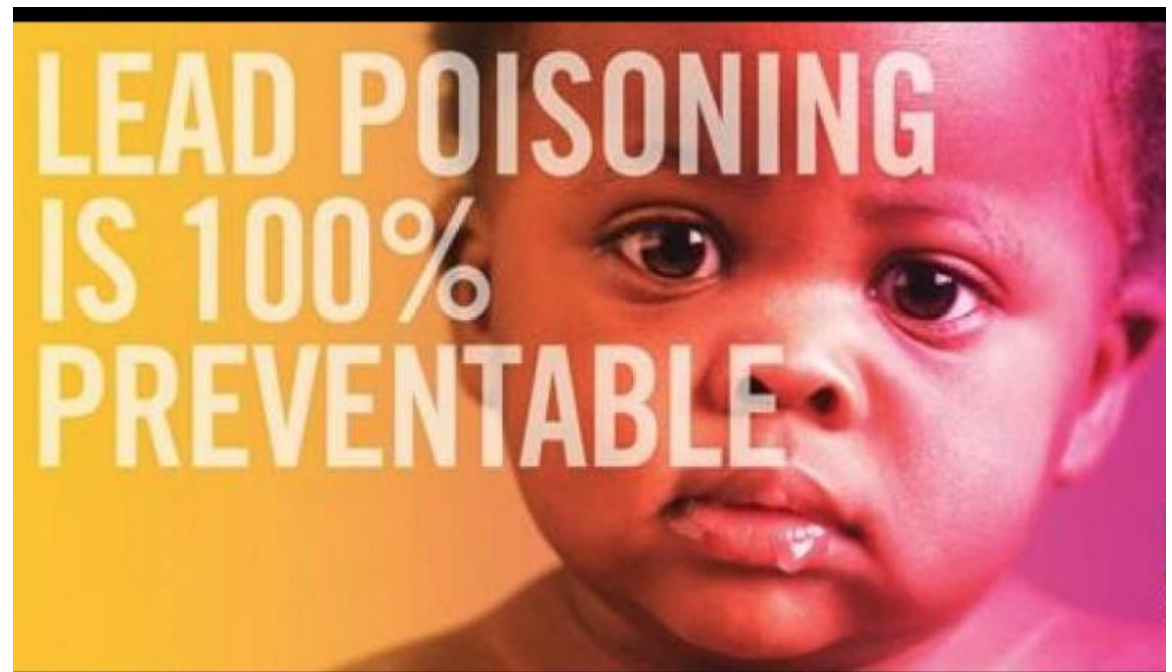
- **2019: Grant gives the opportunity to conduct lead abatement on over 130 homes over 3 years**
  - Preference given to tenants or homeowners with children under the age of 6, or pregnant women.
  - Eligible families will have a Lead Risk Assessment (LRA) conducted. If results are positive, families may need to be relocated for up to 10 days while the lead paint is being removed.
  - If any health hazards are found during the assessment then we may be able to fix the problem for FREE.

*“New Castle County has been awarded \$3 million dollars through the United States Department of Housing and Urban Development (HUD) to combat lead hazards ... This is the first time the County has applied for this grant. ... The Healthy Homes supplemental funding will be used in those same units to help maintain safe, decent and sanitary housing as a means of preventing disease and injury. Matching funds, chiefly from New Castle County, the City of Wilmington and State of Delaware, brings the total funding to over \$4 million.”*

<https://www.nccde.org/1982/Lead-Program>



**Environmental policy IS health policy**





## Next steps - how to get more involved

- Follow our Facebook page “Lead-Free Delaware” to see meetings and updates and upcoming legislation!
  - Two year BLL capillary testing
  - Reducing OSHA lead limit for workers which is based in 1978
  - Other outdoor structures remain unregulated (bridges)
  - Lead safe playground task force

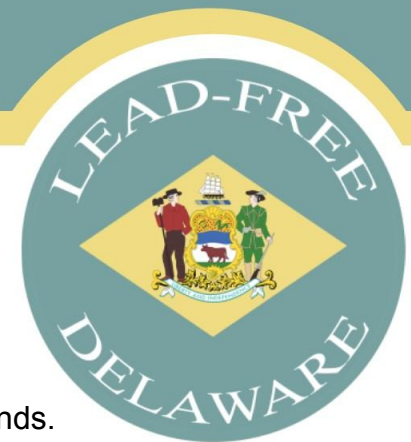


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