

LEAD POISONING: Advocacy for Rhode Island Schools

Honors Class HPR 224G-0002

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Presented to: Rosemary Powers - Gov. Rimando's Chief of Staff (April 26 2019)

INTRODUCTION

Imagine as a parent, a teacher, an aunt, a neighbor, you know a perfectly healthy child. The child is vibrant and intelligent, healthy and engaging. Then one day this child stops eating. The child regresses in character, starts crying endlessly, banging his or her head on the wall. And then this behavior starts to replicate itself among other children of the community. Blood tests reveal the culprit: lead poisoning. We've seen it in Flint, Michigan, and many other places across the United States. What may seem like a far gone issue is still relevant and poisoning hundreds of thousands of our nation's children. With most policies operating on a "wait and see" notion, little is being done to stop the irreversible damage before it takes place. America can do better, the northeast can do better, and Rhode Island can do better.

WHAT IS LEAD?

Lead is a chemical element that was previously used in many common goods such as paint; it is an extremely toxic substance and does not dissipate once in the environment. While the level required for intervention is 5 milligrams per deciliter, any amount of lead in one's bloodstream can have extremely damaging effects including but not limited to, high blood pressure, developmental delays, irreversible brain damage, learning disabilities, neurological damage, and premature death. Most susceptible to the dangers of lead are children. Children are far more likely to be playing on the ground and putting unknown materials into their mouth. They are also more likely to be poisoned by lead as their bodies absorb it quicker than adults, more lead is able to be stored in their bones, and their central nervous system is just developing.

WHY IS THIS A PROBLEM?

The CDC notes that lead poisoning is the most common environmental disease of young children¹, and hundreds of thousands of children are being poisoned across the United States. This is not something that we can ignore, or let slip our minds. Rhode Island, luckily, is one of 12 states that require universal lead testing for children, however that does not mean we are free from the dangers of lead poisoning. Despite our required lead testing for children, only 78% of children in the target age range actually do get tested. We cannot let children fall through the gap.² We need to decrease the gap between policy and reality and protect those who are most vulnerable, our children.

WHO DOES THIS PROBLEM AFFECT?

Lead poisoning is most common among older homes and low income communities where necessary repairs and lead removal maintenance is difficult to pay for. Its greatest effects are on children, and thus extend to a problem that affects parents and communities. The children affected by lead

¹ *The HUD Guidelines for the Evaluation and Control of Lead-Based Paint in Housing*

² Dickman, Jennifer. *Children At Risk: Gaps in State Lead Screening Policies*

poisoning are more likely to be living in poverty, of racial or ethnic minorities, or living in substandard housing. The greatest children at risk are those who are African American³. We have found that lead can also be an issue in schools, with high lead levels of faucets and water fountains often being ignored.

WHAT IS THE IMPACT ON OUR COMMUNITY?

The impact of lead poisoning is primarily one of health. Lead poisoning can lead to permanent adverse health consequences such as high blood pressure, developmental delays, irreversible brain damage, learning disabilities, neurological damage, and premature death⁴. Since lead is a neurotoxin and does not dissipate, once it gets into someone's blood stream, it will continue to wreak havoc on their body. Often low levels of lead in a child's bloodstream can go undetected for years because it has no distinctive clinical symptoms⁵. This is particularly damaging to children, as their central nervous systems are developing and are in crucial development periods. Consequently, health impacts can lead to financial and economic impacts on both individuals, communities, and the government.

FACTS AND DATA ABOUT LEAD POISONING

Parts per billion (ppb) are used as the metrical reference to the amount of lead in water

Nationally

- 1 in 6 children have lead poisoning
- 1 in 3 homes with children have lead based paint
- 37 million homes contain lead-based paint that could become hazardous, 23 million of which have one or more hazard⁶
- Parents are not notified about the amount of lead found in school drinking water until it goes above the 15 ppb limit even though it still causes harm below that limit
- Children under 6 can be tested for lead poisoning for free only at St. Joseph's Hospital⁷
- No lead testing resources available for children above that age even if they attend a school that has over 15 ppb lead in drinking water

Rhode Island Lead Issue

- 19% of children in RI live in poverty⁸
- 39% of children in RI live in a low-income household, putting them at higher risk
 - Research shows that families need an income about 2x the federal poverty to cover their most basic needs⁹

³ ATSDR. *Lead (Pb) Toxicity: Who Is at Risk of Lead Exposure?*

⁴ ATSDR. *Lead (Pb) Toxicity: Who Is at Risk of Lead Exposure?*

⁵ "Lead Poisoning in Children | Gateway to Health Communication | CDC." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, Feb. 2011, www.cdc.gov/healthcommunication/toolstemplates/entertained/tips/LeadPoisoningChildren.html.

⁶ *Contaminated Childhood: The Chronic Lead Poisoning of Low-Income Children and Communities of Color in the United States | Health Affairs*.

⁷ "State of Rhode Island: Department of Health." *State of Rhode Island: Department of Health*, www.health.ri.gov/healthrisks/poisoning/lead/for/parents/.

⁸ *NCCP | Rhode Island: Demographics of Low-Income Children*.

⁹ *NCCP | Rhode Island: Demographics of Low-Income Children*.

- Only 78% of children in the targeted age range get tested for lead¹⁰
- More than 70% of Rhode Island’s housing has potential lead hazards¹¹
- 6% of Rhode Island schools have above 15 ppb lead in water from bubblers and faucets (action level of lead made by Environmental Protection Agency)
- 24% of schools have at least one faucet with a lead level over 50 ppb

Rhode Island Schools with ≥ 50 ppb Lead Level Found in Water¹²

Charlestown

Charlestown Elementary School

Location	Type	Parts per Billion
Well 2		117
Well 3		215

Cranston

Edgewood Highland School

Location	Type	Parts per Billion
Kitchen	Faucet	58

Edward S. Rhodes School

Location	Type	Parts per Billion
Kitchen	Faucet	78
Nurse’s Office	Faucet	231
Boy’s Bathroom	Faucet	102

¹⁰ Dickman, Jennifer. *Children At Risk: Gaps in State Lead Screening Policies*

¹¹ *Lead Poisoning Information for Landlords: Department of Health.*

¹² *School and Daycare Water Data: Department of Health.* <http://health.ri.gov/data/schools/water/>. Accessed 3 Apr. 2019.

Gladstone Street School

Location	Type	Parts per Billion
Boy's Bathroom	Faucet	204
Kitchen	Faucet	110
Nurse's Office	Faucet	100

Park View Middle School

Location	Type	Parts per Billion
Girl's Bathroom	Faucet	50

Cumberland

Garvin Memorial School

Location	Type	Parts per Billion
Kitchen	Faucet	72

John J McLaughlin Cumberland Hill School

Location	Type	Parts per Billion
Kitchen Prep	Faucet	60

Joseph L. McCourt Middle School

Location	Type	Parts per Billion
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Inside Gym Near Exit	Water Fountain	630
Gym Near Exit	Water Fountain	670

East Providence

Emma G. Whiteknact School

Location	Type	Parts per Billion
Kitchen Sample 261-3	Faucet	110

Newport

Rogers High School

Location	Type	Parts per Billion
Auditorium Near Room 810	Water Cooler	71
Science Hall Across From Room 219	Water Fountain	180

Middletown

Middletown High School

Location	Type	Parts per Billion
Branch Water Line Feeding Gym	Service Line	260

Providence

The Met - Justice School

Location	Type	Parts per Billion
Kitchen Prep Area	Faucet	100

South Kingstown

Matunuck School

Location	Type	Parts per Billion
Kitchen	Faucet	98
Kitchen Sink	Faucet	61

West Warwick

Maisie E. Quinn Elementary School

Location	Type	Parts per Billion
B-Wing	Water Fountain	120

SOLUTIONS

1. Change the action level to 2 ppb
2. Extend free testing to children over six years old who live in higher risk areas
3. Require pre-occupancy lead inspections for homes built before 1978
4. Pipe replacement (around \$3,000-\$5000 per lead service line)
5. Require filters for school water fountains and faucets (\$600 per filter and as low as \$70 for each faucet, but filters do require replacement)
6. Penalize schools who do not take action to resolve any elevated level of lead in drinking water

7. Require that schools inform parents on lead poisoning and the risks of lead poisoning when levels start to reach the action level, as opposed to once they have
8. Strictly enforce/implement further consequences for not complying with lead testing laws
 - a. Warning/Fining System for Doctors

WHAT RHODE ISLAND HAS IN STORE IF LEAD PROBLEMS ARE NOT CORRECTED:

In 2014, Flint, Michigan changed the source of its drinking water to the Flint River in order to lessen costs for the city. For the next 18 months, government officials ignored complaints from residents as they were reaping the results of lead-ridden water running through their pipes and into their bodies. Many of those who ingested this toxic water suffered skin rashes, hair loss, and more than 90 citizens contracted what is known as Legionnaires' disease from the high metal content of the water, 12 of which have died.¹³ Most tragically about the situation in Flint, is the impact it had on the health of the 9,000 children who were initially forced to drink this water. In the first year of this incident, the reported blood-lead level of children had nearly doubled, and even nearly tripled in certain neighborhoods.

Today, while the water in Flint has been deemed "drinkable" once again, there is still a tremendous deal of social unrest and anxiety. Thousands of people still line up each and every day to receive bundles of Nestle bottled water from public relief centers because they do not trust the water they are supplied with at home.¹⁴ Shockingly, we have seen similar situations in Rhode Island. In May of 2018, a Charlestown Elementary School found high levels of lead in their water, and were forced to pass out bottles of water, but the fact this had to happen at all is unacceptable. Rhode Island can prevent an emergency situation like the one that struck Flint by regulating minimal lead content in its houses, water, and general products.

GETTING LEAD UNDER CONTROL IS POSSIBLE!

- Las Vegas, Nevada
 - Average of 2.6 ppb found in water¹⁵
 - Newer, more refined water treatment/pipes
 - Uses ozone water treatment¹⁶
- Emporia, Kansas:
 - Highest reported value: 3.5 ppb
 - Average Range: 0.002-0.0015 ppb¹⁷
 - In 1995, water treatment plant replaced 8 filters

¹³ "How Flint's Water Crisis Happened, And Why It Isn't Over." *How Flint's Water Crisis Happened, And Why It Isn't Over / Here & Now*, WBUR, 10 July 2018, www.wbur.org/hereandnow/2018/07/10/flint-water-crisis-poisoned-city.

¹⁴ "In Flint, Trust Is Lost. And Bottled Water Supplies Are Running Low." *Bridge Magazine*, 12 Feb. 2019, www.bridgemi.com/michigan-environment-watch/flint-trust-lost-and-bottled-water-supplies-are-running-low.

¹⁵ *2018 Las Vegas Valley Water District Water Quality Report*

¹⁶ *Water Testing and Treatment*

¹⁷ *Water Quality 2018 Summary*

- Uses ozone as primary disinfectant ¹⁸

CLOSING

Public health officials often note that primary prevention is the most cost effective and efficient way of protecting people against health risks. Our government, particularly with lead poisoning, often operates on a “wait and see” policy, in which they wait until people are suffering or dying to correct a health or infrastructure problem. There should not need to be a crisis for our people to get the fair protection from health risks and the right to a healthy life that they deserve. Lead can be eradicated from our environment, this is a problem we can solve now, and help future generations live healthier, happier lives.

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¹⁸ *Water Treatment Plant.*

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