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Lead Poisoning in Children: A Preventable Disease

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LEAD POISONING IN CHILDREN: A PREVENTABLE DISEASE

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ABSTRACT

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Children lead poisoning disease causes irreversible neurological damage in children (Centers for Disease Control and Prevention [CDC], 2022). The effects are lifelong for the children poisoned and their families. A major cause of childhood lead poisoning is the ingestion of peeling paint in old homes. Leaded paint was banned by the federal government in 1978 (Mayo Clinic, 2022). Leaded paint is mostly found in dwellings constructed before 1978. The purpose of this study is to identify barriers, social justice parameters, and solutions to and for the eradication of childhood lead poisoning in Connecticut. The methodology used was a qualitative interview design with a cross section of professionals working in the community in Connecticut. Key findings were the lack of education on childhood lead poisoning in community and the lack of state and federal enforcement to landlords and property owners for requiring remediation. The implication of this research is far reaching in bringing the knowledge of the impact of lead poisoning to the community. The data will allow for advocacy, accountability, and transparency in the delivery of services for children who are being poisoned in environments they cannot control. This dissertation is available in open access at AURA (https://aura.antioch.edu) and Ohio LINK ETD Center (https://etd.ohiolink.edu).

Keywords: lead poisoning, education, remediation, housing, critical theory

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CHAPTER I: STATEMENT OF PROBLEM

On the 30th anniversary of the Centers for Disease Control and Prevention (CDC) work on lead poisoning prevention, the head of the CDC's lead poisoning division, Dr. Paul Allwood, stated that lead levels in children had decreased over the last 30 years; however, there are still millions of children that continue to be lead poisoned in the United States (See Appendices A1–A12). Appendices A1–A12 illustrate a series of tables from the CDC. The tables demonstrate the number of children eligible to be tested for lead and the number actually tested in Connecticut and other states. The children most at risk are those of low socio-economic income brackets in Black and Brown communities, immigrants, and refugees (CDC, 2022).

Lead slowly impacts health from early childhood and all through life, limiting good health and the pursuit of a productive and healthy lifestyle. "The impact of lead is insidious and often referred to as a 'silent epidemic'" (Hanna-Attisha et al., 2018). "Lead poisoning, a major systemic crisis, damages the health and development of hundreds of thousands of children across the United States every year, including thousands in Connecticut" (Frank, 2020). Lead is not naturally found in the body. It is a chemical with no biological function and is harmful to children at any level (Hauptman et al., 2017). Children ingest lead primarily in their homes from peeling paint from older housing stock built before 1978 (CDC, 2022). Housing stock in Connecticut is among the oldest in the country with an average age of 58 years (CHFA, 2024).

In Connecticut, the risk of lead poisoning is disproportionately higher in the inner cities (J. Cohen, 2022). There are dedicated departments to address lead poisoning surveillance in children in the Connecticut State Department of Public Health. Testing is a prerequisite to identify the disease in Connecticut and other states, and approximately 20% to 30% of eligible children at risk for lead poisoning are tested annually (CDC, 2022). In 2022, the state of

Connecticut reported that there were 1,000 cases of diagnosed lead poisoned children, but there were only 178 environmental investigations (Hartford Healthcare, 2022). Keep in mind that environmental investigations do not always end in remediation.

Research Questions

This researcher seeks to answer the following questions from the perspective of working professionals in fields that engage with children and families in Connecticut: (a) what are barriers to the eradication of lead poisoning in Connecticut? (b) what are social justice issues impacting the eradication of lead poisoning in Connecticut? and (c) what are solutions for the eradication of lead poisoning in the state of Connecticut?

Researcher

The researcher has been a public health professional for over 30 years. Her focus has been on health equity for marginalized populations. In her experience, the researcher has found that the social drivers of life dictate the individual's health outcomes. Social drivers can include where a person lives, access to good health care, access to a good education, socio-economic status and other social needs that impact health outcomes. As a public health professional, the researcher has had the opportunity to be educated on childhood lead poisoning and felt compelled to address the issues surrounding the disease. This work is a beginning in the understanding of barriers, social justice issues, and solutions for the eradication of childhood lead poisoning in Connecticut. There are no good reasons why any child should be exposed to childhood lead poisoning which is a completely preventable disease. Scientists do not have to develop an antidote. The removal of lead out of the environment where the children live and play or the removal of the child from the environment is all that is needed (CDC, 2022).

Potential Significance

This research has the potential to impact actions to improve quality of life for children, who if not for lead poisoning, have the potential to be successful contributing members of society as described in the Health Impact Project supported by PEW (2017). The economic return is in the billions for the entire country (PEW, 2017) and individual states like Connecticut. Another potential impact is to begin the conversation about what is happening with intelligent quotient (IQ). Research done by Hanna-Attisha et al. (2018) discusses that the impact of lead poisoning in children is decreasing IQ as more children are exposed.

The author contends that lead poisoned children are more likely to be in special education classes and the outcome is a decrease in children who can attain high academic achievement, hence impacting the entire community. Connecticut is considered a great education state with its ivy league university and many other high caliber institutions. Addressing childhood lead poisoning can take the Connecticut educational system in general to higher academic standing.

Delimitations of the Study

The researcher set boundaries on this research study by excluding certain variables to limit and manage the scope of the study. Variables such as interviewing children and families that are experiencing lead poisoning, or reviewing the state of Connecticut state school records would have required a longer time and a team of researchers, which is beyond the scope of a dissertation. The research questions regarding barriers, social justice, and solutions were expected to have broad responses reflecting opinion and lived experiences. The researcher limited the number of participants to manage the volume of responses to allow proper analysis of the responses and provide sufficient time for analysis.

The researcher interviewed 16 professionals. Persons and their families who are directly affected by childhood lead poisoning were deliberately excluded as that would require a prolonged longitudinal study. Data on family outcomes from the state department of educational system was also excluded. Reviewing records from the state department of education would require a large team with significant funding.

Limitations of Study

Every study has limitations; this study is no exception. The researcher considered practical limitations in analyzing and interpreting the responses. All participants were asked about barriers, social justice, and solutions from their professional vantage point. The participants were individuals who are professionals in their field and may have bias in their opinions based on their experience, hence making some statements that may not be able to be generalized. This is expected in a qualitative interview methodology. To address these concerns, the researcher made best efforts to find current works in the literature review that would credit the opinions and work experience of some of the participants. The same can be true of the researcher as the one analyzing the responses. Some statements and conclusions are subject to opinions based on experience working in the field of public health. It brings to mind the subjectivity of the analysis.

To address the possibility of subjectivity, the researcher looked at the literature review to corroborate the analysis. The qualitative data from the interviews has a large amount of text which makes it difficult to represent all the ideas in context of the participant's related response. The stipend for the participants also limited the number of participants the researcher was able to have in the study and the review was extremely labor intensive.

The researcher expected that some of the qualitative data would not be able to be generalized, but that was not the case. Lead poisoning in children is so widespread, the literature review often gave support to many of the opinions and lived experiences of the participants. Finally, even though the interviews were scheduled for specific one hour time slots and dates, there were times when the interviews went over the hour and there were times when participants had to change the time for the interviews.

Assumptions

The assumption of this work is that a transformational paradigm shift would help improve the prevention process for eradicating lead poisoning in children. The shift would include improving access in communities of color and training health care providers in culturally competent delivery of care. The researcher understood that such a shift is not easily attained within the current health care system and regulatory environment. Even with the recent pandemic there was not a shift in the care practices for the poor. The results revealed a disproportionate number of deaths in the Black and Brown communities, which demonstrates evidence of no change in the health outcomes for the people of color and the poor.

The researcher's conceptual theory is that the reasonable members of our society, health care clinicians, educators, politicians, and others believe that for children to succeed good health is a prerequisite and not a form of privilege (Papadimos, 2007). On that premise and shared belief, fundamental change is needed to prevent lead poisoning. The change will at minimum involve a shift in public health practice, medical practice, public education, and governmental priorities for funding the prevention of lead poisoning. Dramatic shifts in public health policy, education of the public and effective housing law enforcement is needed for any transformational change (Knecht, 2009).

The efforts to bring about transformational change are not simple or ordinary. Change cannot be just an exercise in budgeting and allocation. Funding is a major factor; however, without a plan that seeks and recognizes input from all stakeholders, the results will be temporary at best, and the status quo will continue. This research will add to the body of knowledge that currently exists on lead poisoning prevention in children and strategies to go forward for change.

Abbreviations

CDC:	Centers for Disease Control
SVI:	Social Vulnerability Index
ATSDR:	Agency for Toxic Substances and Disease Registry
HPD:	Housing Preservation and Development
SDH:	Social Drivers of Health
Chelation Therapy:	A form of therapy used to remove the lead metal from the blood stream.
LPIC:	Lead Poisoning in Children
LP:	Lead Poisoning
IEP:	Individualized Education Plan
PPT:	Planning and Placement Team
IQ:	Intelligence Quotient
LBL:	Lead Blood Levels
DPH:	Department of Public Health

CHAPTER II: REVIEW OF LITERATURE

Overview and Research Context

The purpose of this literature review is to connect existing research and literature to the three primary research questions. Although this dissertation focuses on the current state of lead poisoning in Connecticut, this exists in an important national history and context. Contextualizing the work requires a broader discussion of lead's impact on human health, the history of the lead industry, the history of remediation in the United States, and the current policy environment. It is important to understand work that has already been done nationally and locally, and various policies that impact or could be models for this work in Connecticut. The literature review then addresses the research questions regarding barriers to the elimination of lead poisoning, social justice implications, and current approaches to the lead poisoning problem, including in Connecticut. Connecticut has some of the oldest housing stock in the country along with the highest levels of poverty where the majority of the lead poisoned children live, so national work and policies that have been tried in other areas are particularly useful to consider.

Lead's Impact on Human Health

Lead is a chemical element with the symbol Pb from the Latin word Plumbum with an atomic number of 82 on the periodic table (Lenntech, 2024). Lead is a soft, silvery white, or grayish metal in Group 14 of the periodic table (Injosoft, 2024). Lead is naturally occurring in the earth's crust. Lead is only harmful when mined by humans for the development of products. Lead is a dense chemical but very soft with an extremely low melting point. Lead is very malleable, and ductile, making it very easy to use in man made products.

Lead has ended up widely used throughout many industries, resulting in the consequences we are still faced with today. However, lead in paint is still identified as the most dangerous way that children become lead poisoned in their homes and where they play (Dignam et al., 2019).

Lead is easily digested and easily assimilated in the human nervous system as described by the Royal Society of Chemistry (2023). According to the Agency for Toxic Substances and Disease Registry (ATSDR; 2023b), when lead enters the body, it is absorbed in different ways. The lead travels through the body via the blood stream. Once the lead begins moving it attaches to soft tissue. Part of the lead particulates are excreted, and the remaining particulates are absorbed in the body systems. Lead particulates primarily enter soft tissue in the liver, kidneys, lungs, brain, spleen, muscles, and heart.

Landrigan and Todd (1994) explain that lead poisoning causes toxicity in several organ systems of the human body. Lead poisoning affects developing red blood cells or erythrocytes. These red blood cells are responsible for carrying oxygen and other essential gases to the body systems. Lead poisoning is also toxic to the kidneys and the central nervous system. The toxicity caused by lead to the central nervous system causes impaired neurological development, reduced intelligence quotient, and negative behavior. When ingested, lead also affects the liver and reproductive system in both males and females. Abdulla (2020) explains that lead also affects mineral metabolism in bone and all the complications and effects of lead poisoning magnifies more serious outcomes in infants and children who are more susceptible to lead toxicity.

The Lead Industry in the United States

Historically, in the United States, lead was released into the air by the use of leaded gasoline. In the early 1920s, General Motors needed a fuel for their new cars. The scientific community tried iodine, aniline, selenium, and other substances but none of the additives

prevented the knocking sound in the engine of the automobiles (Robert, 2023). On December 9, 1921, an additive called tetraethyl lead was added to gasoline which improved engine performance, and leaded gasoline was introduced (Lewis, 2016). The leaded gas stations and automobiles disbursed vapors and lead gasoline infiltrated the soil, the air, and the bodies of those who worked in the production and distribution of leaded gasoline.

Lead remained a major industry even after later policies pushed a switch to unleaded gasoline. Today in the United States the five largest mines are The Red Dog Mine in Alaska, the Sweetwater Mine in Missouri, the Buick Mine in Missouri, the Brushy Creek Mine in Missouri, and the Fletcher Mine, also in Missouri. Collectively those mines produced 356,873,000 tons of lead in 2020 (Mining Technology, 2023). It is important to know this information about the mining business in the context of lead poisoning because lead can be found in many products humans consume. Lead is found in cereal (Tahvonen & Kumpulainen, 1993). Lead is found in cosmetics (Chauhan et al., 2010). Lead is found in dairy products (Cabrera et al., 1995). Lead is found in baby food (Muntean et al., 2013). Lead is found in fruits and vegetables (Rusin et al., 2021). Lead is found in chocolate products (Abt et al., 2018). Lead is found in fish that is raw, fried, or baked (Winiarska-Mieczan & Grela, 2017). The lead production industry is a very lucrative economic engine in the United States, making it very difficult to limit and monitor the impact of lead in products and the environmental impact.

For example, in an article in the *Los Angeles Times* by Dillon (2018), the author explained that California law makers were voting on whether to overturn a court decision on the paint industry which included Sherwin-Williams and ConAgra for billions of dollars in legal penalties for not cleaning up lead paint in homes built prior to 1950. Sherwin-Williams and ConAgra paid their lobbyist $2.8 million to block the decision. The lobbyist posted information on the websites

that was misleading to homeowners which stated that all their homes would be devalued, which affected the actions of the legislative body because of community outcry. The legislators got thousands of calls from homeowners which impacted the final decision and settlement.

The lawsuit started in 2000 with the plaintiff, Santa Clara County, which filed a claim for billions of dollars against the paint industry. The case was settled in 2019, nearly 20 years later, for $305 million dollars. The payout was over six years starting at $75,000 per year. There is no clear idea on how many homes would be remediated, but based on the early estimates, the settlement was not close to what was expected. This information was reported by Schneyer (2019). The lead paint industry along with their lobbyists were able to delay and diminish the settlement over a 20-year period. The money would only cover properties in Santa Clara County built before 1951, but lead paint was sold until the ban in 1978. The final settlement will not cover the remediation of the homes built before 1950 and did not cover all the homes built from 1950 to 1978, another 28 years of housing with lead paint. Although this lawsuit was in one county in California, the companies involved operate in every U.S. state as well as internationally. The industry that produced lead paint remains powerful and resistant to accountability.

In addition to lead paint, many other products containing lead remain a hazard. Lead has been used widely in the United States to make pipes for drinking water, paint for houses, and appliances for homes. Lead is found in ceramics, plumbing materials, batteries, ammunition, cosmetics, stained glass, refining furniture, and in tanks that hold corrosive liquid, toys, and candy (Agency for Toxic Substances and Disease Registry, 2023a). It is important to note that lead has been removed from gasoline in the pumps where we fuel our cars in our neighborhoods, but leaded gasoline is still manufactured for small piston engine planes.

Lead Poisoning Remediation History and Policies in the United States

In the last 45 years lead blood levels (LBL) have decreased significantly in the United States (Tsoi et al., 2016). The dramatic decline has provided an illusion that lead poisoning is not as problematic. The opposite is true. Lead levels declined from extreme high values that caused deaths to those who worked directly in factories producing leaded fuel, but today we are experiencing lower levels of lead that are causing lifelong health problems and irreversible neurological brain damage to children.

Studies done by Wodtke et al. (2022) discussed how the role of lead exposure may also be particular to certain cities or regions. Urban areas in the Midwest and Northeast tend to suffer the highest levels of lead contamination because of their widespread use of lead plumbing, their metal processing industry, and their aging housing stock. Any homes nearby were exposed to lead vapors. Lead in the soil affects the food we grow; lead in the soil where children live and play. The children play and touch and place their hands in their mouth (See Appendix B for maps on lead contamination). The ban on leaded gasoline was enacted in 1996 (Newell & Rogers, 2003). Leaded gasoline was around for 75 years prior, infusing decades of pollutants in the environment, and lead does not biodegrade.

In the 1920s, factory workers and communities with dense commercial activities experienced serious illness and death because of the leaded gasoline. An article in the *American Journal of Public Health* (Rosner & Markowitz, 1985) explained that in one of the Standard Oil factories in New Jersey, within a five-day period 49 workers became ill. In five days, five workers died, and 35 workers became ill with severe palsies, tremors, hallucinations, and others suffered serious neurological symptoms. Shortly after, more than 80% of the original 49 workers died.

In May 1925, due to the increased volume of persons becoming ill from working with lead in factories, the surgeon general, Hugh S. Cummings, temporarily suspended the production and sale of leaded gasoline. He appointed a panel of experts to investigate the recent deaths in the manufacturing and blending of concentrated tetraethyl lead. The panel was also asked to weigh the possible risk that might result from broad dissemination of a lead compound through its sale as a gasoline additive, tetraethyl lead (Gaudion, 2021).

The panel recommended voluntary standards which were in the range of the current standards at that time, therefore, the study did not recommend any substantive change in leaded gasoline production. Then finally, in 1970, the Environmental Protection Agency was established (United States Environmental Protection Agency [EPA], 2022a) and EPA leadership, William D. Ruckelshaus, began to investigate the health risk of lead poisoning.

Take-home exposure based on occupation of parents and family members also imposed barriers to lead eradication. According to the New York State Department of Health (NYSDPH; 2024) these include workers in indoor shooting ranges, house painters, pottery and ceramics workers, and workers who are exposed to soil contaminated with lead. In Connecticut, there are munitions factories that use lead for production. Historically, Connecticut provided 43% of all the munitions for the civil war. Both men and women worked in the factors (Nelson, 2020). Munitions factories were in cities such as Bridgeport, New Haven, and Hartford, which are cities with high lead levels (See Appendix B). Often parents who work in factories carry lead dust into their homes. The Bridgeport factory discontinued munitions manufacturing in 1988, but munitions factories still operate in Connecticut, in West Hartford and other towns.

The Current Context for Lead Poisoning in the United States

In our modern era the impact of leaded gasoline is more insidious and endemic in our environment. Lead particulates do not biodegrade; therefore, the pollutant's particulates are still in our environment. More importantly, heavily industrial communities bear a disproportionate burden of the lead pollutants. The dangers of lead are not obvious and neighborhood residents are poisoned slowly over a lifetime from birth. According to Levin et al. (2021), lead pollution is not dispersed equally across demographic areas. Those neighborhoods tend to have disproportionate commercial and industrial lead activity; a history of dense traffic; past and operating landfills, dumps and hazardous waste sites; and often lead contaminated drinking water. It is true that lead levels have declined significantly from the days when workers dropped dead in factories; however, there remains demarcated high-risk communities where children continue to have toxic lead exposures and are lead poisoned, including in Connecticut.

We have come from a time in the 1970s when lead levels at 60 micrograms per deciliter (mcg/dL) were considered acceptable to current day when CDC acceptable levels are at 3.5 mcg/dL, with research demonstrating that there is no safe lead level. Comparing 60 mcg/dL to 0 levels means that the impact of lead on health was and is vastly underestimated. Dignam et al. (2019) explained, in the 1960s, 60 mcg/dL was considered an acceptable level of lead in the body; in 1991, 10 mcg/dL was the acceptable level, and in 2012, 5 mcg/dL was considered acceptable. Today, the CDC (2022) reported that there is no acceptable level of lead in the human body and that very low levels of lead can cause neurological damage to children.

Lead is very much a part of the United States' economy and is very present today. We still manufacture leaded gasoline used in about 170,000 small airplanes with piston engines, (EPA, 2022b) batteries, ammunition, and many other products. Lead is in our drinking water

from the pipelines water system engineered during the 1800s. Lead is found in our food because lead does not biodegrade. It is still in the soil from the years of leaded gasoline and the fumes from factories that still manufacturer leaded products. However, by far the most dangerous threat of lead is in older homes built before 1978 with peeling lead paint exposing our most vulnerable children who may eat and ingest the peeling paint.

In many circumstances, dilapidated rental apartments and homes are not repaired and have old peeling lead paints where toddlers live and play. Children as part of normal development display mouthing behavior. Peeling paint on walls is easily picked and eaten. The taste is also appealing to children because lead has a sweet taste. Property owners sometimes refuse to remediate the lead. The rental industry is a billion-dollar industry (Morrison, 2022). The lobbying strength of property owners is a major factor regarding their ability to skirt the law and not repair the homes for lead removal. Zach Friedman (2021) reported that during the COVID-19 pandemic renters could not be evicted for not paying rent. Congress set aside $46 billion dollars in stimulus funds for rental property owners, added to the $25 billion dollars from 2020 along with another $21.6 billion in emergency rental assistance to cover the rents of those who were unable to pay. This is the strength of the property owner's lobby. Still in every city in America there are blighted apartments and houses where children are being lead poisoned daily.

Lead Poisoning in Connecticut

As stated before, landlords have not remediated all the lead in old homes in Connecticut to the level that is needed. The reasons are not obvious. The answer as to why rest in the regulations in Connecticut. Some of the laws in Connecticut for lead remediation were promulgated in 1992 and require property owners to follow EPA lead renovation and repair rules (Connecticut State Department of Public Health, n.d.-c. The remediation and or abatement is

triggered by a child testing positive for lead under six years old. The positive lead test at certain high levels of LBL results initiates an investigation by local health and upon completion the landlord gets an abatement order when lead is found. Enforcement on completing the abatement order is limited.

The other part of the Connecticut laws state that sellers must disclose lead. However, sellers are not required to test or disclose lead unless they are aware of lead in the home. It is up to the buyer to be knowledgeable enough to insist on lead testing. Ultimately the remediation is not managed by the state. The local health leadership has the responsibility for compliance and enforcement of the lead in older homes and the testing of children along with lead investigations in housing. The risk of lead poisoning is very high in Connecticut because the housing stock is very old, with an average age of 55 years as reported by the American Housing Stock Survey (Molloy, 2016). However, the extent of the problem is camouflaged by limited testing and limited enforcement of regulations.

The Centers for Disease Control and Prevention (CDC, 2022) is the organization that collects testing data on lead blood levels from states. Connecticut reported to the CDC as of 2018 that 211,000 children who were 72 months and older were eligible to be tested. Of the 211,000 children, 31.8% or 70,262, tested positive for lead poisoning and 2,523 positive lead results were greater than 5 mcg/dL. There were still 140,738 children not tested that were eligible. It is important to understand that the 70,262 are the number of tests, not number of individuals. It is typical to have at least two initial tests per child, one finger stick in the doctor's office and a full venous draw to verify the results. This indicates that the number of tests is understating the problem because one child can have multiple positive tests.

Under-testing allows for the perpetuation of the narrative that lead poisoning is not a serious threat to communities of color and the poor. Under-testing means we do not know how many children in Connecticut are exposed, or how many properties remain to be remediated. The results of under-testing limit the legislative bodies in the allocation of resources to resolutions of the problem of lead poisoning in children.

Lead health effects have been a part of human history for at least two millennia. During this history the health effects have been identified with some attempts at correction. The next section devotes itself to the first research question: What are barriers to the eradication of lead poisoning in Connecticut?

Barriers to the Eradication Childhood Lead Poisoning

The barriers to the eradication of lead poisoning are significant including existing infrastructure and continued issues in having lead-safe housing, limited public awareness, occupational exposure and inadequate regulations, enforcement, limited access to healthcare, imported goods, incomplete risk assessments, cultural practices and traditional remedies, limited research funding, and policy challenges.

Blood Level Testing

A major barrier is lead blood level (LBL) testing between the ages of zero to 72 months. In the United States, according to data from the CDC (2010), 18 million children are eligible to be tested for lead. Approximately 3.3 million get tested. In Connecticut, approximately 217,000 are eligible to be tested and only about 30% get tested as published by the Connecticut State Department of Health website. The testing statistic varies slightly from state to state for the states who report the data to the CDC (See Appendices A1–A12).

The current process for identifying lead poisoning in children in Connecticut depends on pediatricians and primary care doctors to assess and advise lead risk from parent information to make recommendations for testing. The system depends on the physicians to make an assessment based on the information from the parents. Parents may not be aware of lead in the home and the dangers associated with it. The physician can only act upon the information provided. Without testing for lead blood levels, the disease remains untreated for the children at risk in Connecticut, and environmental remediation does not happen. The lack of comprehensive testing and surveillance systems for lead blood levels understates the problem and perpetuates the risk for children in inner cities in states like Connecticut.

Lead-Based Paint and Products

One of the most significant barriers to the eradication of lead poisoning is the lead-based paint peeling in old buildings. Dignam et al. (2019) writes:

> Use of lead in paint in the United States expanded in the early 1900s, when the paint industry burgeoned, and the first pigments produced on a large commercial scale were made of lead. For many years, white lead was the principal opaque pigment used for interior and exterior paints and, on average, interior paints used before 1940 contained about 50% lead. (p. 4)

Lead-based paint was banned from use in 1978 (Mayans, 2019). Over 87% of homes built before 1940 contained lead paint. The EPA (2022c) reported that during 1940 to 1959 the lead prevalence in homes was around 69%. Today in low socio-economic neighborhoods with old housing built before 1978, peeling lead-based paint is a major risk for young children who ingest and become lead poisoned. This reality is a significant barrier in Connecticut because over 55% of the homes were built before 1950 (CHFA, 2023).

Lead made products are another barrier to the eradication of lead poisoning in children. Lead has been used widely in the United States and Europe to make pipes for drinking water, paint for houses, and appliances for homes. Lead is found in ceramics, plumbing materials, batteries, ammunition, cosmetics, stained glass, refining furniture, and lined tanks that hold erosive liquid, imported toys, and imported candy (CDC, 2022). The wide use of lead is itself a barrier to the eradication of lead poisoning (Mayans, 2019). These products are still in use throughout the United States, including in Connecticut.

Lead is also found in some spices and certain foods that come from outside the United States. Additionally, lead is found in dust containing lead from renovations, water contaminated by lead leaching from pipes, solder, valves, and fixtures (Mayans, 2019).

Limited Public Awareness

Lack of public knowledge about lead poisoning and its effects is another barrier for the eradication of childhood lead poisoning. Households in Connecticut are not always aware of the effects of the lead levels and are often unaware of the impact on the brain of young children. The Environmental Protection Agency (EPA) is conducting community education across the country to educate the public on lead poisoning and other environmental toxins including Connecticut (EPA, 2024).

Barriers to the eradication of lead poisoning are rooted in human history, cultural differences, limited awareness, and the shear prevalence of lead in a vast array of products and applications. These barriers to blood lead testing based on lack of knowledge, access to positive health care, and trust concerns in communities most exposed. These areas require focus to decrease exposure. Providing culturally appropriate education in a dignified manner to the general community with a focus on areas with high exposure to lead poisoning is necessary for

prevention. Law makers have the power to be the change and not turn a blind eye to communities on the margins.

Contaminated Workplaces and Sites

Unprotected workplace exposure is another barrier to the eradication of lead poisoning. The Agency for Toxic Substances and Disease (ATSDR, 2023b) describes the mode of transmission of lead. It is common for workers to bring the lead dust home from the factory on their clothing. Often adults are not aware of the hazards and embrace their family while wearing lead dust covered clothing. Children who inhale the same level of lead dust as adults will experience a greater impact on the lungs. Also, it is important to note that because of the height of young children, they will be exposed to a greater level of saturation as the dust hovers in the air as noted by Flynn et al. (2000), Connecticut has four munitions factory operations in the state. The state also owned public shooting ranges where lead dust can attach to clothing Connecticut Department of Energy & Environmental Protection, 2024). There are also many unregulated backyard gun ranges across less densely populated towns in Connecticut.

The lead dust can also be absorbed into the eyes (Hauptman et al., 2017). An example of a workplace lead would be from employees of ammunitions factories. Lead dust stays on the clothing and transfers to the home environment and exposes children. Lead dust in the air is absorbed at higher levels in children because of their pulmonary physiology. Children have higher respiratory rates than adults at 400 ml/min/kg versus 150 ml/min/kg in adults. (Flynn et al., 2000). In other words, children take more breaths per minute than adults (Mosley, 2018) and therefore, if exposed to lead dust, would absorb more in the respiratory tract than adults.

Contaminated soil is also found in the inner city from old leaded gasoline stations that were not remediated for the lead content in the soil. When gas went unleaded in the 1970s and

1980s, many of the old leaded gas stations' land and soil remained unremedied. Since lead particles do not biodegrade (Ebrahimi et al., 2020), the problem of exposure persists. Those gasoline sites coupled with contamination from waste dumps in and around high-risk communities pose ongoing dangers to lead poisoning and other diseases in the United States and in states like Connecticut.

Barriers of Greatest Concern

There are many barriers to the eradication of lead poisoning in children in Connecticut, but the most critical are the following. Current data from CDC and the Connecticut State Department of Public Health identifies a gap in the eligibility of children who can be tested, and the number of children tested. Due to limited testing, resources are not applied as needed to the problem. The most significant cause of lead poisoning is the peeling paint in old homes. In Connecticut, over 55% of the housing stock was built before 1950 (CHFA, 2023). Many of the older homes that have not been remediated are in the inner cities which have the highest incidence of lead poisoning (See Appendix B1–B8).

Another serious barrier is the lack or limited enforcement to property owners when the city identifies children who have been lead poisoned in their home and requested the property owners to remediate. In some cases, property owners are not compelled to act on the order from the city to remediate a property. There is also the issue of contamination related to the soil from when leaded gasoline was used. Not every gas station site was remediated. Connecticut has a state Superfund (Connecticut State Department of Energy and Environmental Protection, 2020) program to remediate contamination; however, the fund is rarely used for lead contaminated homes. Superfund sites are also known to have been used for dumping hazardous waste, including lead contaminated waste like paint.

The most severe impact to children is their homes and the fact that Connecticut has some of the oldest housing stock in the country. Clearly there are significant barriers to the eradication of lead poisoning in children. Lack of education, old lead water pipes, workplace exposure, inhaling lead dust, and other barriers, but the most impactful barrier for vulnerable at-risk children is the peeling paint that the children ingest. The peeling paint ingested poisoned primarily at-risk children causing lifetime disease and irreversible neurological damage (Dignam et al., 2019).

Social Justice Issues in the Eradication of Childhood Lead Poisoning

Housing Segregation

Connecticut is one of the most racially, culturally, and segregated states in the country. Its African American and Latino populations are in the poorest parts of the state. Seventy three percent (73%) of African Americans and Latinos live in the lowest economic regions of the state compared to 26% for Whites and 36% of Asians. African Americans and Latinos live in 2% of Connecticut's land mass which means that those areas are the most densely populated (Boggs, 2017). In Connecticut, the areas with the highest populations of lead poisoning are in the dense inner cities of Bridgeport, Waterbury, Hartford, and Meriden. The children in these cities make up 49% of the elevated blood lead levels in Connecticut as reported by J. Cohen (2022).

One of the tools of housing segregation and poor housing options is zoning policies. In Connecticut, each town is authorized to develop and impose its own zoning rules and regulations. Certain groups of people can be excluded from living within certain communities and can do so legally by using the zoning rules and regulations. These discriminatory barriers to housing use tools like controls on private residence types, lot size requirements, floor size requirements, and others to limit nonwhite people from building and living in safe affordable

communities. This fact is corroborated by a report on the discriminatory effects of zoning laws in Connecticut by the Commission on Human Rights and Opportunities (2021).

In Connecticut, as in other states, there are laws that are supposed to protect tenants. However, the laws do not seem to be enough in Connecticut because some property owners are not inclined to invest in needed repairs (J. Cohen, 2022). In many circumstances dilapidated rental apartments are not repaired and have old peeling lead paints where children live and play in the poorest communities. Property owners sometimes refuse to repair and remediate. According to Paulson and Brown (2019), America had made significant progress in decreasing lead levels. However, communities of color and poor communities have extremely high levels of lead exposure. In these communities lead removal is not equitable. Even though the United States has come a long way, the communities of color are still decades behind when it comes to remediation of lead paint in their home. The treatment of the lead problem is not complete because the benefits have not been realized uniformly across communities (Paulson & Brown, 2019).

Despite the removal of lead from gasoline and paint in the late 1970s, ingestion of chips and dust from the continued presence of lead paint in older residences remains the primary source of lead poisoning in children. The Department of Housing and Urban Development along with American Healthy Homes completed a survey (Cox et al., 2011) and estimated that 37,058,000 housing units in the United States contain lead-based paint (LBP); this is 34.9% of all housing units. The concentration of old housing with lead is in inner cities and heavily populated areas. In Connecticut there are 1,530,197 dwelling units according to the United States Census Bureau report (2022). Hinkle (2024) did an analysis of when homes were built in Connecticut

and found that 66.6% of the dwellings were built before 1980. Therefore, the estimated number of dwellings with risk of lead exposure in Connecticut is 1,019,111.

Cleveland et al. (2008) described that low-income families have a higher prevalence of lead-based paint hazards than higher income families. Their study stated that families in government housing with government assistance have lower levels of lead levels than families without government assistance. Cleveland et al. also explained that low-income pregnant mothers who have high blood lead levels from years of exposure may expose their babies, have miscarriages, low birthweight infants, preterm births, and other birth defects.

Inner City Contamination and Lead Pipes

Cabrera (2021) describes major sources of lead in soil in the United States, including gas stations located in inner cities where leaded gasoline contaminated the soil. Lead does not biodegrade (Monks, 2021). The toxin goes into the air and then falls back down to the soil. Some areas have been contaminated by decades-old leaded gasoline stations. Soil can be tracked into houses and end up on the hands and toys of children. Lead contamination in soil can be found in all states but it is most heavily concentrated in places with heavy vehicular traffic during the leaded gasoline days in the inner cities. Connecticut is no different than other states regarding lead contamination, particularly in the inner cities such as Bridgeport, New Haven, and Hartford.

Inner cities have one thing in common: poor people of color living in old housing. This is at the heart of lead poisoning's role as a social justice issue. Both in Connecticut and nationally, some towns have made the news about lead toxins, such as in the Flint, Michigan water supply. Flint, Michigan is not an isolated example of lead poisoning. According to Yglesias (2016), the problem is much more prevalent than realized. Children in cities in America are being exposed to

hazardous levels of toxic lead daily. Cobb et al. (2006) reported that New Orleans' inner city, where children play, soil analysis results showed high lead levels.

Yglesias (2016) describes lead contaminations in cities around the country that concurs with Cleveland's statement about low-income families. This article points out that there is limited research regarding specific issues with lead contamination in cities. In New Orleans, Tulane's Howard Mielke identified that urban and rural cities with low-income people of color still live in lead hazardous housing. Flint, Michigan's water source poisoned children and families when the water source was switched without environmental testing of the new water source. In Flint, the incidence of lead contamination in the blood of children under five had doubled since the switch to Lake Huron water supplies where the Flint water supply was rerouted. Yglesias (2016) notes that the problem is much more prevalent than realized. Children in cities in America are being exposed to hazardous levels of toxic lead daily. In the state of Connecticut, the Department of Public Health has published maps that clearly identified the lead impacts on communities of color in the inner cities (See Appendices B1–B8).

The system of regulations in this country is complex and requires resources to change the laws in favor of people who are being oppressed. In the context of this work, the issue surrounds environmental oppression. Funding is needed to remediate lead poisoning in communities. While states like Connecticut can begin to address injustices, as with the maps mentioned above and in Appendix B, a great deal depends on national policies. The Environmental Protection Agency (EPA) calculated resources using a cost-based analysis framework which limits funding to support poor communities. In other words, the cost-based analysis does not take into consideration long term health risk and does not add funding for such risk. The environmental impact of lead causes severe neurological risk to health. In some situations, such calculations are

challenged. In an article by Chen (2023), it is noted “the Ninth Circuit, in A Community Voice v. EPA, held that the threshold for identifying risks from lead paint must be strictly based on health-based standards, without considerations of cost” (p. 437). The ruling did not address the problem entirely but challenged the EPA to improve the process to address health risk. Connecticut could consider writing policies that will allow the funding to address health outcomes as a priority metric in spending related the environmental hazards.

Poor Children as the Front Line

There is significant scientific data on the harmful impact of lead on children. As a society we have had this knowledge for decades, yet we continue to allow this unrelenting attack on poor children who are already burdened with the social drivers of their daily lives. In a recent publication by Benfer et al. (2020) the author states:

> Unable to justify the costs associated with lead elimination, federal and local governments settled on reactive approaches that fall short of prevention. As a result, and despite undisputed scientific evidence of lead’s toxicity and widespread knowledge about how to eliminate the hazard, current public policy. follows a predominately “wait and see” approach, in which children are biologic monitors for lead hazards. (p. 150)

Children are being used to monitor a disease that has been created by mankind for economic gain. These children and their family should be able to rely on the laws and regulations for protection.

Yet, poor families in Connecticut may not even know testing is available to them, especially families with young children who would benefit the most. Young children are the most susceptible to lead. They drink more water and breathe more air per unit of body weight,

and they often play on floors and engage in hand-to-mouth behavior, elevating their risk of inhaling or ingesting leaded paint and soil (Hauptman et al., 2017). After lead enters the body, it is absorbed more efficiently by infants and toddlers than by older children and adults. Lead poisoning then causes irreversible neurological damage to the developing brains of children. Lead contamination in disadvantaged communities places their youngest children at the greatest risk.

In research done by Wodtke et al. (2022), the authors discussed a correlation between learning in disadvantaged, poor, dilapidated neighborhoods, and lead contamination. The study examined children from birth to elementary school. The study was longitudinal and reviewed vocabulary skills and found correlations with lead as a neurotoxin. The study found reduced vocabulary ability during early childhood due to lead contamination in these neighborhoods. In Connecticut seventy three percent (73%) of African Americans and Latinos live in the lowest economic regions of the state compared to 26% for Whites and 36% of Asians. African Americans and Latinos live in 2% of Connecticut's land mass which means that those areas are the most densely populated (Boggs, 2017). The most densely populated inner city has the most elevated lead levels.

Concentration of Contamination in Disadvantaged Communities

Elliot and Frickel (2013) discussed that regulators and businesses over decades have placed factories and dumps in poor neighborhoods, creating noxious infrastructure. Politicians are often not concerned because the community residents lack the political understanding and time to mount a defense against environmental injustice. The community members are usually the ones working in the factories and landfills. According to the authors, the power brokers have selected sites in or near communities with many poor and minority residents because such

communities are not well equipped to garner support to oppose. Consequently, the road of minimal political conflict often leads to low-income, racially, and ethnically segregated neighborhoods. Often individuals in disadvantaged communities lack the resources on how to redirect political decisions.

In Connecticut there are several hazardous waste locations operated by the Connecticut State Department of Energy and Environment Protection. Most of the sites operate in or near cities. The communities are not able to mobilize and mount a defense to impact legislative decision about the health of the community. This is true for many issues impacting the health of neighborhoods and the environment which is a very real threat for lead poisoning in children. Connecticut's system of water pipes was constructed in the 1800s using lead pipes, the housing built using lead paint before the ban and with limited enforcement by the legislative body to enact change by directing resources to address the problem block by block in every city and rural community.

Connecticut has blighted housing in all its major cities that have the highest risk of lead poisoning in children; New Haven, Bridgeport, and Hartford to name a few. Investment in new or refurbished housing is very limited due to the low economic base of the communities to afford new or refurbished homes. Lop-sided configurations of housing ventures prompt environmental inequalities. A stable flow of capital into the local housing stock is important for reducing health risks because older and dilapidated housing are more likely to have been constructed with harmful materials such as leaded paint and will most likely expose the residents. Historically, redlining, which was government restriction on lending to Black and Brown communities, has restricted housing investments in low-income and minority neighborhoods, creating

environmental harm. Today, market forces work together with more elusive prejudices to produce similar outcomes (Fortner et al., 2022).

Connecticut has some of the oldest housing stock in the country. Approximately 66.6% of the housing was built before 1980, almost entirely before the 1978 ban on lead paint in the United States. Connecticut has a population of 3,800,000 with an estimate of 1,539,199 total dwellings (United States Census Bureau, 2022). Of the total dwellings, an estimate of 889,035 are rentals. Twenty-four percent (24%) of white households rent their homes, in contrast to 61% of Black and 66% of Latino households. Half the state's rental households are cost burdened (which refers to families who spend more than 30% of their income on housing). More than a third of households with very low incomes have a member with a disability (Walker et al., 2021). The children that live in these dwellings are at risk for lead poisoning. Lead poisoning is a social justice challenge because it clearly intersects with race, socio-economic status, and the distribution of power, resources, and convenience for the dominant racial and socio-economic entities.

Overall, there are several social justice issues that require solutions. Most of the areas with a high risk of lead poisoning are densely populated. In Connecticut the high-risk population takes up 2% of the population land mass. In Connecticut, 66% of the housing stock was built before 1980 and lead paint was banned just two years before in 1978. Lead in the soil from prior manufacturing and distribution of lead products such as leaded gasoline remain in the soil and transfers to vegetation. High risk mothers with high lead levels can result in low birth weight and miscarriages. Politicians limit their concern because these communities cannot launch a significant rebuttal to the injustice. The list goes on; however, an overarching impact is the lack of economic investment in these communities to remediate and reclaim community.

Solutions for the Eradication of Lead Poisoning

The solutions for lead poisoning prevention are related to the barriers and social justice issues that perpetuate the problem of lead poisoning in children. As with any major issue, responsibilities must be defined with the proper authority to execute the necessary actions. In Connecticut, statute and regulations (See Appendix C) have been promulgated but enforcement of those regulations is lacking.

It is very important to develop teams to enforce the laws related to lead poisoning. Property owners must be held accountable economically for the remediation. There are laws to protect tenants, there are laws for buyers, but it is not working. An examination of why the laws and corrective action is necessary must consider the value of human life. According to Din and Chen (2024), Connecticut implemented revised rules in housing laws to support tenants with added vouchers, but the new rules did not include remediation of lead from the home environment.

Property owners in Connecticut have legal mechanisms by which they can rent run-down properties, collect rents, and avoid any reports. According to Horner (2019), whose work is published in the *Yale Law and Policy Review*, property owners can create Limited Liability Companies (LLCs) under which they buy properties. The landlords are purchasing these run-down properties as investments. The city and towns write orders and fines for repairs based on tenant complaints. The property owner can simply walk away from the property without consequences. These run-down properties become blighted neighborhoods which further reduces

the affordable housing stock in cities in Connecticut. The current legal language and enforcement is not adequate and must be addressed.

The Department of Health in Connecticut has a unit that is dedicated to the reporting and surveillance of lead poisoned children which are then submitted to the CDC. The CDC provides some funding for surveillance data, but the limited funds are not to provide remediation (See Appendix B). The DPH also posts information on the DPH website to educate the community. Unfortunately, it is unlikely that the individuals who are at risk are checking the website for information. However, community influencer voices can play a role in education and in building trust.

Another solution rests with our Connecticut State Department of Education (n.d.). Schools in Connecticut identify lead testing as a guideline for entering elementary school; however, those guidelines are not enforced and are not a priority. Connecticut schools are empowered to require certain medical information regarding vaccines. The same can apply for testing for lead. The school district does have lead testing as one of the guidelines, but there is no enforcement of the guidelines. Surveillance testing, if enforced, will allow for a better estimation of risk. The surveillance should be, at minimum, in the inner cities within the high-risk lead environments that affect the children.

One of the advantages of surveillance testing is that it will provide the state of Connecticut's legislative body with the data to develop a true assessment analysis of the lead poisoning problem in Connecticut. The data would provide the opportunity for the legislative body to deploy the budget necessary to begin to address the problem; the low level of testing that currently exists hides the problem. As part of this effort, housing officers can be deployed to check all homes that are at risk for lead poisoning, like what New York City has put in place to

address lead poisoning in children (New York City Housing Authority, 2019). The high-risk cities for lead poisoning in Connecticut are identified by maps (see Appendix B).

In 2023, the governor of the state of Connecticut established a multi-agency task force to address the lead poisoning problem. The committee was chaired by the Commissioner of Public Health. The committee members included a cross section of agencies including the Department of Public Health, Department of Education, Department of Energy and Environment Protection, Department of Early Childhood, and Department of Social Services. The committee also included local hospital leadership, local university faculty, federally qualified health centers, and other health organizations in the community. The community outside the committee was asked to comment and the meeting minutes were made available to the public.

The governors also budgeted $30 million dollars toward remediation of homes with lead where children have been harmed. At this point, it is unclear how the funding is being deployed and what measurements are in place to measure results. A report was submitted to the legislative body with a recommendation that was similar to the legislation passed in the 2023 Connecticut legislative session (see Appendix C). There is a collection of national and regional work that could be added to the current processes in Connecticut for the remediation of lead poisoning in children.

National Leadership and Model Work in Other Regions

PEW Health Impact Report

National reports and policies can provide funding and guidance for future work in Connecticut. In 2016, The PEW Charitable Trust and the Robert Wood Johnson Foundation collaborated on a Health Impact report on childhood lead poisoning. The report assessed

high-risk communities and provided recommendations and solutions for childhood lead exposure for consideration for federal, state, and local governments (CDC, 2022).

The following are some of the recommendations from the PEW report. The EPA is currently responding to the removal of lead service lines (LSL) and the development of a comprehensive approach towards federal, state, and local resources. Prioritized removal where children spend the most time, at school and at home, is recommended. All homes' water supply should be tested in coordination with an action plan from EPA for removal of lead pipes. EPA and HUD should coordinate to remove lead paint and lead pipes from low-income housing. State and local governments should obligate developers to conduct full lead service line replacement when a structure is sold, demolished, or rebuilt. Funding from HUD should be increased for replacement of windows coated with lead paint, fix peeling paint, clean up contaminated dust, and treat toxic soil outside homes of low-income families built before 1960, while ensuring that the homes remain affordable (CDC, 2022).

President Biden's Bipartisan Infrastructure Bill Lead Remediation Component

Recent national policy has opened new potential funding for remediation in Connecticut. The Bipartisan Infrastructure Law from the Biden-Harris Administration has budgeted millions toward the removal of lead service lines for potable water according to Bielenberg et al. (2022). President Biden signed the bill on November 15, 2021, and appropriated drinking water infrastructure funding for states for 2022–2026. The Bipartisan Infrastructure Law (BIL) emphasized revision of Health Equity Disadvantaged Community Assistance Program (HEDCAP). The BIL requires that disadvantaged communities benefit equitably. The BIL is focused heavily on lead service line replacement. Water companies are to submit the list of lead service lines for the areas they provide service to and submit plans for the removal of the lead

service lines by 2026. Connecticut received $148 million dollars to remove the lead service lines. Connecticut, like other states, has thousands of lead service lines. To remove and replace one line is estimated at $100,000; so, the funding will not be sufficient to cover the entire state. It is also unlikely that the funding will be used primarily for the areas that are at highest risk for lead poisoning.

Centers for Disease Control and Prevention

The CDC continues to be one of the main sources of data and surveillance for understanding the scope and impact of lead poisoning in Connecticut. The Centers for Disease Control and Prevention (CDC, 2022) recommends medical and environmental follow up for children with resulting lead levels 3.5 mcg/dL. The recommendations validate neurological research that clearly established that lead's effects occur at far lower levels than 3.5 mcg/dL. The CDC analyses of the surveillance data is posted on the CDC website. CDC receives approximately four million blood lead test results annually. CDC counts all tests and collects data for the age range of birth to 72 months. There are approximately 25 million children between the ages of zero to five years old in the United States. The four million tests include all the children's test results from states who reported to the CDC and provide a key metric for Connecticut (see Appendix A).

HUD (U.S. Housing and Urban Development)

HUD collects important national data about lead and housing, which is particularly relevant to Connecticut due to the aging housing stock discussed earlier. According to Jacobs and Brown (2023), over the last 50 years there has been significant decreases in blood lead levels. However, high blood lead levels are still disproportionately affecting the poor and people of color. In a survey done by HUD to include data from 1999 to 2019, the measurement of

homes with lead paint changed from 40% to 29%, representing a total of 38 to 35 million housing units. However, review of the data demonstrated that 4.6 million additional homes had dangerous levels of lead as the structures age. In other words, the percentage of homes in poverty (annual income <$30,000 to $35,000) with lead paint declined from 40% to 33% between 1999 and 2019, but lower-income households, like those mentioned in the social justice section above, still were significantly more likely to have lead paint. In short, lead paint deterioration is worsening in poor dilapidated neighborhoods and disparities remain pronounced (Jacobs & Brown, 2023). Connecticut's high proportion of these neighborhoods make this a particular concern.

Researcher Advocacy

When lead contamination has come to light, it has often been due to people raising the alarm rather than government remediation policies. The Flint Michigan water supply was contaminated with high levels of lead for years and caused irreversible damage to the entire community of Flint. Dr. Hanna-Attisha, pediatrician, challenged the medical community to prove lead was poisoning the water in Flint, Michigan (Carroll, 2020). In 2020, Dr. Hanna-Attisha was noted in *USA Today* as one of the Women of the Century. Dr. Hanna-Attisha refused to wait for years of study to prove that innocent young poor children were being lead poisoned by Flint, Michigan's public water supply. In 2015 she went public and was criticized widely, but the issue of lead in Flint's water became nationally known and may have spurred some of the Biden Administration's choice to include lead remediation in the BIL as mentioned previously.

The California Childhood Lead Poisoning Prevention Branch

Connecticut's department of health can also look to successful efforts in other states. California's Department of Public Health (CDPH) has identified high risk areas for testing and

ordered property owners to remove lead from owner property. The health department has adopted the residential lead paint rule and certification program from the Environmental Protection Agency (EPA). The California Board of Equalization (BOE) charges a fee to manufacturers of lead products. That fee goes back to the budget for prevention. The Consumer Protection Agency in California is charged with reporting products with lead to consumers annually.

California was also the first to put a law in place to limit lead in candy and other products (Looney et al., 2006). Among the many laws California put in place of great significance was the decrease of lead from wheel weights, used to balance tires, decreased lead in brakes in cars, and lead-free ammunitions for hunting. In California, efforts yielded a significant decrease in overall lead blood levels (PEW, 2017).

NYC Lead Standards

The New York City Department of Housing Preservation and Development (HPD) is working to continue to safeguard children from the perils of lead-based paint. On December 1, 2021, the standard that outlined paint as lead-based was reduced further by 50% in New York City. The new rules and regulations are the most stringent standard in the United States. New York Housing Preservation and Development inspectors will continue to identify buildings that are at risk for lead poisoning. Property owners will have the opportunity to be proactive and protect the children. *Lead Free NYC* is an interagency plan with a mission to end childhood lead exposure (New York City Housing Preservation & Development, 2021). Additionally, a principal investigator, Sara Egendorf, at the City University of New York (CUNY) developed a multi-scalar system to decrease exposure to lead in soil. Egendorf is rehabilitating the soil and creating new soil with the New York City Clean Soil Bank (Egendorf et al., 2021).

Challenges for Connecticut Looking Forward

Lead poisoning prevention requires a comprehensive plan. Although the solutions discussed above are valuable individually, the patchwork of various laws and the lack of enforcement is causing unnecessary harm. An article by Benfer et al. (2020) states, “Unlike most public health issues, which can be addressed by regulating the source of harm, lead poisoning cannot be eliminated through the regulation of lead and lead-based paint alone” (p. 150).

As mentioned in the barriers section above, lead is ubiquitous and lead particles have saturated the neighborhoods of populations of color and poor persons in rural Connecticut like in other parts of the country. Some issues are being addressed, such as lead in our water system, where the Biden administration has budgeted and deployed funds to begin to address the old pipelines. The EPA has made great progress with the Biden administration infrastructure plan to fund the removal of lead pipes all over the country. Connecticut received $148 million out of the $15 billion budgeted for the country. The cost of removal in Connecticut will surpass the $148 million received over the next five years. Many issues need more attention in Connecticut, such as the regulations for property owners that have not been successfully deployed leaving children at risk.

Connecticut has some of the oldest housing stock in United states which is the primary conduit to lead poisoning in children, so remediating the old housing stock is a significant pathway necessary to prevent lead poisoning in vulnerable children. There are efforts from local experts in Connecticut and other regional and national organizations; however, it is not enough to address the severity of the problem of lead poisoning in children, especially in Connecticut. There is still work to be done, particularly in the old housing with peeling paint where children live, play, and continue to be lead poisoned. The high-risk inner cities have been at risk for

decades and progress is very slow. Appendix B contains maps representing Connecticut high risk lead communities. These areas are consistently the same year after year, highlighting the social justice issues inherent in this problem.

The literature review outlined the problem of lead poisoning in children, particularly in Connecticut. There are barriers and social justice issues, but there are also solutions happening from a national, regional, and local level to address LPIC. The actions so far are insufficient to eradicate LPIC in children. The 16 interview participants provided further insight for additional solutions for the eradication of LPIC in Connecticut.

CHAPTER III: METHODOLOGY

Childhood lead poisoning is a silent epidemic in the state of Connecticut (Hartford Healthcare, 2022). Childhood lead poisoning causes neurological brain damage and causes lifelong medical problems diminishing quality of life (CDC, 2023). The researcher has three research questions, which were investigated from the perspective of working professionals in Connecticut:

1. What are barriers to the eradication of childhood lead poisoning in Connecticut?
2. What are social justice issues surrounding childhood lead poisoning in Connecticut?
3. What are solutions to eradicate childhood lead poisoning in children in Connecticut?

Research Design and Paradigm

The study is based on qualitative research design (Creswell & Creswell, 2018). The research paradigm is based on critical theory. The researcher used critical theory philosophy to highlight the paradigmatic characteristics and implications for the solutions to eradicating childhood lead poisoning in Connecticut. This research is focused on critical theory as the methods which highlight humanity and social philosophy. Critical theory endeavors to reveal and challenge power structures. The circumstances around the tragedy of childhood lead poisoning express societies disregard for the lifelong disease impacting vulnerable populations.

To evaluate the paradigmatic characteristics and implications of childhood lead poisoning, the researcher examined the perspectives and insights of 16 working professionals in related fields. The research is rooted in a paradigm that is a well-suited methodology to unmask the issues of power and social control in the marginalization of vulnerable populations. The critical theory approach also points to the social problems and social structures in our society. In reviewing the 16 responses, it was clear that the participants were able to articulate significant

issues related to power culture in Connecticut. According to Paradis-Gagné and Pariseau-Legault (2022), the use of critical approaches can expose the epistemic injustice, social, and health inequality that continues to prevail in our society. The researcher analyzed the data under the lens of critical theory.

Research Type: Qualitative Inductive Research

The researcher used an inductive approach for analysis of qualitative interviews data. The inductive approach provided a clear systematic methodology to review the responses. According to Thomas (2006), this method allowed the researcher to create a summary from the raw text. The method supported the creation of clear links to evaluate the research questions. Finally, the method helped develop a framework to understand the underlying construct of experiences or practices that are distinct in the raw responses. This inductive approach provided an easily used and systematic set of procedures for analyzing the qualitative responses to produce dependable and valid findings. It was a straightforward way to come up with findings from the specific questions. This method allows the researcher to have a structured review of collected responses.

Time for Study and Cross-Sectional Elements

This study was cross-sectional. According to Wang and Cheng (2020), cross-sectional studies are observational studies that analyze data from a population at a single point in time. The researcher chose a cross-sectional method as it was appropriate to the time, funding, and other resources available, as compared to longitudinal studies which provide population-level details but also are more involved than can be completed by a single researcher. Usually, longitudinal studies are done by large well-funded entities. Typically, they involve years of study and require significantly more participants with a completely difference research design tool. This is a study to collect data at one point in time and analyze the results, for which a

cross-sectional approach was most appropriate. The study allowed for an understanding of the community perspectives on barriers, social justice issues, and solutions for lead poisoning prevention for children in Connecticut.

Research Strategy and Method

The researcher used qualitative design interviews as the research method. The researcher used a convenience sample. As a health professional, the researcher is engaged in public service and was able to contact participants based on professional association. The participants were contacted by phone and email. The participants were provided with a participant introductory letter (Appendix B). The participants also received a consent form letter which was reviewed by the researcher and participant to allow full disclosure of the research for the participant before the consent was signed (Appendix C). The interviews were held privately with one participant at a time. The interviews were semi-structured with open-ended questions to allow the participants to express as much information as they could regarding the research questions. This approach allowed the participants to explain in detail their capacity, experience, and knowledge of childhood lead poisoning and LPIC's impacts on their lives and their community (Appendix D).

The structure of interviews allowed the participants to provide detailed answers regarding their professional experience and expertise along with their thoughts on barriers, social justice issues, and solutions related to lead poisoning in children in Connecticut. The interviews were in person in a location chosen by the participants, a secure environment of their choosing. This approach allowed for the participants to build a sense of trust and to clearly understand the researcher's desire to understand the barriers, social justice, and solutions for the eradication of childhood lead poisoning in Connecticut. The structured questions shared across the spectrum of participants allowed for generalization to some of the research questions. The researcher

interviewed teachers, health directors, politicians, health directors, physicians, social workers, and scientists. The participants received a minimal $25 compensation to cover their time and participation costs as approved in the Institutional Review Board (IRB) application.

The researcher developed questions for the interview from the literature review. There were three sets of questionnaires, with questions separated into the three categories of professionals to be interviewed: teachers, medical professionals, and community members. Each questionnaire had a section of questions that were the same for all participants. The second questionnaire for medical doctors had additional questions that only a practicing physician should answer, and the third questionnaire had additional questions designed for qualified teachers. Although all three interview questionnaires had the same basic questions, the addition of a few questions specific to professions with particular knowledge allowed the researcher to collect information specific to their role, which is in line with the research question focus on identifying the perspectives of working professionals.

Sampling Strategy and Participants

The researcher used a convenience sample (Creswell & Creswell, 2018). The convenience sample allowed the researcher to identify individuals who work with children, for example, teachers, social workers, and doctors who provide medical care to children with lead poisoning. The convenience sample included individual's representative of all regions of the state to address geographical coverage which included both inner cities and rural towns. The researcher also interviewed local health directors who provide environmental inspections to identify the source of lead poisoning. The convenience sample was necessary because Connecticut has limited medical specialists who specifically address the medical care of children who are lead poisoned. The researcher was able to get ready access to the participants because of

her public health partnerships in Connecticut both from her university training in Connecticut and public service with health care delivery services in Connecticut communities and as a state official in public health. These relationships were formed by the researcher over a 20-year period.

The researcher interviewed 16 participants from urban and suburban towns in Connecticut. The participants included teachers, health directors, politicians, medical doctors, social workers, and scientists. All participants work and live in Connecticut. Teachers interviewed in this study had from 16 to 35 years' experience in elementary schools. Teachers who had retired were given the choice to choose the teacher questions or the community questions. The participants received a consent form. The researcher explained the consent form and asked the participants for their signature before proceeding with the interview. The researcher explained that the interview is confidential and that there has been IRB approval. The consent form described that the information would be kept confidential, and any information would be de-identified in the analysis for future publications.

Data Collection

The participants were assured that the interview could be stopped at any time if the participants no longer wanted to participate. For confidentiality reasons, only the participants' general roles and experience in the field were collected; other demographic data was not collected to maintain anonymity. The interviews were recorded using a manual recorder placed on the Table in front of the participant. The recorded conversation was then transcribed on a computer using the Microsoft Word feature for dictation.

Analysis of Data

The data was coded into the three research question categories: barriers, social justice issues, and solutions. The researcher collected a large volume of data due to the nature of the questions. Due to the voluminous amount of data, the researcher followed the recommendation from Saldana (2013) and developed new or hybrid coding methods. The researcher customized the data to suit the unique needs and disciplinary concerns of the study. To protect the anonymity of the participants the researcher created a unique alpha-numeric code for each survey that was kept in a confidential file and removed any heading that may provide any mechanism for identification. The researcher reviewed each survey questionnaire for the research question on barriers, social justice, and solutions by all the different participants.

In reviewing the data, the following assumptions were made: (a) a barrier was identified when a participant defined a barrier in their response and the researcher also reviewed for barriers such as regulations, lack of knowledge and any process that prevented the eradication of lead poisoning in children in Connecticut, (b) social justice issues were identified based on social justice impacts that resulted from barriers and environmental injustice resulting from exposure to lead particulates, and (c) solutions were identified from participants' direct responses from the interviews.

The results of the review allowed the researcher to identify the themes among each participant for barriers, social justice, and solutions. The interview transcriptions are in Appendix E. The wording of the interviews remains as was stated by the participants.

CHAPTER IV: FINDINGS

The interview questions for the study's 16 participants were detailed and provided an opportunity for substantial discussion. The following findings address the research questions regarding barriers, social justice issues, and solutions by critically considering the perspectives of the 16 interview participants. The findings are summarized in tables. There are four tables, one for each of the three research questions and a summary. The tables are presented as Table 1, Table 2, Table 3, and Table 4. The tables are set up with the professions of the interviewees across the top with the research questions answered below by category.

Table 1

Table 1 identifies substantive instances of interviewees addressing barriers to the eradication of lead poisoning in children in the state of Connecticut. These represent 113 instances, with some other non-substantive responses (e.g., "education" as a whole response) omitted for clarity. All responses come from the one-on-one confidential interviews held by the researcher with teachers, health directors, politicians, medical doctors, social workers, and a scientist, regarding lead poisoning in children in the state of Connecticut, and using the respective questionnaires in Appendix E.

Table 1 highlights what the interviewees understood to be the barriers to the prevention of lead poisoning in children in Connecticut and organizes those responses by the general category of barrier being discussed to align them with the literature review and inform the recommendations in the next chapter. Lead poisoning in children is abbreviated as LPIC. The table shows short quotes taken directly out of the interviews, organized first by category of barrier and then by category of interviewee. Full interview text and questions asked can be found in Appendix E.

Table 1

Barriers to the Eradication of Childhood Lead Poisoning in Connecticut

Barrier Category	Relevant Quote	Respondent Group
Professional Training	Lack of information provided with building construction permits	Health Directors
Professional Training	Lack of knowledge of the proper way to eliminate lead. Some people were simply sanding down windows and walls with no protection of themselves or the property and spread lead dust in and out the house	Politicians
Professional Training	Inspectors usually do not do a great job in educating families. It may not be in their job description	Social Workers
Professional Training	Inspectors do not usually provide an explanation of their report to the families.	Social Workers
Physician Training	The pediatricians of today may not have done residencies in the seventies and eighties when there was a big push to remediate lead	Medical Doctors
Physician Training	Physicians do not take the time to explain as is needed	Medical Doctors
Physician Training	Lead poisoning prevention is not part of the medical school curriculum	Medical Doctors
Physician Training	There are silos of care between local health and the physician	Social Workers
Physician Training	Gaps between test being ordered and families going for the test	Medical Doctors
Physician Training	Under screening	Social Workers

Barrier Category	Relevant Quote	Respondent Group
Physician Training	Doctors are not environmental specialist	Social Workers
Physician Training	Parents are poor historians in the exam room	Social Workers
Teacher Education	I am disappointed that I was never provided with any professional development training	Teachers
Teacher Education	Children may have been lead poisoned based on which cause negative behavior, but I did not know about LPIC	Teachers
Teacher Education	Did not know that the lead poisoning could cause permanent brain damage therefore I did not look at what could be done differently	Teachers
Public Education	Parents may not know the age of the home	Teachers
Public Education	Community clinics are not educating the people	Health Directors
Public Education	Socio economic status and social drivers of health impact health outcomes	Health Directors
Public Education	Limited prevention training for the families	Medical Doctors
General Education	I think the biggest barrier is not knowing how serious lead poisoning is in children and in my career it was mentioned casually with educators, with parents and other professionals. It was brought up randomly. I did not know it was serious until later years	Teachers
General Education	Lack of education, communication, advocacy, and enforcement	Teachers

Barrier Category	Relevant Quote	Respondent Group
General Education	The lack of education to those being affected	Teachers
General Education	The rich can also be affected because of lack of knowledge	Health Directors
General Education	Many families do not know their home has lead	Health Directors
General Education	Mechanism to reach families with young children when they begin crawling	Health Directors
General Education	Lack of awareness	Health Directors
General Education	Lack of education and lack of knowledge	Politicians
General Education	The focus has been on the parents. Blame of the victims	Politicians
General Education	The average person has limited understanding of the full scope of what is lead poisoning and the level of toxicity	Social Workers
General Education	Parents and guardians have extremely limited understanding of LPIC	Social Workers
State Responsibilities	The state shields the property owner and its part of the reason there is so much lead poisoning in the state	Health Directors
State Responsibilities	The state allows property owners to enter into limited liability status and work with banks to the point where it is difficult to know who to write the order to for correction	Health Directors
State Responsibilities	The state has laws that protect the landlord from making the necessary remediations	Health Directors

Barrier Category	Relevant Quote	Respondent Group
State Responsibilities	Tenants take landlords to court and the judge lets them go because they say they are making progress. When judges do not enforce laws these conditions continue	Health Directors
State Responsibilities	State oversight is arbitrary all towns with older housing need funds not just the inner cities.	Health Directors
State Responsibilities	Communication channels with state and local unclear	Health Directors
State Responsibilities	State policies regarding block grants exclude rural districts that have some of the highest lead levels due to focus only on inner cities	Health Directors
State Responsibilities	The wealthy can get the funds needed to add the state dollars, so they are able to get funding. The owner who struggles to make ends meet get nothing because of lack of funds to complete the job with the state portion.	Health Directors
State Responsibilities	State oversight is arbitrary all towns with older housing need funds not just the inner cities.	Health Directors
State Responsibilities	In some towns there is no money for building inspectors or public health officials	Health Directors
State Responsibilities	Monies not available for remediation	Health Directors
State Responsibilities	The building inspector is supposed to inspect the property before someone moves in. They do not inspect for lead. They only check for hot water and electricity.	Health Directors

Barrier Category	Relevant Quote	Respondent Group
State Responsibilities	Many of our lead poisoned cases come from subsidized housing which should have been inspected by the building inspector	Health Directors
State Responsibilities	There is nothing in state law that said that building inspectors need to know how to do inspections	Health Directors
State Responsibilities	There are significant shortages in public health work force with increased mandates	Health Directors
State Responsibilities	Some towns are not budgeting for addressing lead in the town budget and there is no law that said that they have to	Health Directors
State Responsibilities	There is a total disconnect with local public health enforcement and state building codes	Health Directors
State Responsibilities	Connecticut needs enforcement for landlords	Health Directors
State Responsibilities	Landlords are not held accountable	Politicians
State Responsibilities	Difficulty in identifying the slumlords	Politicians
State Responsibilities	The state is not taking legal action against the landlords who are poisoning human beings	Politicians
State Responsibilities	The city gives permits to these landlords knowing the buildings are not safe	Politicians
State Responsibilities	Lead screenings are not mandatory for home inspections	Politicians
Landlord Responsibilities	Landlords do not comply with housing laws	Teachers

Barrier Category	Relevant Quote	Respondent Group
Landlord Responsibilities	Landlords lack of disclosure of lead	Health Directors
Landlord Responsibilities	Landlords are not addressing lead in building	Health Directors
Landlord Responsibilities	We write orders to property owners where a child has an elevated blood lead level, and they cannot afford to make the changes because it cost too much	Health Directors
Landlord Responsibilities	Landlords do not care because they do not live in the community	Politicians
Landlord Responsibilities	Inspectors send letters to landlords and the landlords do not send to the tenants	Medical Doctors
Landlord Responsibilities	Landlords are absentee	Scientist
Landlord Responsibilities	Families enter properties under the misconception that the home was inspected and made safe	Health Directors
Landlord Responsibilities	Houses are not properly inspected before tenants move in	Politicians
Landlord Responsibilities	Landlords do not engage with the tenants	Scientist
Local government	Staffing for investigations	Health Directors
Local Government	The health department can send information out to school to provide for parents	Politicians
Local Government	Lack of oversight and consistent inspections	Politicians
Local Government	Lack of enforcement of ordinances	Politicians
State and Local Government	Staffing to respond to elevated blood lead levels	Health Directors

Barrier Category	Relevant Quote	Respondent Group
State and Local Government	Inconsistent enforcement if any	Social Workers
State Government	Because it is primarily affecting mostly Black and Brown children. If other than Black and Brown were being affected, we would have more action	Teachers
State Government	The government needs to step in and do the remediation and charge back the property	Teachers
State Government	The lack of resources for dilapidated housing	Teachers
State Government	Lack of accountability with landlords	Teachers
State Government	Lack of funding	Health Directors
State Government	Nobody has ownership of the problem	Politicians
State Government	Everyone does not have internet to check the state department website	Politicians
State Government	The state has no lead prevention plan	Politicians
State Government	Lack of access to resources and education	Politicians
State Government	State leaders are not hypervigilant	Politicians
State Government	There seems to be never enough staff to enforce ordinances	Politicians
State Government	Things got worse with covid. Everything was put online, and nobody is reachable in the city offices to help address issues	Politicians
State Government	The city is allowing sale of buildings for rental knowing they are not lead safe	Politicians

Barrier Category	Relevant Quote	Respondent Group
State Government	Lack of lead remediation	Politicians
State Government	Each system that addresses lead is silos. State, local health, hospitals, and clinics	Medical Doctors
State Government	Physicians do not get a report from the state letting them know how many tests was done.	Medical Doctors
State Government	Lack of a sophisticated lead tracking system	Medical Doctors
State Government	Lead is not a priority for the state. There are other environmental concerns such as Per- and Polyfluoroalkyl substances (PFAS). PFAS affects all races of people	Medical Doctors
State Government	Lack of public health announcements	Medical Doctors
State Government	Public health is underfunded	Medical Doctors
State Government	There are barriers to testing	Medical Doctors
State Government	Not enough testing/screening for lead	Medical Doctors
State Government	People cannot afford to just relocate when they find out that they have lead in the home	Social Workers
State Government	The healthy homes program in Connecticut operated by Connecticut Children's hospital is capped and often is not very helpful	Social Workers
State Government	There is no transparency on how the millions are spent on remediation. Lack of accountability	Social Workers

Barrier Category	Relevant Quote	Respondent Group
State Government	Limited transparency of how the state is spending money on lead. How is it decided whose home gets remediated	Scientist
State Government	Seventy-three percent of Connecticut's housing stock was built before 1980/High lead risk	Scientist
State Government	The kids are living in the older stock homes that are not being remediated	Scientist
State Government	Tenants cannot afford the remediation	Scientist
State Department of Health	Lead Poisoning in children is a public health crisis	Teachers
State Department of Health	There is not a lot of media attention	Teachers
State Department of Health	Lack of prevention	Health Directors
State Department of Health	The public is not being educated	Politicians
State Department of Health	Lack of medical screening	Politicians
State Department of Health	Lack of community consciousness	Medical Doctors
State Department of Insurance	Point of care testing machines are very expensive	Medical Doctors
State Department of Insurance	Testing is not economically feasible for doctors' offices	Medical Doctors
Department of Education	The health information should be sent to parents via the parent portal from the schools	Politicians
Department of Education	Lead screenings are not mandatory for children to enter school	Politicians
Department of Education	There is not enough support from the school	Social Workers

Barrier Category	Relevant Quote	Respondent Group
Department of Social Services	It is very difficult for households where both parents work sometimes day and night shift to make ends meet. That lifestyle does not lend itself to prevention	Medical Doctors
Political Leaders	Lack of community leaders organizing	Politicians
Political Leaders	Council members need to speak on these issues	Politicians
Political Leaders	Lack of advocacy, engagement and education of the public	Teachers

The interviewees all referred to lack of education, lack of resources, underscreening, and the deficiencies in the system regarding the role of landlords and property owners.

Teachers were disappointed and concerned that they were never provided with any professional development training regarding lead poisoning in children. Teachers interviewed in this study had from 16 to 35 years' experience in elementary schools. Some were acknowledged with the Teacher of the Year Award. The teachers did not know that lead poisoning in children affected mostly Black and Brown children.

Some identified that, if other than Black and Brown children that were being affected, we would have more action on remediation. The teachers did not know that LPIC causes permanent brain damage in children. The concern was that if they had knowledge the teacher and student relationship would have been channeled toward the child's capacity as opposed to outward behaviors only. The main barriers identified by the teachers were the lack of education, communication, advocacy, and enforcement in the community. Another barrier was the lack of resources for dilapidated housing and blighted neighborhoods. Another major barrier is the lack of accountability with landlords and property owners. Teachers viewed LPIC as a public health crisis. Others think the biggest barrier is not knowing the seriousness of LPIC.

While teachers see individual students in one-to-one relationships, health directors are the first line of defense for remediation. The health directors noted overall lack of awareness and the impact of low socio-economic status coupled with social drivers of health. It was interesting to mention that the rich can also be affected because of lack of knowledge. Major issues come with lack of information on building construction permits and the communication channels with state and local officials are unclear. Another barrier is that the systems are not built to have

connectivity with families at the time their children become at risk, for example, when a baby begins to crawl.

A very troubling note by one health director identified that even when a child's lead level is high, and the town local health writes the order to remediate, some landlords are unable to afford the remediation. State policies regarding block grants exclude rural districts that have some of the highest lead levels. The focus is primarily on inner cities. The reality is that the inner cities may have more volume, but the rural areas also have high lead levels which should be addressed in the same manner as the cities and be provided with resources.

There is deep concern that State oversight is arbitrary, and all towns with older housing need funds, not just the inner cities. State laws and federal laws on disclosure on lead in properties are not being followed. Many families do not know their home has lead. Families enter properties under the premise that the home was inspected and made safe. In some towns there is no money for building inspectors or public health officials to address the lead remediation. A major concern is staffing and the knowledge base of the staff. The building inspectors are supposed to inspect the property before someone moves in. In some cases, they do not inspect for lead, only heat and hot water. Many of our lead poisoned cases come from subsidized housing which should have been inspected by the building inspector.

A health director explained that there is nothing in state law that said that building inspectors need to know how to do inspections. There are significant shortages in the public health work force with increased mandates. Some towns are not budgeting for addressing lead in the town budget and there is no law that says that they shall. Landlords are not addressing lead in buildings. Tenants take landlords to court and the judge lets landlord go because landlords state that they are making progress. When judges do not enforce laws, these conditions continue.

There is a total disconnect between local public health enforcement and state building codes. The state has laws that protect the landlord from making the necessary remediations. The state allows property owners to enter limited liability status and work with banks to the point where it is difficult to know who to address the order to for correction and remediation. The state shields the property owners, and it is part of the reason there is so much lead poisoning in the state. Connecticut needs enforcement for landlords' actions. Staffing to respond to elevated blood lead levels. Staffing for investigations. In summary there is a lack of funding, lack of prevention and most egregiously, landlords are not disclosing that there is lead in their buildings.

Politicians also noted lack of education and lack of knowledge. According to some of the politicians, community clinics are not educating the people on LPIC. There clearly is a lack of medical screening. As a community we have no idea what the plans are for remediation, there is no transparency. Landlords do not care because they do not live in the community. The state is not taking legal action against the landlords who are poisoning human beings. The city gives permits to these landlords knowing the buildings are not safe.

According to a politician's response, things got worse with COVID. Everything was put online, and, in some cities, nobody was reachable in the city offices to help address issues. The city is allowing the sale of buildings for rental knowing they are not lead safe. Lack of knowledge of lead in the property on how to eliminate lead is another issue. Some people were simply sanding down windows and walls with no protection for themselves and most likely spread lead dust in and around the property.

Another politician noted that the state leaders are not hypervigilant about LPIC. The focus has been on the parents of the lead poisoned children, blaming of the victims for the children being infected with lead which is not the fault of the tenants. It is often extremely

difficult to identify the property owner and there is a lack of oversight and consistent inspections. Also, there is a lack of enforcement of ordinances. There seems to never be enough staff to enforce ordinances. Houses are not properly inspected before tenants move in. Lead screening is not mandatory for homes before signing a lease or buying a home. This is not because of lack of laws but because of lack of enforcement. Lead screening is not mandatory for children to enter school. The state has no lead prevention plan. The information should be sent to parents via the parent portal from the schools. The health department can send information out to school to provide for parents. Not everyone has internet to check the state department website. Nobody has ownership of the problem of LPIC.

Medical doctors commented that there is a general lack of community consciousness. One of the barriers is that physicians need to focus on empathy and awareness and not only physicians but all health professionals. Doctors need to take time to explain what happens with LPIC and how to prevent the disease. Lead poisoning prevention is not part of the medical school curriculum, but it should be. It is very difficult for households where both parents work sometimes day and night shift to make ends meet. That lifestyle does not lend itself to prevention. There are barriers to testing. Testing is not economically feasible for doctors' offices and there is a lack of public health announcements regarding LPIC.

A physician noted that there are other environmental concerns such as Per- and Polyfluoroalkyl substances (PFAS). PFAS affects all races of people. Gaps between test being ordered and families going for the test exist and point of care testing machines are very expensive. Physicians do not get a report from the state letting them know how many tests were done by physicians which would facilitate metric to measure performance and outcomes. There is a lack of a sophisticated lead tracking system. Inspectors send letters to landlords and the

landlords do not send it to the tenants. Each system that addresses lead exists in silos state, local health, hospitals, and clinics.

Social Workers Responses

A social worker highlighted her views on the barriers related to the silos of care between local health and the physician, inconsistent enforcement and under screening. This social worker provided her experience with the current system. This social worker explained that in her experience parents and guardians have extremely limited understanding of LPIC. Parents may not know the age of their home. The social worker further explained that doctors are not environmental specialists and parents are poor historians in the exam room.

In her experience as a social worker responding to lead poisoned children and entering the home with inspectors, she has found that inspectors do not usually provide an explanation of their report to the families. Inspectors usually do not do a great job in educating families and this may not be in their job description. Another barrier as explained by the social worker is that people cannot afford to just relocate when they find out that they have lead in the home. The average person has limited understanding of the full scope of what lead poisoning is and the level of toxicity. The social worker also discussed her experience with The Healthy Homes Program in Connecticut operated by Connecticut Children's Hospital to address homes with lead. The social worker explained that the program has financial caps and often is not very helpful. In the eyes of the social worker there is no transparency on how the millions of dollars are spent on remediation. There is a lack of accountability for the Healthy Homes Program and there is not enough support from the school.

The scientist explained that the children are living in older stock homes that are not being remediated and that tenants cannot afford the remediation. There is limited transparency of how

the state is spending money on lead. How is it decided whose home gets remediated? Seventy-three percent of Connecticut's housing stock was built before 1980 and landlords are absent; landlords do not engage with the tenants.

All the barriers provided in the responses from the participants were of importance. To say that some were more important than the others would not do justice. However, one can identify that some responses were common among the participants: (a) lack of education on the impact of lead poisoning for the community including those at risk, government, teachers, and even the medical community, (b) lack or enforcement of laws especially property owners' responsibilities, (c) lack of qualified staffing to address the problem, and (d) insufficient lead poisoning testing.

Table 2

Table 2 identifies substantive instances of interviewees addressing social justice issues related to the eradication of lead poisoning in children in the state of Connecticut. These represent 83 total instances, with some other non-substantive responses (e.g., "education" as a whole response) omitted for clarity. All responses come from the one-on-one confidential interviews held with by the researcher with teachers, health directors, politicians, medical doctors, social workers, and a scientist, regarding lead poisoning in children in the state of Connecticut, and using the respective questionnaires in Appendix E.

Table 2 highlights what the interviewees understood to be the social justice issues related to the lead poisoning in children in Connecticut and organizes those responses by the general category of issue being discussed to align them with the literature review and inform the recommendations in the next chapter. Lead poisoning in Children is abbreviated as LPIC. The table shows short quotes taken directly out of the interviews, organized first by category of social

justice and then by category of interviewee. Full interview text and questions asked can be found in Appendix E.

Table 2

Social Justice Issues related to the Eradication of Childhood Lead Poisoning in Connecticut

Social Justice Issue Category	Relevant Quote	Respondent Group
Physician Training	The children may not be in control of their actions because of LPIC	Teachers
Physician Training	The victims are blamed for the ingestion of the lead	Teachers
Physician Training	We are not educated on what is affecting us	Teachers
Physician Training	It is not just Black and Brown that are hurt its society	Teachers
Physician Training	There are social drivers that stand in the way of what is a priority for preventing lead poisoning	Politicians
Physician Training	It is certainly a crime to take away the brain of a child	Politicians
Physician Training	This is environmental racism	Medical Doctors
Physician Training	Because of the effects on poor children, it disproportionally affects Black and Brown children	Medical Doctors
Physician Training	We are responsible	Medical Doctors
Physician Training	Children are disproportionally affected	Medical Doctors
Physician Training	The disease of more influential people is often front, and center compared to the diseases of others	Medical Doctors
Physician Training	This is a serious ethical problem in our society	Medical Doctors
Physician Training	I have seen the disparity in my own life	Medical Doctors
Physician Training	There is systemic racism in our health care system	Medical Doctors

Social Justice Issue Category	Relevant Quote	Respondent Group
Physician Training	There is no question in that if this disease affected white people instead of people of color, we would have had differential investments	Medical Doctors
Physician Training	A good example, Cystic fibrosis cases are very sick children, affects mostly white, there is significant investment and support. We have the reverse for sickle cell which affects Black people and there is limited to non-existent investment and minimal support	Medical Doctors
Physician Training	Girls with lead levels of 10 micrograms per deciliter are at higher risk for teenage pregnancy	Social Workers
Physician Training	LPIC makes a child more prone to other illnesses as they get older as lead in the bone is released back into the blood stream and other damages to other organs	Social Workers
Physician Training	Children are more prone potentially as older adults to have dementia and stroke	Social Workers
Physician Training	LPIC is completely preventable	Social Workers
Physician Training	The damage to the brain is irreversible	Social Workers
Physician Training	Access to adequate healthcare	Scientist
Physician Training	Access to adequate healthcare for what is causing them harm	Scientist
General Education	Lead poisoning impacts brain development	Teachers
General Education	LPIC makes kids act out	Politicians
General Education	The children are already having problems and then they are poisoned	Medical Doctors
Teacher Education	Kids are placed in special education	Politicians
Teacher Education	Kids stop learning	Politicians

Social Justice Issue Category	Relevant Quote	Respondent Group
Teacher Education	The kids are put in behavioral classes, but behaviors do not improve	Politicians
Department of Education	Cultural biases for Black and Brown children are formed i.e., they are bad	Teachers
Department of Education	Such children are red flagged in the system and pushed out of school	Teachers
Department of Education	They are pushed into juvenile detention and prison	Teachers
Department of Education	It becomes a vicious cycle from generation to generation living in substandard housing	Teachers
Department of Education	These children are the most vulnerable of society	Teachers
Department of Education	The children are victims who are made to be perpetrators	Teachers
Department of Education	Kids are angry and misunderstood and there is never any discussion about lead poisoning	Teachers
Department of Education	The kids are moved along in the system basically the pipeline to prison	Politicians
Department of Education	Children with LP are often misunderstood because of the behavioral problems caused by the poisoning	Medical Doctors
Department of Education	Looking at the bell curve too societal IQ it shifts the bell curve backwards which means you have more children with lower IQ scores and fewer children with superior IQ scores	Social Workers
Department of Education	We are losing potential in every aspect of life	Social Workers
Department of Education	Repercussions are lifelong	Social Workers

Social Justice Issue Category	Relevant Quote	Respondent Group
Department of Education	The child goes to school is behind in reading readiness, trouble concentrating. Children are conscious of their shortcomings; it lowers self-esteem which causes behavioral issue, and they act out	Social Workers
Department of Education	Children become more impulsive later in life	Social Workers
Department of Education	LPIC causes a diminished quality of life	Social Workers
State Government	Because LPIC can be prevented	Teachers
State Government	If other than Black and Brown were being affected disproportionately there would be more action to eradicate LPIC	Teachers
State Government	The disease is affecting people through no fault of their own and who lack the resources to remediate the problem. It sets them further behind then were before	Teachers
State Government	It adds to an already marginalized life and deepens the depts of disadvantage	Teachers
State Government	It feeds on the population of children who are in Black and Brown communities	Teachers
State Government	It feeds on lower socio-economic status	Teachers
State Government	It feeds on immigrants	Teachers
State Government	It takes away a basic human right to live your best life	Teachers
State Government	When you take the position that you will not appropriately address something that is affecting children and families just because of where they live and the color of their skin it is a social justice issue	Teachers

Social Justice Issue Category	Relevant Quote	Respondent Group
State Government	It not okay to expose children to poison	Teachers
State Government	Not eradication a preventable disease with a known caused that only requires accountability is a social justice issue	Teachers
State Government	It is just not right for children to be harmed because their parents are not well off	Teachers
State Government	Children should be protected regardless of income	Teachers
State Government	It is affecting people who do not have the means to remediate	Health Directors
State Government	They are not under control or able to unsubscribe to the condition imposed upon them by people who do have the control who are the landlords	Health Directors
State Government	The children are innocent victims	Health Directors
State Government	Innocent poor children are being poisoned	Politicians
State Government	It is in communities that is already impoverished	Politicians
State Government	The housing is at substandard levels	Politicians
State Government	Because it mainly harms the marginalized	Politicians
State Government	Because it leads to more harm	Politicians
State Government	I know the behaviors do not change because of the politics. I worked for the Department of children and families for 34 years	Politicians
State Government	Children are not responsible for lead poisoning	Politicians
State Government	What gives anyone the right to take away the potential of any child?	Politicians

Social Justice Issue Category	Relevant Quote	Respondent Group
State Government	It is affecting those who are unable to afford remediation when it is no fault of their own	Politicians
State Government	These are just kids. They have no defense	Medical Doctors
State Government	They have no control over the LPIC process	Medical Doctors
State Government	It disproportionately impacts Black people and Latino families and lower income families	Social Workers
State Government	These individuals do not have access to resources to remediate	Scientist
State Government	Access to testing	Scientist
State Government	African American students and families live in inner city are areas that are highly impacted by lead contamination	Scientist
State Government	It is mainly people of color and low-income families	Scientist
State Government	By not addressing lead as a public health crisis the status quo is supported and continued to keep a subcategory of the world's population	Teachers
State Government	The government is not doing enough to educate and follow through	Teachers
State Government	It is a public health crisis that is under the radar. It is definitely one of the top societal ills.	Politicians
State Government	Parents in these situations are often fighting to pay rent with low wages	Politicians
Political leaders	It perpetuates bias in community	Politicians
Political Leaders	There is no voice for these children	Politicians
Political Leaders	This is not equal	Medical Doctors

The interviewees all reflected that lead poisoning in Connecticut disproportionately affect children and people of color. The government is not applying the necessary oversight and resources and that lead poisoning of children is a serious ethical problem. The interviewees stated that children are not under control or able to unsubscribe to the condition imposed upon them by people who do have the control. The landlords, property owners, state and local government have all the control. Children should be protected.

Teachers were very descriptive in stating the depths of their concern with the social justice issues with lead poisoning in children. The issue of LPIC was more egregious because LPIC can be prevented. If other than Black and Brown children were being affected disproportionately there would be more action to eradicate LPIC. The disease is affecting people through no fault of their own and who lack the resources to remediate the problem. It adds to an already marginalized life and deepens the extent of being disadvantaged. The children may not be in control of their actions because of LPIC. Cultural biases of Black and Brown children are formed i.e., they are said to be bad. Such children are red flagged in the system and pushed out of school, they are pushed into juvenile detention and prison. It becomes a vicious cycle from generation to generation living in substandard housing with lead poisoning. Children are the most vulnerable of society. The children are victims who are made to be perpetrators because they become lead poisoned and may become aggressive.

The victims are blamed for the ingestion of the lead. People living in low socioeconomic status are not educated on what is affecting their population. It is not just Black and Brown people that are hurt, it is society. By not addressing lead as a public health crisis the status quo is supported and continued to keep a subcategory of the world's population in a perpetual disadvantaged state. It takes away a basic human right to live one's best life. When one takes the

position that one will not appropriately address lead poisoning, something that is affecting children and families negatively just because of where they live and the color of their skin, it is a social justice issue. Stated another way, eradication of a preventable disease with a known cause that only requires accountability, is a social justice issue. It is just not right for children to be harmed because their parents are not well off; children should be protected regardless of income.

Health directors simply stated it is affecting people who do not have the means to remediate. The children are innocent victims. Politicians described the social justice issues as follows: innocent poor children are being poisoned. There is no voice for these children. It is in communities that are already impoverished with housing at substandard levels. Parents in these situations are often fighting to pay rent with low wages, coupled with social determinants of daily life that stand in the way of prioritizing prevention of lead poisoning. LPIC leads to more harm and is perpetuated by bias toward the community. LPIC makes kids act out, which can place them in special education. So, kids stop learning, and the kids are put in behavioral classes, but behaviors do not improve.

The kids are moved along in the system, basically the pipeline to prison. It is truly numbing to think that a child's brain is destroyed slowly, and they then may end up in jail. Looking at the situation clearly, it would show that the true crime is taking away the brain of a child because of lead poisoning. Some politicians said that it is a public health crisis that is under the radar, and it is one of the top societal ills.

Medical doctors explained that there is no question that if this disease affected white people instead of people of color, we would have had differential investments. A good example, cystic fibrosis, includes cases where children are very sick and mostly white. There is significant investment and support. We have the reverse for sickle cell disease, where children are very sick

and mostly Black, but there is limited to non-existent investment and support. The comments come from decades of experience in the medical field with lived experiences that illustrate disparity in practice in the health care system. There is systemic racism in our health care system. The diseases of more influential people are often front and center compared to the diseases of others, and it is a serious ethical problem in our society. The children have no control over the LPIC process, we as the people are responsible.

Social workers state that children who are disproportionally affected by LPIC are already having problems. Children with LP are often misunderstood because of the behavioral problems compounded by the lead poisoning. This is environmental racism as the effects are on poor children, disproportionally Black and Brown children. Lead poisoning in children is a social justice issue because it disproportionately impacts Black people, Latino families, and lower income families. In delaying the eradication of this preventable disease, we are also lowering societal IQ. In other words, we are shifting the bell curve backwards which means we have more children with lower IQ scores and fewer children with superior IQ scores. We are losing potential in every aspect of life especially considering the lifelong repercussions of lead poisoning in children.

Children are behind in reading readiness and have trouble concentrating. Children are conscious of their short comings, and it lowers self-esteem which causes behavioral issues. They act out because of the impulsivity caused by LPIC. Children become more impulsive later in life. Girls with lead levels of 10 mcg/dL and greater are at higher risk for teenage pregnancy. Lead poisoned children are more prone to other illnesses as they get older as lead in the bone is released back into the blood stream and causes damages to other organs. Lead poisoned children are more prone potentially than older adults to have dementia and stroke.

Scientists stated that lead poisoning in children is a social justice issue because African American students and families live in inner city areas that are highly impacted by lead contamination. It is primarily affecting people of color and low-income families. These individuals do not have access to resources to remediate, access to testing, or access to adequate healthcare for what is causing them harm.

All the social justice issues discussed by the participants are important and relevant. Some of these issues were recurrent in the conversation: (a) children of color in poor inner cities are most at risk for lead poisoning, (b) lead poisoning is a form of environmental racism, (c) children who are lead poisoned are prone to negative behaviors and are labeled for negative outcomes, and (d) victims of lead poisoning are blamed for their outcomes.

Table 3

Table 3 identifies substantive instances of interviewees addressing solutions for the eradication of lead poisoning in children in the state of Connecticut. These represent 99 total instances, with some other non-substantive responses (e.g., “education” as a whole response) omitted for clarity. All responses come from the one-on-one confidential interviews held with by the researcher with teachers, health directors, politicians, medical doctors, social workers, and a scientist, regarding lead poisoning in children in the state of Connecticut, and using the respective questionnaires in Appendix E.

Table 3 highlights what the interviewees understood to be potential solutions for lead poisoning in children in Connecticut and organizes those responses by the general category of issue being discussed to align them with the literature review and inform the recommendations in the next chapter. Lead poisoning in Children is abbreviated as LPIC. The table shows short

quotes taken directly out of the interviews, organized first by category of barrier and then by category of interviewee. Full interview text and questions asked can be found in Appendix E.

Table 3

Solutions for Childhood Lead Poisoning in Connecticut

Solution Category	Relevant Quote	Respondent Group
Physician Training	Doctors to take time to educate mothers	Teachers
Physician Training	Doctors to provide all the lead poisoning education during pregnancy	Teachers
Physician Training	We need physician engagements	Health Directors
Physician Training	Educate community organizations that work with children like the YWCA and the YMCA	Politicians
Physician Training	Awareness and empathy from health care providers	Politicians
Physician Training	Doctors need to spend more time explaining about LPIC	Politicians
Physician Training	Alignment of families, medical providers and local health enforcements	Social Workers
Physician Training	Train all health professionals to recognize lead as part of curriculum	Social Workers
Physician Training	Prenatal screening is necessary because the mother leach lead to her baby	Social Workers
Physician Training	Educate birth to three agencies	Social Workers
Physician Training	There should be environmental health training for all medical staff not just doctors	Scientist
Physician Training	LPIC should be part of prenatal classes	Scientist
Physician Training	Train someone in the office to use the XRF machine with a detail procedure for daily calibration so the money is ready at all times for testing and decrease false negatives and false positives.	Medical Doctors
Department of Education	Parent and school communication on LPIC	Teachers

Solution Category	Relevant Quote	Respondent Group
Department of Education	Educate teachers	Teachers
Department of Education	Government officials and elected leaders' education	Teachers
Department of Education	Use the School base clinics to test children for LP	Teachers
Department of Education	The schools need to require lead test including the preschools	Health Directors
Department of Education	Education	Politicians
Department of Education	School systems need to test students	Politicians
Department of Education	Start empowering parents with knowledge of LPIC	Medical Doctors
Department of Education	Start education from preschool	Medical Doctors
Department of Education	Focus education on the health field not just pediatrician but all care providers	Medical Doctors
Department of Education	Discussion of LPIC should be part of public-school curriculum. This will empower students to understand his environment	Scientist
Local Government	Cities and towns get the remediation done and charge the property owners	Teachers
Local Government	Put liens on property owner property	Teachers
Local Government	Increase the local health public health workforce	Health Directors
Local Government	Long standing contracts with hotels for temporary relocation	Health Directors
Local Government	Relocate families	Health Directors
Local Government	Temporary housing, access school dormitories	Health Directors

Solution Category	Relevant Quote	Respondent Group
Local Government	Community Health centers should educate the public	Politicians
Local Government	Involve the community in the solution such as churches	Politicians
Local Government	Before sales sellers should abate the home	Politicians
Local Government	Take landlords to court	Politicians
Local Government	Inspect and remediate lead before families move in	Politicians
Local Government	Routine dust wipe inspection and testing	Medical Doctors
Local Government	Train inspectors to explain the lead results report to the families.	Social Workers
Local Government	The housing should be lead safe before a new baby comes to the home. The same way you must have the proper car seat for the baby to leave the hospital	Social Workers
State Government	A national campaign on LPIC to educate	Teachers
State Government	Governmental responsibility to remove lead from homes	Teachers
State Government	Property owners must become compliant with laws	Teachers
State Government	Test all home for lead built before 1978	Teachers
State Government	Stricter laws and stricter enforcement	Teachers
State Government	Education using social media platforms	Teachers
State Government	Universal campaign for testing	Teachers
State Government	Have well trained building inspectors that can identify lead	Health Directors
State Government	We need a very large investment in eradicating lead in homes in Connecticut	Health Directors

Solution Category	Relevant Quote	Respondent Group
State Government	Consider sliding scale for property owners that do not have the economic means for remediation	Health Directors
State Government	We should look at redevelopment of these blighted communities, new buildings, new playground removing lead from the soil, better after school programs and green spaces. Neighborhood by neighborhood	Health Directors
State Government	Develop communication with state and local government on LPIC	Health Directors
State Government	Investment in housing infrastructure and provide economic development in communities	Health Directors
State Government	Need workforce	Health Directors
State Government	We need enforcement	Health Directors
State Government	Institute universal blood testing	Health Directors
State Government	We need a state prevention plan	Health Directors
State Government	Landlords must be required to disclose lead in their buildings	Health Directors
State Government	Property owners must be held responsible for remediation	Health Directors
State Government	Hold landlords accountable	Politicians
State Government	The state has to stop investor from buying property to rent with lead	Politicians
State Government	Require lead testing for homes that were built before 1978	Politicians
State Government	Fine property owners for selling and renting homes with lead	Politicians
State Government	The state and federal government need to provide the resources to remediate	Politicians
State Government	Transparency about funding	Politicians

Solution Category	Relevant Quote	Respondent Group
State Government	Enforce ordinances	Politicians
State Government	Enforce landlord accountability	Politicians
State Government	Well-staffed state department lead prevention division	Politicians
State Government	We need laws stating that a property owner with lead on the property endangers the life of persons. Similar to the laws on the transmission of HIV	Politicians
State Government	Fit the laws to make landlords accountable	Politicians
State Government	Get rid of loophole to wave lead testing of the home	Politicians
State Government	Lead screening mandatory	Politicians
State Government	When landlords do not respond the state should apply eminent domain status	Politicians
State Government	Homes should be remediated by the state block by Block similar to the Brownfields property	Politicians
State Government	State to develop an electronic system to provide feedback by physician offices.	Medical Doctors
State Government	The state should subsidize the cost of (XRF) Xray Fluorescence for lead point of service testing. They may still need a test after but if the initial test is positive the parent is more likely to follow- up	Medical Doctors
State Government	There should a place like a Ronald McDonald house where children can be placed after Chelation until their home had been properly remediated. Children who are Chelated and sent back to a home that has lead will reabsorb the lead very quickly because the chelating agent acts as a magnet.	Medical Doctors
State Government	More control on the section 8 programs similar to Massachusetts for consistent inspection and remediation	Medical Doctors

Solution Category	Relevant Quote	Respondent Group
State Government	Provide funding subsidy for point of care testing at the clinics and private practice	Medical Doctors
State Government	The state to implement intermediate teams that would work with the families after diagnosis to remediation.	Social Workers
State Government	Make lead testing in buildings mandatory for property owners, homeowners, renters and when selling a home	Social Workers
State Government	All homes built before 1978 should be tested	Social Workers
State Government	There should large fines on property owner for causing LPIC	Social Workers
State Government	Lead testing for daycares and preschool	Social Workers
State Government	Develop a plan to stop environmental injustice	Scientist
State Government	Identify all structures built prior to 1978 as part of city and town records	Scientist
State Government	Testing should not be optional for the ages identified for testing by the state	Scientist
State Government	LPIC should be a standard part of the testing for childhood diseases	Scientist
State Government	Remove bias in the decision making of whose home gets remediated. Clearly publicly identify the guidelines for state and local remediation support	Scientist
State Government	Landlords are to be fines for causing LPIC	Scientist
State Government	The state must provide the resources to remediate lead	Scientist
State Government	Respond to lead poisoning as a public health crisis	Teachers

Solution Category	Relevant Quote	Respondent Group
State Government	The state health department should begin an education campaign and hire enough inspectors to start to identify and eradicate LPIC	Teachers
State Government	Use QR Codes and social media, Facebook to communicate with people where they are	Medical Doctors
State Government	Move from a defensive posture to affirmative solutions	Medical Doctors
State Government	Sentinel Surveillance	Medical Doctors
State Government	Providers should be required to test all children using the state's criteria without exception. The law needs to be clear	Medical Doctors
Local Politicians	Need more advocacy	Teachers
Local Politicians	Communities need to organize	Politicians
Local Politicians	Community Consciousness	Medical Doctors
Local politicians	Community engagement to identify leaders	Medical Doctors

The teachers, the health directors, the politicians, social workers, and scientist interviewed for this study all identified that a major part of any solution going forward must include enforcement on landlords and the property owners to remediate lead from the properties. There was robust discussion on solutions by each participant. Teachers identified the following solutions to eradicating lead poisoning in children in Connecticut. There should be a national campaign on LPIC to educate parents and communities. Improve communication about LPIC. Educate teachers, government officials, and elected leaders. Doctors should take time to educate mothers.

One of the politicians stated that the government has the responsibility to remove lead from homes. The government can affect these changes by having property owners become compliant with laws. Cities and towns should get the remediation done and charge the property owners. Test all homes built before 1978 for lead. If property owners do not address the issues after being given reasonable time, put liens on the property. We need stricter laws and stricter enforcement. This politician further stated that doctors should provide all the lead poisoning education during pregnancy. Communities need to develop advocacy groups and call for the remediation of these blighted buildings where poor people pay rent to live and become poisoned. The government needs to respond to lead poisoning as a public health crisis. A full campaign should include social media platforms. School based clinics should facilitate testing as the government embarks on a universal campaign for testing for lead poisoning in children.

Health directors identified the following solutions to eradicating lead poisoning in children in Connecticut. The state should hire and train enough inspectors to start to identify and eradicate LPIC. We need a state prevention plan with measurable goals and dates of completion of milestones. Landlords must be required to disclose lead in their buildings. Property owners

must be held responsible for remediation. The state needs to train or hire a workforce to address LPIC. Institute universal blood lead testing and engage physicians to support families. Schools should play a significant role in the planning and deployment of an LPIC plan.

Health directors also noted that due to the time it takes to remediate there should be a solid plan for relocation of families. There are options such as temporary housing and access to school dormitories or long-standing contracts with hotels for temporary relocation. If a full assessment is completed of the areas where lead is found the state should consider investing in housing infrastructure and provide economic development in communities.

One of the health directors stated that leadership should look at redevelopment of these blighted communities, new buildings, new playgrounds, removing lead from the soil, better after school programs, and green spaces. Develop communication with state and local government on LPIC. Consider a sliding scale for property owners that do not have the economic means for remediation.

Politicians identified the following solutions to eradicating lead poisoning in children in Connecticut. Community health centers should educate the public and involve the community, including churches. Communities need to organize and hold landlords accountable. The state must stop investors from buying property to rent with lead unabated. There should be a requirement for lead testing for homes that were built before 1978 and fine property owners for selling and renting homes with lead. The politicians continued by stating the state and federal government need to provide the resources to remediate. Transparency about funding is needed. Before selling, sellers should abate the home and if not, take landlords to court. Enforce ordinances and educate community organizations that work with children like the Young Women's Christian Association (YWCA) and the Young Men's Christian Association (YMCA).

Politicians further explained that we need laws stating that a property owner with lead on the property endangers the life of other people. Get rid of loopholes that wave lead testing in homes prior to sale. Like the laws on the transmission of HIV (Human Immunodeficiency Virus). Fit the laws to make landlords accountable to fully inspect and remediate lead before families move in. When landlords do not respond the state should apply eminent domain status. Homes should be remediated by the state block by block like the Brownfields properties. We need awareness and empathy from health care providers. Politicians emphasized that doctors need to spend more time explaining LPIC.

Medical doctors identified the following solutions to eradicating lead poisoning in children in Connecticut. Focus on education in the health field not just pediatricians, but all care providers. Community engagement to identify leaders to discuss learn and train communities. Start education from preschool. Sentinel Surveillance with children would provide a road map for testing. We need to bring lead poisoning into community consciousness, start empowering parents with knowledge of LPIC.

Medical doctors continued the discussion by explaining that funding should be provided in the form of subsidy for point of care testing at the clinics and private practices. Train someone in the office to use the Xray Fluorescence (XRF) machine with a detailed procedure for daily calibration so the machines are always ready for testing and decrease false negatives and false positives. The state should subsidize the cost of XRF machines for lead point of service testing in physicians' offices. They may still need a test after, but if the initial test is positive the parent is more likely to follow-up. Providers should be required to test all children using the state's criteria without exception. The state should develop an electronic system to provide feedback by physician offices for accountability, similar to the vaccination system. The law needs to be clear.

One of the medical doctors felt strongly that there should also be a place like a Ronald McDonald house where children can be placed after chelation until their home has been properly remediated. Children who are chelated and sent back to a home that has lead will reabsorb the lead very quickly because the chelating agent acts as a magnet. More control on the section eight housing programs similar to Massachusetts for consistent inspection and remediation is recommended. Use QR codes and social media, Facebook to communicate with people where they are living. It is important that all parties participate in the solution and move from a defensive posture to affirmative solutions.

Social workers identified the following solutions to eradicating lead poisoning in children in Connecticut. Alignment of families, medical providers, and local health enforcement will support a better outcome for LPIC. Train inspectors to explain the lead results report to the families. Train all health professionals to recognize lead as part of the curriculum. The state should implement intermediate teams that would work with the families to remediate after diagnosis.

Social workers felt that the state should make lead testing in buildings mandatory for property owners, homeowners, renters, and when selling a home. All homes built before 1978 should be tested. There should be large fines on property owners for causing LPIC. The housing should be lead safe before a new baby comes to the home. The same way we must have the proper car seat for the baby to leave the hospital. Prenatal screening is necessary because the mother can leach lead to her baby. Educate birth to three agencies and have lead testing for daycares and preschool.

The scientist identified the following solutions to eradicate lead poisoning in children in Connecticut. Remove bias in the decision making of whose home gets remediated. Clearly

publicly identify the guidelines for state and local remediation support. Landlords are to be fined for causing LPIC. The state must provide the resources to remediate lead.

One of the politicians explained that the state can identify all structures built prior to 1978 as part of city and town records. Testing should not be optional for the ages identified for testing by the state. LPIC should be a standard part of the testing for childhood diseases. There should be environmental health training for all medical staff, not just doctors. LPIC should be part of prenatal classes and the state should develop a plan to stop environmental injustice. There should be discussions of LPIC as part of the public-school curriculum. This will empower students to understand their environment.

All participants were engaged and discussed solutions from various angels. All solutions were noteworthy as described above. Highlights of the discussions were as follows: (a) in Connecticut we need a comprehensive lead poisoning eradication plan, and in this plan the community must be engaged, (b) the government is responsible to address and hold the property owners accountable, (c) provide adequate funding to rejuvenate the blighted neighborhood, (d) support physicians economically to operate surveillance at point of care in the office, and (e) fix the laws.

Table 4

Table 4 represents a summary of the numbers of comments by themes by the participants in the study that the researcher identified. The data represents the research question by the themes that reference barriers, social justice, and solutions for childhood lead poisoning. The data is illustrated by professionals on the left of the reader and the themes across the top of the table.

Table 4

Interview Summary: Research Questions Themes by Professions

Professionals	Barriers	Social Justice	Solutions	Totals
Teachers	14	28	18	60
Health Directors	33	3	18	54
Politicians	29	20	26	75
Medical Doctors	18	15	16	49
Social Workers	14	12	11	37
Scientist	8	6	10	24
Total	116	84	99	299

CHAPTER V: DISCUSSION

This researcher set out to answer the following questions from the perspectives of working professionals: (a) what are barriers to the eradication of lead poisoning in Connecticut? (b) what are social justice issues impacting the eradication of lead poisoning in Connecticut? (c) what are solutions for the eradication of lead poisoning in the state of Connecticut?

This qualitative research yielded the collected perspectives from 16 working professionals across Connecticut specifically related to the research questions. The participants in the research were individuals who live and work in Connecticut and work closely with residents of the state of Connecticut. The participants were teachers, health directors, politicians, medical doctors, social workers, and a scientist.

Contributions to the Literature

This research adds to the body of knowledge on lead poisoning in children by combining the perspectives of the interviewees with the overall data from review of the literature. The study clearly indicated that professional training on the subject of lead poisoning is lacking, and it is necessary for the communities, especially those most affected. The need for training is supported by the interviews from teachers, medical professionals and politicians and is regarded as a general concern by participants in the research and the literature review as noted by the CDC (2021). Many schoolteachers were disappointed with the lack of professional training in school regarding the children they are entrusted to teach and support their educational development.

The CDC data also clearly indicates in Appendices A1 to A10 that lead screening is not at the recommended levels to address lead poisoning in children successfully. The medical professional and the non-medical participants in the study agreed that more testing is necessary in combination with awareness of the problem. If screening is not at the appropriate levels lead

poisoning goes undetected. The study also highlights the high cost of point of care testing in physicians' offices which limits the screening necessary to address lead poisoning in children. These concerns about point of care service in the physicians' offices were highlighted by physicians and social workers in the study that currently work with lead poisoned children.

This study highlighted the lack of enforcement action by the state of Connecticut to address absentee landlord regarding the lack of remediation to lead exposure in rental property. Participants were concerned about enforcement and the literature concurs that a lack of enforcement perpetuates the problem (Paulson & Brown, 2019). The study also brings attention to state inspectors who inspect homes before tenants enter. The inspectors are not certified as lead inspectors and there is nothing in Connecticut state law that states that a housing inspector must be a certified lead inspector. This information was pointed out by some local health directors in the study.

According to Hauptman et al. (2017), children from low socio-economic status have the highest rates of lead poisoning due to their living environment that contains deteriorating peeling lead paint. The medical doctors in the research responses also commented that any level of lead in the body, especially in children, can cause irreversible brain damage. The only reliable and successful way to eradicate lead poisoning in children is to remove the sources of lead. Seventy-three percent of Connecticut Housing was built before the 1978 ban on lead in paint. The primary source of lead poisoning in children in Connecticut appears to be related to the old housing stock and dilapidated buildings. The remediation of lead paint from the housing stock is thus the best way to prevent lead poisoning in children in Connecticut. Numerous research concurs with this observation (e.g., CDC, 2022; Canfield et al., 2005; Newirth, 2020).

Specifically, in the state of Connecticut, physicians interviewed who treat children daily concur that remediation and removal of lead is the main goal. Some of the interviewees felt that it may be better to rebuild or relocate than remediate. However, it is understood that experts in remediation can best decide going forward. The matter should be worked on expeditiously before other children become lead poisoned. Physicians and all other community members interviewed are concerned about treating children and then sending them to the same environment. It is the hope of the researcher that Connecticut law makers and health officials develop a lead poisoning prevention plan. Politicians who were participants of this research concurred that the time has come to hold property owners accountable and remove the lead from where children live and play.

Some of this work is underway, and more remains to do. Effective January 1, 2023, the Connecticut legislative body promulgated a revision in the lead poisoning laws under Public Act No.22–49 (Appendix A). The law reduces the lead levels to align with the CDC new level of 3.5 mcg/dL. The laws states that each primary care provider of pediatric care excluding the emergency rooms and its staff shall conduct lead poisoning testing at least annually for children ages nine months to 35 months and report results to the Commissioner of the Department of Health. This was a major step for the state of Connecticut in attempting to get universal lead testing for ages nine months to 35 months. The law in Connecticut, effective January 1, 2023, also states that a physician practicing pediatric care may make reasonable efforts to notify parents. However, these reasonable efforts do not have criteria and lack any enforcement.

One of the concerns of the medical doctors in this study is the lack of a cohesive response and coordination of medical doctors, parents, and local health. Teams from all these disciplines can work together to address lead poisoning. The efforts are affected by many variables. Parents

lack knowledge, physicians' lack of time to address each parent, parents' social drivers of living, local health centers' lack of staffing to respond and provide the time needed for each case, and a lack of homes for relocation. It would help to have a unifying body or force to coordinate all these well-meaning hard-working groups to address the needs for the eradication of lead poisoning in children.

The state of Connecticut Office of Vital Records data reported a total of 153,307 children between the ages of one to four years old living in Connecticut in 2014. The state of Connecticut lead department reported 75,956 lead tests reported in 2014. The law requires annual testing from nine to 35 months. Children who test positive must be tested again to monitor the lead levels. The researcher is not asserting any correlational conclusion, only providing a picture of the Connecticut public record. In 2015 the eligible population to test was 151,909, while total tests numbered 75,423. In 2016 the eligible population to test was 149,300, while total tests numbered 74,055. In 2017 the eligible population to test was 148,310, while total tests number 74,389. In 2018 the eligible population to test was 148,626, while total tests numbered 72,631. In 2019 the eligible population to test was 147,450, while total tests numbered 71,715, and in 2020 the eligible population to test was 149,594, while total tests numbered 61,817 (CDC, 2024). In the total test everyone tested would have had to have at least two confirmed tests. In addition, the 2020 data illustrates a significant decline in tests reported. In discussion with providers, the pandemic affected standard operations for testing as it did in most cities in the United States.

Recommendations and Actions

Immediate Actions

Overall, interviewees identified the need for education for those most at risk in communities, health care professionals, teachers, and all that who work and live with children.

The interviewees' perspective on immediate actions starts with coordination and alignment of families, medical providers, and local health enforcement to systematically work on prevention and treatment of LPIC. Community health centers working with at risk populations should include education of LP while practicing medicine. Doctors should take time to educate parents and increase the community consciousness regarding the dangers of LP and start empowering parents with knowledge of LPIC.

Studies have proven that pregnant mothers can leach lead to their babies therefore, prenatal screening is necessary. Testing should not be optional for the ages identified in state law. It should be mandatory for prevention. Lead testing for daycares and preschool prior to entry to public school will improve opportunities for treatment and provide education to parents to maintain preventative measures in their homes.

The state should subsidize the cost of Xray Fluorescence (XRF) machines for lead point of service testing in physician's offices. The access will improve early treatment and prevention. The children may still need another test, but if the initial test is positive the parents are more likely to follow-up. Train someone in the office to use the XRF machine with a detailed procedure for daily calibration for accurate results. Physician participants specifically identified these.

We need an education campaign for government officials, elected leaders, early childcare leaders, public school leaders, and all providers of information about LPIC. As part of the communication campaign parents should be educated within the various methods of school communications. Identify lead poisoning as a public health crisis and use social media platforms to reach the younger population, especially the young mothers. Use QR Codes and social media

like Facebook to communicate with people where they are. Awareness and empathy from health care providers where doctors spend more time explaining LPIC to families is recommended.

Remove bias in the decision making of which homes get remediated. Clearly and publicly identify the guidelines for state and local remediation support. Peeling paint in dilapidated housing is a significant threat to the prevention and eradication of LPIC in Connecticut. The state government should development enforcement on landlords requiring to disclosure of lead in their properties. Property owners are to be held accountable. Local health departments should have a program for routine dust wipe inspection and testing. In situations where the landlord is not financially able to remediate the lead the state should development a plan to support the lead remediation in the form of low interest loans or some other methods. The state is ultimately responsible for the public health of the community. Politicians, teachers, and the scientist all agree with these recommendations.

Another impediment is the extreme need for workforce at the local health level to address the remediation needs. According to health officials, only approximately 20% of the remediation work is done annually. The term used was “abysmal.” The housing available to relocate families is limited. Long-standing contracts with hotels for temporary relocation would be helpful. There should be consideration given for temporary housing with access to vacant dormitories at colleges. There was a strong suggestion for all parties to move from a defensive posture to affirmative solutions and full transparency of funding for LPIC.

Short Term Actions

The participants in this study identified the following short-term actions for the eradication of lead poisoning in Connecticut. The state needs a comprehensive LPIC prevention plan. The development of that plan should include community input, especially from those who

are in high-risk neighborhoods for LPIC. Engage the church and other community organizations in the plan development. Identify community leaders and influencers to be part of plan development. It is important for communities to organize and understand what environmental concerns are for their community.

According to the local health officials and social workers, the remediation of housing units can go beyond a year. There are also homes that are not being remediated and the families are not relocated. It would be helpful for the state to implement intermediate teams that would work with the families after diagnosis and through remediation. Educate inspectors to explain the lead results report to the families.

The state should stop investors from renting their investment property with lead which causes LPIC. The social workers in the research were very focused on enforcement and resources. The respondents stated that eradication of LPIC was the state's responsibility especially because the cause is completely Preventable 1f laws are upheld. The state must provide the resources to remediate lead. The state should identify all structures built prior to 1978 which is easily identified in the city and town records and provide notification to landlords to remediate within a specified time.

Make lead testing in buildings mandatory for property owners, homeowners, and renters when selling or renting a home. Fine property owners for selling and renting homes with lead. Enhance the controls on the section eight programs, similar to Massachusetts, for consistent inspection and remediation. Secure enough safe housing to relocate families while homes are remediated. Housing should be safe before a new baby comes to the home. Institute a similar rule as the proper car seat rule for the babies to leave the hospital. Have well trained building inspectors that can identify lead and enforce ordinances. We need laws stating that a property

owner with lead in the property endangers the life of persons, similar to the laws on the transmission of HIV. Fit the laws to make landlords accountable. Get rid of loopholes to wave lead testing of the home so that inspections and remediation of lead can be done before families move in.

Long Term Actions

The participants in this study identified the following long-term actions for the eradication of lead poisoning in Connecticut. The participants discussed recommendations for long tern planning. To bring federal funding to Connecticut to remediate the lead in homes, in the soil and to drive education and communication, a national campaign would be helpful to obtain federal funding.

The physicians who participated recommended focus education for all in the health field, not just pediatricians, but all care providers. Discuss with educational institutions to drive the education curriculum of LPIC for all health professionals. Put laws in place to have LP testing to be a standard part of the testing for childhood diseases. There should be large fines on property owners for causing LPIC. There should be a place like a Ronald McDonald house where children can be placed after chelation until their home has been properly remediated. Children who are chelated and sent back to a home that has lead will reabsorb the lead very quickly because the chelating agent acts as a magnet. There should be environmental health training for all medical staff, not just doctors. Develop a plan to stop environmental injustice. This will empower students to understand their environment. Investment in housing infrastructure and provide economic development in communities. We should look at redevelopment of these blighted communities, new buildings, new playgrounds, removing lead from the soil, better after school

programs and green spaces neighborhood by neighborhood. Educate community organizations that work with children like the YWCA and the YMCA.

The state should develop an electronic system to provide feedback from physicians' offices. We need a very large investment in eradicating lead in homes in Connecticut. There should be a state department or lead prevention division. The state health department should begin an education campaign and hire enough inspectors to start to identify and eradicate LPIC. When landlords do not respond the state should apply eminent domain status. Homes should be remediated by the state block by block like the Brownfields property.

Future Research

Moving forward on eradication of lead poisoning in Connecticut will also require continued research. A significant number of responses spoke to the need to include training and education in the Connecticut school system. Focus should include the professional development of teachers to support students and parents regarding the severity of lead poisoning in children. Some of the respondents were deeply concerned that in all their years of teaching they had no knowledge of lead poisoning as a current public health concern.

Future longitudinal studies analyzing school data for children in the first years of elementary school could determine their lead status as a baseline for the right curriculum and for the education of the children. This way if a child begins to act aggressively the child's lead status can be considered. The research does not associate all behavioral problems children exhibit in school with the results of lead poisoning. In some children the manifestation may not be expressed with aggression. However, studies of the lead levels of all children entering elementary school will provide a road map to facilitate management of the issue. Historically

designed study of school records over the last 20 years could determine a correlation between education, lead exposure, and educational outcome.

Another future approach would be to engage in direct community research that would gather information on housing conditions and at the same time provide education to the community on lead poisoning's long term health effects. The researcher could recreate this study with statewide populations with an online survey tool to gather data and assess the understanding of lead effects in communities across Connecticut. This would provide direction for educating the community. The data would provide information that policy makers can use to address the issues neighborhood by neighborhood, which was a suggestion by some politicians interviewed. The data could then be developed into an educational tool for the families who were lead poisoned to demonstrate the effects of lead, including in the form of a documentary to highlight the problem and bring to information to the mainstream.

Conclusion

Lead poisoning has been present in products for decades in the United States. Lead is harmful to humans who ingest the substance. It is most dangerous to children with developing brains (CDC, 2023). Lead is found in paint, in water, in toys, in soil, in some cookware, in candy, and a host of other household products. Children between the ages of one and five years old are the most vulnerable to LPIC (Peng et al., 2024). Children at that age put things in their mouth from their environment (Tulve et al., 2002). The children who get lead poisoning are primarily infected from peeling paint in old housing with lead-based paint. Hence, the only way to eradicate lead poisoning in children in Connecticut is by the remediation of lead paint in their homes (CDC, 2023).

Research finds that even low levels of lead in the blood between 3 and 5 mcg/dL can damage the brain, leading to impaired memory and impaired executive functioning skills (Sacks & Balding, 2018). Communities of color based on socio-economic are often in older housing with lead paint hazards. This stems from the origins in unfair lending practices and bias policies such as redlining by denying mortgages to persons in communities based on racial or ethnic groups hence the disproportionate risk of LPIC in those communities (Sacks & Balding, 2018).

To move forward toward eradication of lead poisoning in children will require new laws that are clear and mandatory regarding disclosure of lead in homes. A campaign to educate the public and those in decision making position about lead poisoning and the impact on children and families is a step in the right direction. Instituting sentinel surveillance in high-risk neighborhoods and universal blood lead testing to all eligible ages is a moral imperative.

I am part of the EdD in Education & Professional Practice at Antioch, specializing in social justice leadership and this dissertation is addressing a significant social justice issue. The most compelling case for social justice advocacy with lead poisoning is the correlation between being educated and serving time in jails and prisons. Two typical symptoms with a child that is lead poisoned are hyperactivity and anger (David, 1974). As is common in schools, when a child exhibits this hyperactivity and anger behavior the student is categorized as disruptive. It is likely the child would be given an Individualized Education Plan (IEP). If the child is misdiagnosed as having just a behavioral problem, and may have a lead poisoning problem, the behavior will persist as the lead poisoning becomes more severe. According to a Harvard School of Education study, the author illustrates that since the advent of zero acceptance discipline policies in the early 1990s, suspensions have become the formula for class management (González et al., 2019). This course of action has in some cases branded students as bad kids.

The research questions investigated, (a) what are barriers to eradicating childhood lead poisoning? (b) what are social justice issues that surround lead poisoning in children? and (c) what are solutions? Research in the field validates that there is no cure for lead poisoning. Prevention is the only certain option. Prevention would require the removal of lead from the old, dilapidated homes with peeling paint where children live and play. Removal of lead from water by removing lead pipes. Warning labels for all food that contain lead. Strong tariffs on imports like candy that contain lead and other lead products. In the current systems, the focus of the laws and rules is on the remediation after the child has been lead poisoned. The law in Connecticut does state that all children from 36 months to 72 months should be tested. However, there is nothing in place to ensure that the children get tested. If the way we address lead poisoning does not shift, we will continue to lead poison children.

In the United States of America, the primary population being affected are children of color living in run down dilapidated homes painted with lead paint located in areas where the soil is saturated with leaded gasoline (Environmental Protection Agency, 2022b). Young children are being lead poisoned daily and the disease is preventable. It is important to test children for lead to eliminate the possibility of labeling a child with attention deficit hyperactivity disorder (ADHD) when the underlying problem could be lead poisoning that goes untreated. It is important to test for lead and remediate the environment where the child lives, plays, and goes to school to avoid ongoing lead poisoning. Lead poisoning is preventable. Finally, I am hopeful that this research will help inform policy for the prevention and eradication of lead poisoning in Connecticut and all other United States and spearhead advancement in childhood lead prevention worldwide.

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APPENDIX A.1: CDC BLOOD LEAD LEVEL REPORTING BY STATE

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012	Alabama	360.597	14.757	4.1%	658	4.5%	110	0.75%
2013		356.565	29.720	8.3%	1.010	3.4%	119	0.40%
2014		354.924	24.587	6.9%	780	3.2%	127	0.52%
2015		352.754	22.457	6.4%	635	2.8%	101	0.45%
2016		351.978	29.378	8.3%	690	2.3%	91	0.31%
2017		352.670	36.404	10.3%	664	1.8%	122	0.34%
2012*	Alaska	351.424	42.049	12.0%	726	1.7%	119	0.28%
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017		64.570	2.500	3.9%	43	1.7%	9	0.36%
2012	Arizona	63.666	3.683	5.8%	49	1.3%	SD	SD
2013		527.769	61.487	11.7%	750	1.2%	102	0.17%
2014		522.392	62.035	11.9%	635	1.0%	80	0.13%
2015		520.472	53.809	10.3%	571	1.1%	70	0.13%
2016		517.199	54.064	10.5%	603	1.1%	108	0.20%
2017		526.448	60.101	11.4%	514	0.9%	101	0.17%
2012*	Arkansas	525.528	61.271	11.7%	482	0.8%	56	0.09%
2013*		525,522	61,040	11.6%	445	0.7%	52	0.09%
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
		—	—	—	—	—	—	—

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
* - indicates program did not receive childhood lead poisoning prevention funding from CDC
‡ - indicates data not currently available"
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Note. Reprinted from “National Blood Level Surveillance Data” (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.2: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012*		—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*	California	—	—	—	—	—	—	—
2012		408.722	25.022	6.1%	718	2.9%	51	0.20%
2013		405.810	23.807	5.9%	705	3.0%	46	0.19%
2014		403.852	42.593	10.5%	1.288	3.0%	112	0.26%
2016	Colorado	405.279	33.694	8.3%	880	2.6%	85	0.25%
2017		406.528	26.782	6.6%	751	2.8%	74	0.28%
2018		403.927	21.005	5.2%	473	2.3%	56	0.27%
2012		404.522	23.900	5.9%	449	1.9%	43	0.18%
2013		237.873	75.741	31.8%	4.549	6.0%	541	0.71%
2014		233.754	75.790	32.4%	4.255	5.6%	550	0.73%
2015		229.027	75.993	33.2%	3.801	5.0%	527	0.69%
2016	Connecticut	226.945	74.540	32.8%	3.469	4.7%	571	0.77%
2017		224.135	73.694	32.9%	3.732	5.1%	509	0.69%
2018		221.619	74.479	33.6%	2.935	3.9%	509	0.68%
		221,000	70,262	31.8%	2,523	3.6%	422	0.60%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
* - indicates program did not receive childhood lead poisoning prevention funding from CDC
‡ - indicates data not currently available"
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Note. Reprinted from “National Blood Level Surveillance Data” (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.3: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012		67,317	10,160	15.1%	241	2.4%	37	0.36%
2013								
2014		67.096	13.659	20.4%	381	2.8%	47	0.34%
2015	Delaware	67.394	14.146	21.0%	319	2.3%	49	0.35%
2016†		67.099	14.448	21.5%	373	2.6%	56	0.39%
2017†		66.285	7.827	11.8%	193	2.5%	25	0.32%
2018‡		66.271	1.503	2.3%	43	2.9%	SD	SD
2012		—	—	—	—	—	—	—
2013		44.439	16.257	36.6%	346	2.1%	51	0.31%
2014		46.892	19.493	41.6%	356	1.8%	54	0.28%
2015	District of Columbia	49.579	17.320	34.9%	298	1.7%	50	0.29%
2016		50.940	16.767	32.9%	259	1.5%	56	0.33%
2017		51.957	18.198	35.0%	206	1.1%	41	0.23%
2018		53.363	17.668	33.1%	188	1.1%	38	0.22%
2012		54,099	15,809	29.2%	157	1.0%	25	0.16%
2013*		1.295.134	177.746	13.7%	3.640	2.0%	306	0.17%
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*	Florida	—	—	—	—	—	—	—
2017†		—	—	—	—	—	—	—
2018		1,366,671	61,608	4.5%	654	1.1%	73	0.12%
2012		1,372,427	190,302	13.9%	1,812	1.0%	195	0.10%
2013		812,675	115,426	14.2%	4,368	3.8%	234	0.20%
2014		804,603	104,159	12.9%	2,943	2.8%	205	0.20%
2015		799,184	106,010	13.3%	2,597	2.4%	157	0.15%
2016	Georgia	796,792	113,274	14.2%	2,248	2.0%	131	0.12%
2017		796,791	119,632	15.0%	2,730	2.3%	207	0.17%
2018		795.614	108.998	13.7%	2.257	2.1%	237	0.22%
		790.899	119.673	15.1%	2.277	1.9%	210	0.18%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
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APPENDIX A.4: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012*		—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015	Hawaii	109,833	13,872	12.6%	133	1.0%	SD	SD
2016		109,887	15,637	14.2%	240	1.5%	13	0.08%
2017		108,119	16,199	15.0%	200	1.2%	15	0.09%
2018		105,815	16,900	16.0%	197	1.2%	21	0.12%
2012*		—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*	Idaho	—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
2018*		—	—	—	—	—	—	—
2012		981,636	173,441	17.7%	15,926	9.2%	2,260	1.30%
2013		967.588	164.193	17.0%	10.380	6.3%	1.775	1.08%
2014		951,210	159,067	16.7%	9,119	5.7%	1,704	1.07%
2015	Illinois	944,173	154,563	16.4%	8,363	5.4%	1,580	1.02%
2016		929,954	138,365	14.9%	7,190	5.2%	1,383	1.00%
2017		928,356	155,107	16.7%	6,598	4.3%	1,369	0.88%
2018		913.456	187.685	20.5%	4.902	2.6%	856	0.46%
2012		512,051	54,519	10.6%	3,158	5.8%	368	0.67%
2013		509,391	50,389	9.9%	2,520	5.0%	299	0.59%
2014		505,090	39,150	7.8%	1,818	4.6%	222	0.57%
2015	Indiana	504,906	24,654	4.9%	1,462	5.9%	212	0.86%
2016		506,761	47,900	9.5%	2,227	4.6%	230	0.48%
2017		506,257	49,859	9.8%	1,947	3.9%	300	0.60%
2018†		504,278	22,930	4.5%	923	4.0%	148	0.65%
2012		238,018	47,149	19.8%	15,582	33.0%	329	0.70%
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*	Iowa	—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017		238,671	61,302	25.7%	2,391	3.9%	343	0.56%
2018		238,253	62,528	26.2%	2,786	4.5%	412	0.66%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
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Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.5: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012		243,692	24,228	9.9%	1,478	6.1%	161	0.66%
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*	Kansas	—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
2018†		228,400	5,795	2.5%	271	4.7%	57	0.98%
2012		334,729	13,655	4.1%	694	5.1%	116	0.85%
2013		333,338	14,953	4.5%	594	4.0%	79	0.53%
2014		330,977	14,641	4.4%	499	3.4%	59	0.40%
2015	Kentucky	332,293	16,605	5.0%	623	3.8%	62	0.37%
2016		330,578	10,719	3.2%	655	6.1%	30	0.28%
2017‡		—	—	—	—	—	—	—
2012†		373,249	2,171	0.6%	365	16.8%	159	7.32%
2013†		371,434	12,044	3.2%	1,002	8.3%	190	1.58%
2014	Louisiana	370,653	23,540	6.4%	1,038	4.4%	131	0.56%
2015		371,687	24,493	6.6%	1,061	4.3%	135	0.55%
2016		372,069	19,048	5.1%	1,113	5.8%	110	0.58%
2017†		372,616	4,563	1.2%	423	9.3%	93	2.04%
2018†		367,501	11,235	3.1%	468	4.2%	79	0.70%
2012‡		—	—	—	—	—	—	—
2013‡		—	—	—	—	—	—	—
2014‡		—	—	—	—	—	—	—
2015‡	Maine	—	—	—	—	—	—	—
2016‡		—	—	—	—	—	—	—
2017‡		—	—	—	—	—	—	—
2012		441,829	111,099	25.1%	2,907	2.6%	345	0.31%
2013		441,661	110,429	25.0%	2,862	2.6%	357	0.32%
2014		443,609	109,296	24.6%	2,598	2.4%	327	0.30%
2015		443,350	110,505	24.9%	2,497	2.3%	366	0.33%
2016	Maryland	442,708	118,794	26.8%	2,602	2.2%	334	0.28%
2017		440,206	132,084	30.0%	2,542	1.9%	359	0.27%
2018		437,720	131,598	30.1%	2,210	1.7%	333	0.25%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
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https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.6: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012		442,240	212,156	48.0%	9,435	4.4%	760	0.36%
2013								
2014		440.766	210.790	47.8%	7.571	3.6%	684	0.32%
2015	Massachusetts	438.615	212.013	48.3%	7.214	3.4%	785	0.37%
2016		440.193	208.600	47.4%	6.584	3.2%	695	0.33%
2017		435.331	209.564	48.1%	6.853	3.3%	777	0.37%
2018		433.697	208.880	48.2%	5.214	2.5%	657	0.31%
2012		433.679	206.682	47.7%	4.613	2.2%	574	0.28%
2013		702,118	279.074	39.7%	12.649	4.5%	1.517	0.54%
2014		696.073	114.749	16.5%	3.857	3.4%	458	0.40%
2015	Michigan	686.845	139.058	20.2%	5.028	3.6%	654	0.47%
2016		688.381	134.257	19.5%	4.826	3.6%	664	0.49%
2017‡		690.184	145.209	21.0%	5.779	4.0%	734	0.51%
2018‡		—	—	—	—	—	—	—
2012		—	—	—	—	—	—	—
2013		421.794	92.241	21.9%	2.702	2.9%	262	0.28%
2014		420.726	89.511	21.3%	2.025	2.3%	191	0.21%
2015	Minnesota	419.084	89.174	21.3%	1.735	1.9%	220	0.25%
2016		421.429	87.973	20.9%	1.673	1.9%	215	0.24%
2017		423.100	90.118	21.3%	1.903	2.1%	251	0.28%
2012		426.490	92.660	21.7%	1.533	1.7%	209	0.23%
2013		427.480	91.706	21.5%	1.305	1.4%	214	0.23%
2014		243.538	42.667	17.5%	3.696	8.7%	159	0.37%
2015	Mississippi	238.636	43.554	18.3%	3.261	7.5%	127	0.29%
2016		234.738	46.523	19.8%	3.149	6.8%	115	0.25%
2017		231.834	43.090	18.6%	2.123	4.9%	105	0.24%
2012		227.284	37.636	16.6%	1.211	3.2%	98	0.26%
2013		225.468	40.702	18.1%	791	1.9%	69	0.17%
2014		222.830	36.859	16.5%	745	2.0%	87	0.24%
2015	Missouri	458.744	89.344	19.5%	5.128	5.7%	602	0.67%
2016		454.749	105.286	23.2%	5.429	5.2%	643	0.61%
2017		450.338	131.391	29.2%	5.872	4.5%	548	0.42%
2018		450.128	83.161	18.5%	3.414	4.1%	424	0.51%
		449.240	93.585	20.8%	4.423	4.7%	559	0.60%
		449.401	83.780	18.6%	3.616	4.3%	472	0.56%
		447,782	80,859	18.1%	3,156	3.9%	440	0.54%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
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chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/file:///C:/Users/Lenovo-HA/Downloads/cbls-national-data-table-508.pdf

Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.7: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012*	Montana	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
2012*	Nebraska	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		159,159	8,837	5.6%	313	3.5%	53	0.60%
2017‡		159,441	32,377	20.3%	772	2.4%	92	0.28%
2012*	Nevada	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		222,864	7,868	3.5%	96	1.2%	14	0.18%
2017‡		224,164	7,841	3.5%	73	0.9%	10	0.13%
2012	New Hampshire	81,314	13,473	16.6%	1,560	11.6%	118	0.88%
2013		80,072	13,991	17.5%	979	7.0%	106	0.76%
2014		78,057	13,630	17.5%	820	6.0%	95	0.70%
2015		77,992	13,424	17.2%	730	5.4%	93	0.69%
2016		77,858	15,964	20.5%	894	5.6%	102	0.64%
2017		77,625	17,502	22.5%	735	4.2%	109	0.62%
2012	New Jersey	77,791	17,058	21.9%	627	3.7%	85	0.50%
2013		647,775	181,603	28.0%	6,604	3.6%	965	0.53%
2014		643,720	179,147	27.8%	6,500	3.6%	844	0.47%
2015		638,926	172,846	27.1%	5,566	3.2%	788	0.46%
2016		637,678	176,306	27.6%	5,484	3.1%	846	0.48%
2017		630,042	175,483	27.9%	5,272	3.0%	860	0.49%
2012	New Mexico	628,545	172,523	27.4%	4,986	2.9%	851	0.49%
2013		623,905	170,928	27.4%	4,672	2.7%	818	0.48%
2014		170,052	11,736	6.9%	272	2.3%	25	0.21%
2015		167,079	13,902	8.3%	289	2.1%	26	0.19%
2016		164,704	14,127	8.6%	309	2.2%	24	0.17%
2017		162,323	14,689	9.0%	260	1.8%	28	0.19%
2018		156,168	11,784	7.5%	194	1.6%	22	0.19%
		154,455	12,142	7.9%	177	1.5%	10	0.08%
		150,579	13,369	8.9%	191	1.4%	17	0.13%
2012†	New York (Counts	1,404,650	55,808	4.0%	3,384	6.1%	662	1.19%
2013‡	for children tested	—	—	—	—	—	—	—
2014†	do not include	1,408,752	37,432	2.7%	2,497	6.7%	546	1.46%
2015	NYC)	1,414,384	171,580	12.1%	8,400	4.9%	1,534	0.89%
2016		1,395,060	215,659	15.5%	12,137	5.6%	2,180	1.01%
2017		1,394,622	210,570	15.1%	10,362	4.9%	1,915	0.91%
		1,367,038	208,441	15.2%	9,717	4.7%	1,712	0.82%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
* - indicates program did not receive childhood lead poisoning prevention funding from CDC
‡ - indicates data not currently available"
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/file:///C:/Users/Lenovo-HA/Downloads/cbls-national-data-table-508.pdf

Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.8: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012	New York City	—	330,648	—	8,688	2.6%	1,016	0.31%
2013		—	324,611	—	7,705	2.4%	876	0.27%
2014		—	317,326	—	7,000	2.2%	919	0.29%
2015		—	313,304	—	5,687	1.8%	882	0.28%
2016		—	301,668	—	5,157	1.7%	804	0.27%
2017		—	294,544	—	4,429	1.5%	762	0.26%
2018		—	287,104	—	4,060	1.4%	682	0.24%
2012	North Carolina	745,906	151,463	20.3%	4,495	3.0%	194	0.13%
2013		738,792	149,169	20.2%	2,957	2.0%	168	0.11%
2014		733,691	145,699	19.9%	2,651	1.8%	199	0.14%
2015		729,114	119,341	16.4%	2,285	1.9%	205	0.17%
2016		729,638	102,036	14.0%	2,213	2.2%	271	0.27%
2017		732,414	114,624	15.7%	1,963	1.7%	255	0.22%
2018		732,927	142,113	19.4%	1,654	1.2%	214	0.15%
2012*	North Dakota	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2012	Ohio	845,811	154,564	18.3%	11,399	7.4%	1,741	1.13%
2013		840,452	156,983	18.7%	10,065	6.4%	1,462	0.93%
2014		832,509	151,769	18.2%	9,057	6.0%	1,445	0.95%
2015		833,280	134,390	16.1%	7,651	5.7%	1,277	0.95%
2016		836,763	161,491	19.3%	8,823	5.5%	1,475	0.91%
2017		838,936	160,114	19.1%	8,029	5.0%	1,534	0.96%
2018		836,906	167,810	20.1%	7,387	4.4%	1,307	0.78%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
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Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.9: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012	Oklahoma	317,666	40,732	12.8%	1,582	3.9%	167	0.41%
2013		319,283	42,424	13.3%	1,351	3.2%	184	0.43%
2014		319,091	43,487	13.6%	1,195	2.7%	194	0.45%
2015		321,719	41,077	12.8%	1,194	2.9%	151	0.37%
2016		320,424	46,238	14.4%	1,325	2.9%	157	0.34%
2017		316,994	53,821	17.0%	1,239	2.3%	153	0.28%
2018		314,101	51,118	16.3%	974	1.9%	121	0.24%
2012	Oregon	280,534	13,671	4.9%	379	2.8%	31	0.23%
2013		278,438	15,653	5.6%	445	2.8%	24	0.15%
2014		276,720	7,248	2.6%	242	3.3%	15	0.21%
2015		278,600	12,874	4.6%	318	2.5%	27	0.21%
2016		283,014	18,269	6.5%	435	2.4%	31	0.17%
2017		283,468	19,908	7.0%	385	1.9%	40	0.20%
2018		282,001	16,316	5.8%	322	2.0%	38	0.23%
2012	Pennsylvania	870,401	154,514	17.8%	14,762	9.6%	2,500	1.62%
2013		865,120	146,753	17.0%	13,340	9.1%	2,025	1.38%
2014		859,029	139,870	16.3%	11,922	8.5%	1,792	1.28%
2015		859,114	96,018	11.2%	8,822	9.2%	1,201	1.25%
2016		856,529	140,359	16.4%	13,462	9.6%	1,614	1.15%
2017		852,828	142,169	16.7%	11,378	8.0%	1,754	1.23%
2018		847,012	151,141	17.8%	9,903	6.6%	1,886	1.25%
2012	Rhode Island	67,551	28,357	42.0%	1,837	6.5%	254	0.90%
2013		66,847	27,709	41.5%	1,503	5.4%	229	0.83%
2014		65,838	26,954	40.9%	1,384	5.1%	218	0.81%
2015		66,134	26,533	40.1%	1,366	5.1%	235	0.89%
2016		65,690	25,911	39.4%	1,224	4.7%	201	0.78%
2017		65,743	26,167	39.8%	976	3.7%	178	0.68%
2018		65,211	24,935	38.2%	731	2.9%	174	0.70%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
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Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html.

APPENDIX A.10: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012*	South Carolina	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017		353,405	44,290	12.5%	760	1.7%	76	0.17%
2018		352,063	47,698	13.5%	717	1.5%	90	0.19%
2012*	South Dakota	—	—	—	—	—	—	—
2013*		—	—	—	—	—	—	—
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
2018*		—	—	—	—	—	—	—

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
* - indicates program did not receive childhood lead poisoning prevention funding from CDC
‡ - indicates data not currently available"
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Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.11: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012	Tennessee	485.608	71.569	14.7%	2.735	3.8%	133	0.19%
2013		483.511	84.839	17.5%	1.874	2.2%	116	0.14%
2014		481.935	84.223	17.5%	1.570	1.9%	114	0.14%
2015		483.535	83.397	17.2%	1.220	1.5%	98	0.12%
2016		487.810	89.252	18.3%	1.377	1.5%	115	0.13%
2017		490.641	85.083	17.3%	1.065	1.3%	111	0.13%
2012‡		488.658	81.095	16.6%	969	1.2%	132	0.16%
2013‡	Texas	—	—	—	—	—	—	—
2014†		—	—	—	—	—	—	—
2015‡		2.352.055	184	0.0%	7	3.8%	SD	SD
2016†		—	—	—	—	—	—	—
2017†		2.424.168	4.039	0.2%	261	6.5%	36	0.89%
2012*	Utah	2.431.321	106.014	4.4%	2.264	2.1%	327	0.31%
2013*		2.431.014	308.941	12.7%	4.988	1.6%	691	0.22%
2014*		—	—	—	—	—	—	—
2015*		—	—	—	—	—	—	—
2016*		—	—	—	—	—	—	—
2017*		—	—	—	—	—	—	—
2012	Vermont	—	—	—	—	—	—	—
2013		—	—	—	—	—	—	—
2014		—	—	—	—	—	—	—
2015		—	—	—	—	—	—	—
2016		—	—	—	—	—	—	—
2017		—	—	—	—	—	—	—
2012*	Virginia	37.831	10.155	26.8%	945	9.3%	66	0.65%
2013*		37.356	7.657	20.5%	647	8.4%	39	0.51%
2014*		36.607	8.737	23.9%	598	6.8%	54	0.62%
2015*		36.626	9.920	27.1%	585	5.9%	42	0.42%
2016*		36.818	9.853	26.8%	789	8.0%	62	0.63%
2017*		36.187	9.782	27.0%	612	6.3%	60	0.61%
2012	Washington	35.769	8.652	24.2%	441	5.1%	37	0.43%
2013		—	—	—	—	—	—	—
2014		—	—	—	—	—	—	—
2015		—	—	—	—	—	—	—
2016		—	—	—	—	—	—	—
2017		—	—	—	—	—	—	—
2012	West Virginia	613.687	54.131	8.8%	1.098	2.0%	226	0.42%
2013		532.425	17.415	3.3%	444	2.5%	18	0.10%
2014		533.822	14.603	2.7%	316	2.2%	29	0.20%
2015		536.427	15.414	2.9%	375	2.4%	52	0.34%
2016		538.979	15.801	2.9%	439	2.8%	52	0.33%
2017		546.367	22.239	4.1%	494	2.2%	73	0.33%
		549.650	22.525	4.1%	478	2.1%	86	0.38%
		556,098	23,212	4.2%	538	2.3%	85	0.37%
2012		124.290	11.436	9.2%	597	5.2%	61	0.53%
2013		123.897	11.921	9.6%	505	4.2%	44	0.37%
2014		122.832	1.493	1.2%	79	5.3%	14	0.94%
2015		123.682	11.443	9.3%	413	3.6%	69	0.60%
2016		121.485	16.914	13.9%	414	2.4%	68	0.40%
2017		118.831	18.137	15.3%	468	2.6%	63	0.35%
		115,617	17,912	15.5%	372	2.1%	56	0.31%

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
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Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html

APPENDIX A.12: CDC BLOOD LEAD LEVEL REPORTING BY STATE (CONTINUED)

Blood Lead Levels (µg/dL) among U.S. Children < 72 Months of Age, by State, Year, and Blood Lead Level (BLL) Group
For definitions please see Standard Surveillance Definitions and Classifications | Lead | CDC
Please see footnotes at the bottom of table for symbol definitions

Year	State	Total Population of Children < 72 Months of Age	Number of Children Tested < 72 Months of Age	Percentage of Children Tested < 72 Months of Age	Children with Confirmed BLLs ≥ 5 µg/dL		Children with Confirmed BLLs ≥ 10 µg/dL	
					Number	Percent	Number	Percent
2012	Wisconsin	422.592	99.008	23.4%	7.064	7.1%	910	0.92%
2013		418.059	94.961	22.7%	6.089	6.4%	766	0.81%
2014		411.919	89.578	21.7%	5.006	5.6%	683	0.76%
2015		410.394	86.967	21.2%	5.000	5.7%	654	0.75%
2016		405.912	88.312	21.8%	5.057	5.7%	685	0.78%
2017		404.665	89.282	22.1%	5.060	5.7%	748	0.84%
2018		402,925	93,805	23.3%	6,151	6.6%	895	0.95%
2012	U.S. Totals (for programs reporting data)	16,182,570	2,984,492	18.4%	155,737	5.2%	17,331	0.58%
2013		12.907.922	2.204.273	17.1%	104.351	4.7%	12.842	0.58%
2014		16.574.683	2.568.328	15.5%	98.002	3.8%	13.009	0.51%
2015		14,328,769	2,558,081	17.9%	91,080	3.6%	12,960	0.51%
2016		16.714.964	2.707.658	16.2%	102.540	3.8%	14.323	0.53%
2017		18.091.867	2.846.474	15.7%	88.769	3.1%	14.085	0.49%
2018		18,787,660	3,307,492	17.6%	86,371	2.6%	13,655	0.41%

Footnotes:

Figures based upon data received and processed as of April 21, 2021. Recent data submissions undergoing processing and analysis for future publication States have different requirements for testing children and reporting blood lead results.

Some data may be incomplete. Data are provisional and are subject to change.

Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years

(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)

SD - indicates data are suppressed when the cell count is less than six (<6)

† - partial annual data submission

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/file:///C:/Users/Lenovo-HA/Downloads/cbls-national-data-table-508.pdf

Website

Source: Population estimates calculated as population under 5 years of age plus 20% of population ages 5-9 years
(From: U.S. Census Bureau's American FactFinder, https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-detail.html)
SD - indicates data are suppressed when the cell count is less than six (<6)
† - partial annual data submission
* - indicates program did not receive childhood lead poisoning prevention funding from CDC
‡ - indicates data not currently available"

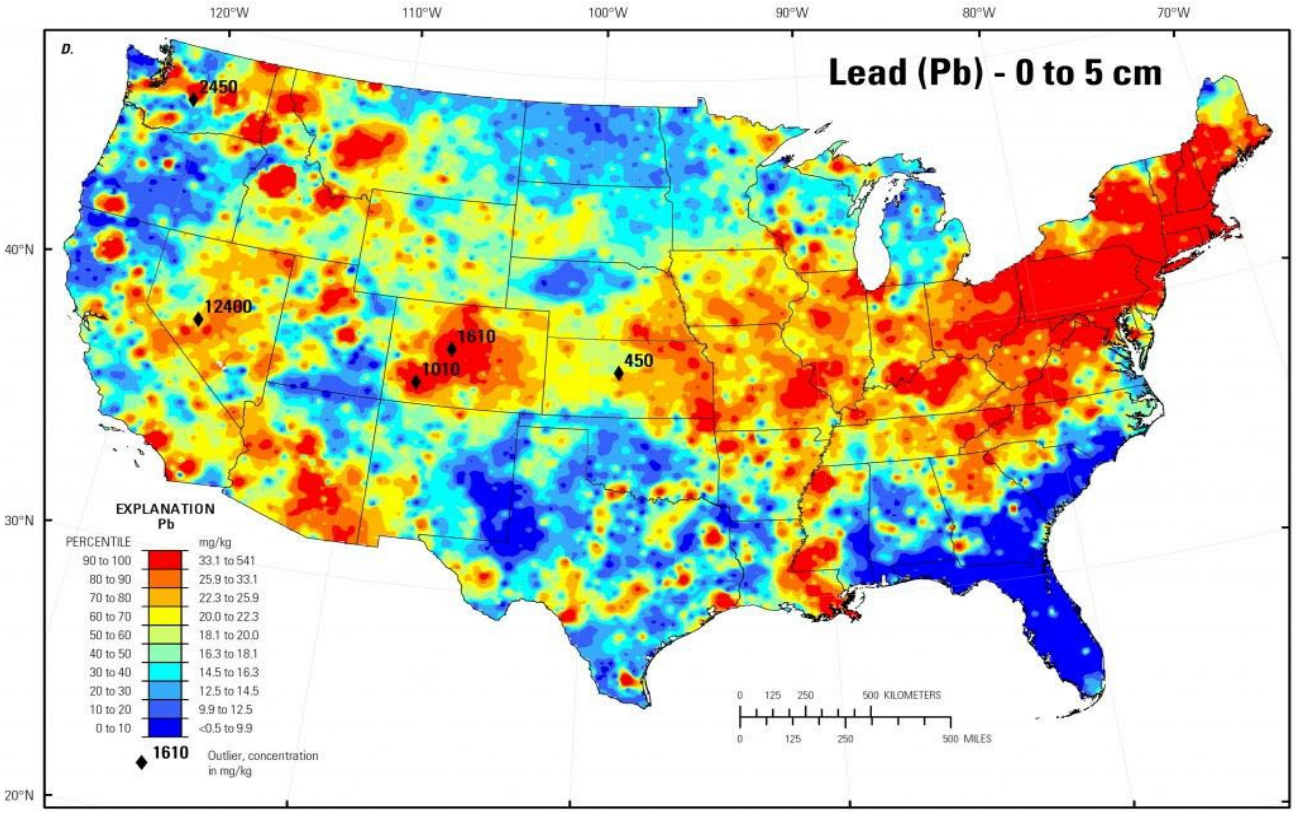
Note. Reprinted from "National Blood Level Surveillance Data" (CDC, 2010).

https://www.cdc.gov/lead-prevention/php/data/national-surveillance-data.html.

APPENDIX B.1: LEAD SOIL CONTAMINATION IN THE UNITED STATES

Figure B.1

Lead Soil Contamination in the United States



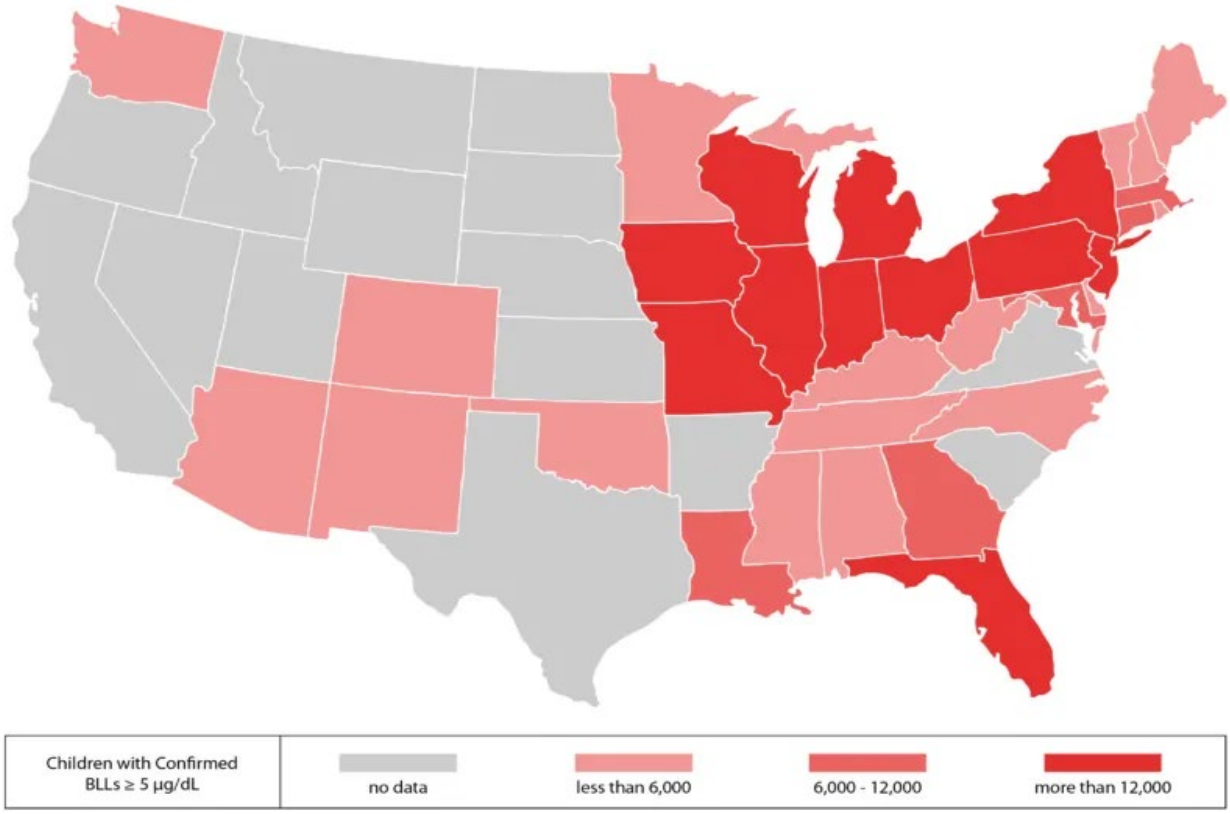
Note. Map reprinted from: Geochemical and Mineralogical Maps, with Interpretation, for Soils of the Conterminous United States (USGS, 2017).

https://pubs.usgs.gov/sir/2017/5118/sir20175118_element.php?el=82

APPENDIX B.2: MINIMUM CONFIRMED CASES OF LEAD POISONING IN CHILDREN BY STATE

Figure B.2

Minimum Confirmed Cases of Lead Poisoning in Children by State



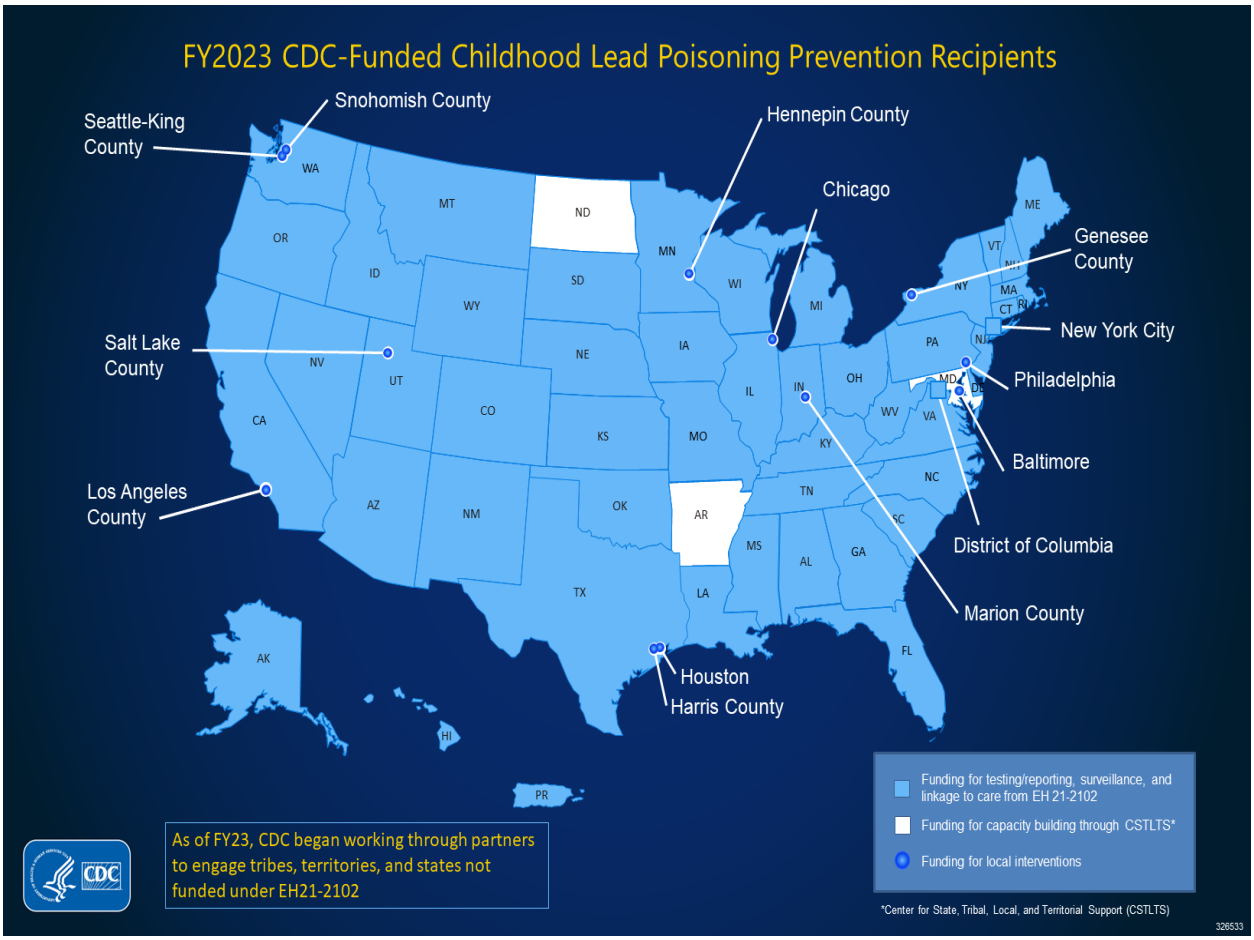
Note. Reprinted from "351,454 Children Lead Poisoned Across America" by Derek Hales (2022), of Moden Castle.

https://moderncastle.com/blog/usa-lead-poisoning-children/

APPENDIX B.3: RECIPIENTS OF LEAD POISONING PREVENTION FUNDS

Figure B.3

FY2023 CDC-Funded Childhood Lead Poisoning Prevention Recipients



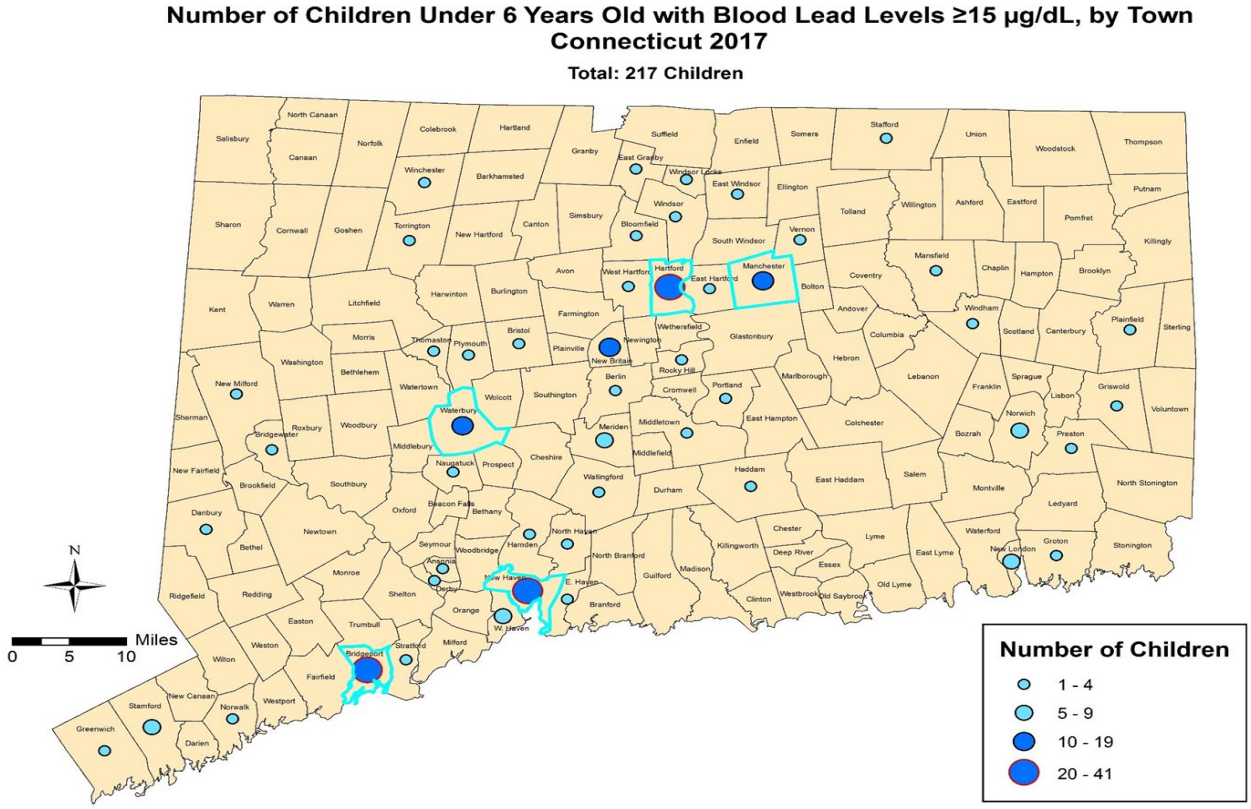
Note. Reprinted from "FY2023 CDC-Funded Childhood Lead Poisoning Prevention Recipients CDC" (CDC, 2023).

https://www.cdc.gov/lead-prevention/php/news-features/cdc-funded-recipients.html

APPENDIX B.4: BLOOD LEAD LEVELS IN CHILDREN IN CONNECTICUT

Figure B.4

Blood Lead Levels in Children Under 6 Years Old in Connecticut



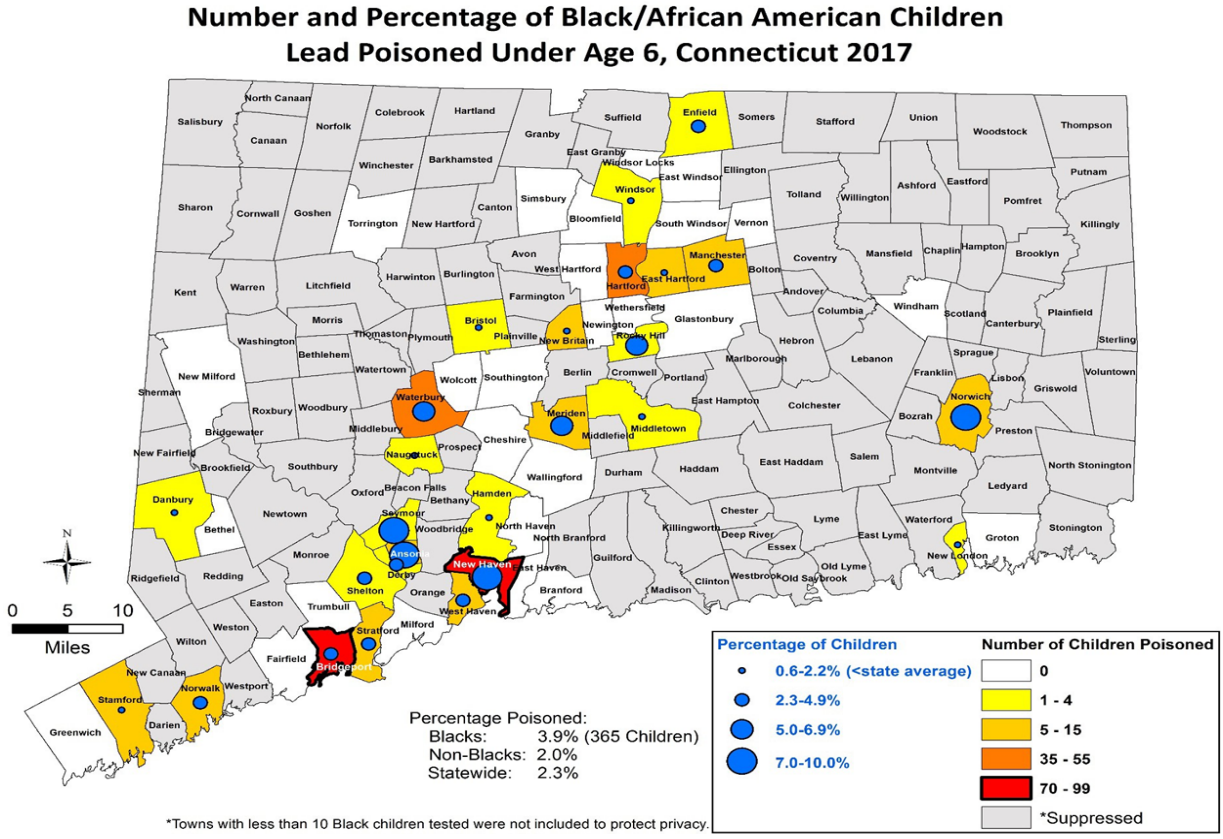
Note. Reprinted from "CT Department of Public Health 2017 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control" (Hung et al., 2019).

https://portal.ct.gov/-/media/departments-and-agencies/dph/dph/environmental_health/lead/surveillance_reports/cy-2017-annual-lead-surveillance-report-_updated-2-27-2020final.pdf

APPENDIX B.5: BLOOD LEAD LEVELS AFRICAN AMERICAN CHILDREN IN CONNECTICUT

Figure B.5

Blood Lead Levels African American Children Under Age 6



Note. Reprinted from "CT Department of Public Health 2017 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control" (Hung et al., 2019).

https://portal.ct.gov/-/media/departments-and-agencies/dph/dph/environmental_health/lead/surveillance_reports/cy-2017-annual-lead-surveillance-report-_updated-2-27-2020final.pdf

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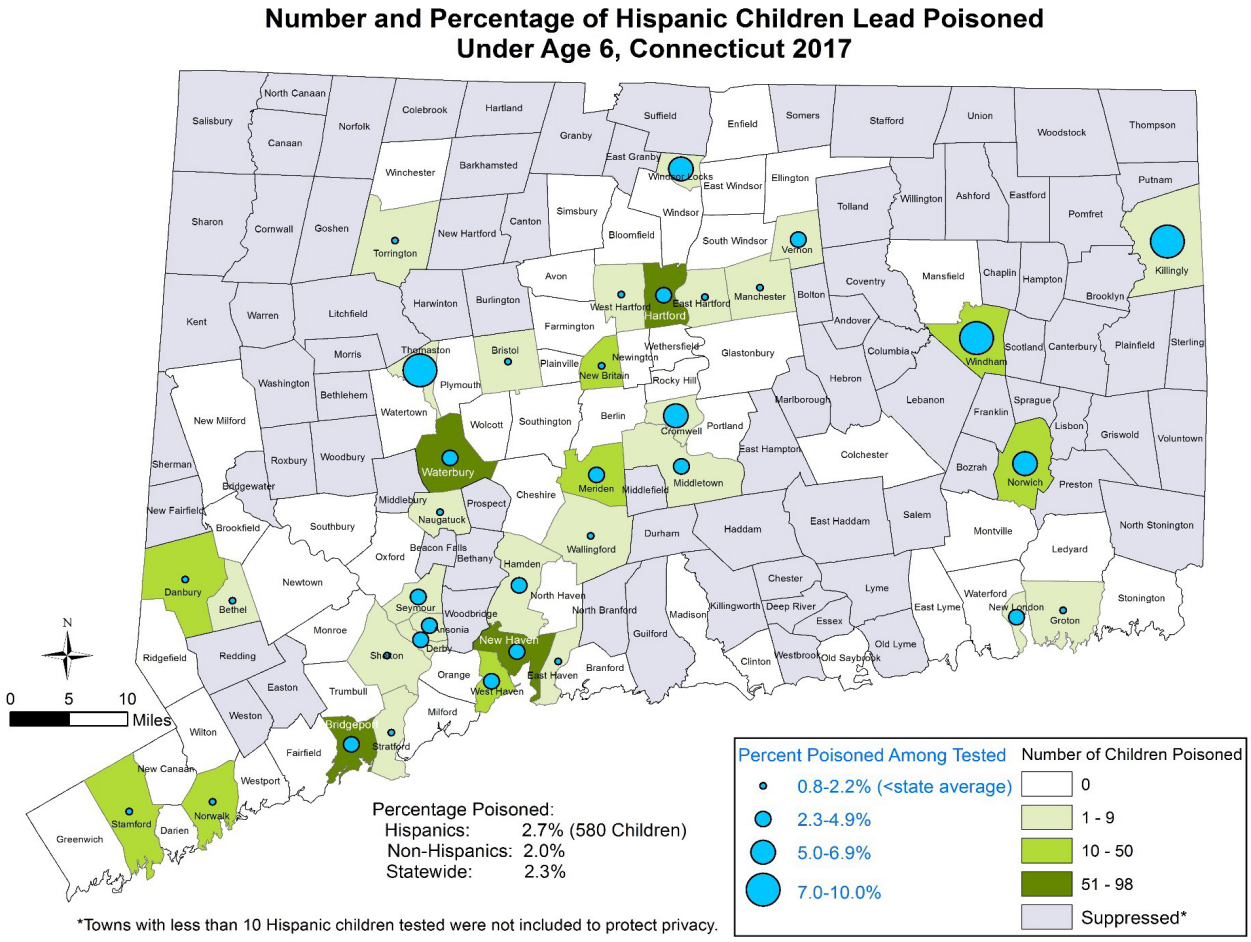
APPENDIX B.6: BLOOD LEAD LEVELS HISPANIC CHILDREN IN CONNECTICUT

Figure B.6

Blood Lead Levels Hispanic Children Under Age 6



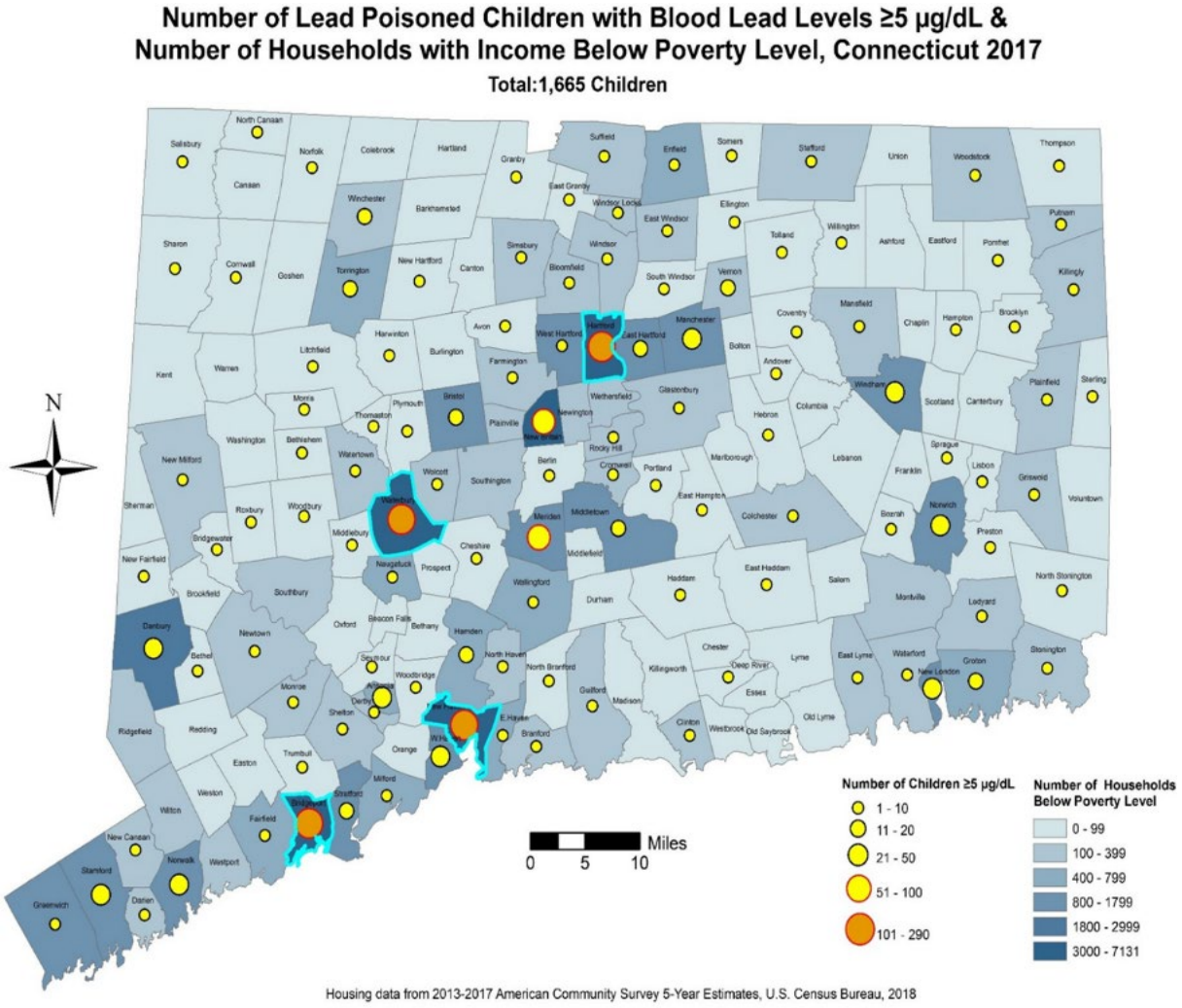
Note. Reprinted from "CT Department of Public Health 2017 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control" (Hung et al., 2019).

https://portal.ct.gov/-/media/departments-and-agencies/dph/dph/environmental_health/lead/surveillance_reports/cy-2017-annual-lead-surveillance-report-_updated-2-27-2020final.pdf

APPENDIX B.7: LEAD POISONED CHILDREN IN POVERTY IN CONNECTICUT

Figure B.7

Blood Lead Levels greater than or equal to 5md/dl in Poor Children in Connecticut



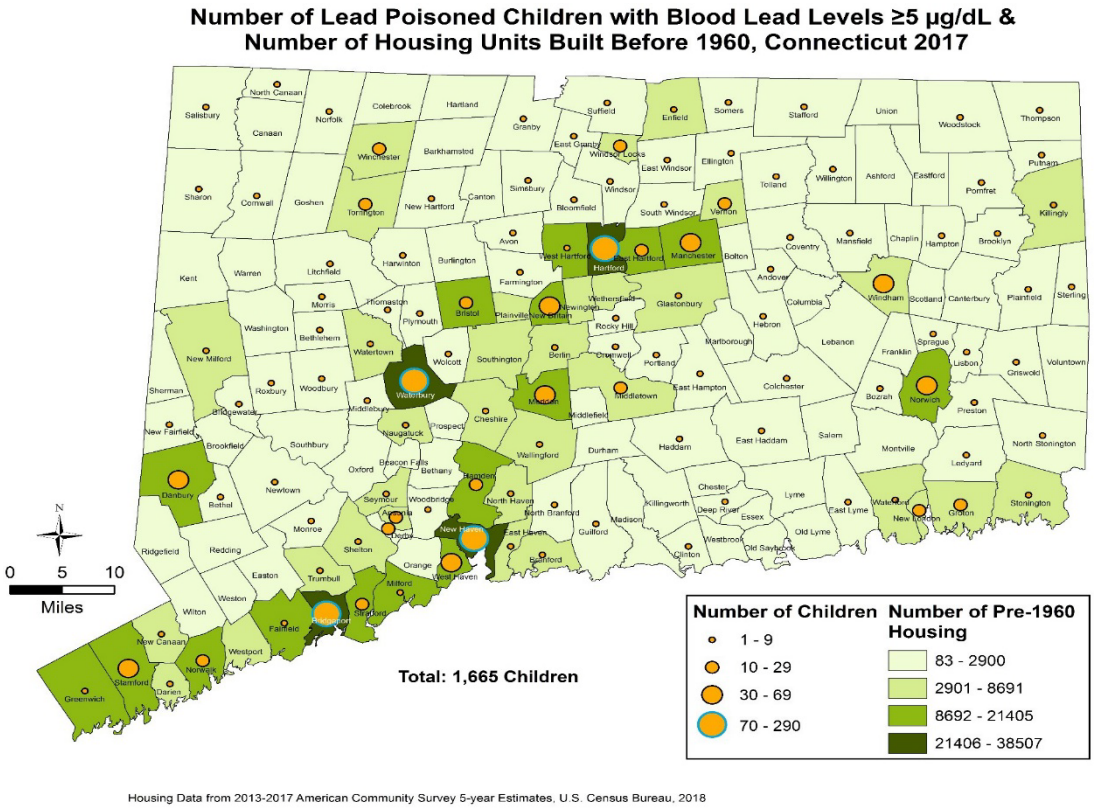
Note. Reprinted from "CT Department of Public Health 2017 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control" (Hung et al., 2019).

https://portal.ct.gov/-/media/departments-and-agencies/dph/dph/environmental_health/lead/surveillance_reports/cy-2017-annual-lead-surveillance-report-_updated-2-27-2020final.pdf

APPENDIX B.8: LEAD POISONED CHILDREN IN HOUSING STOCK BUILT BEFORE 1960

Figure B.8

Lead Poisoned Children in Old Housing



Note. Reprinted from "CT Department of Public Health 2017 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control" (Hung et al., 2019).

https://portal.ct.gov/-/media/departments-and-agencies/dph/dph/environmental_health/lead/surveillance_reports/cy-2017-annual-lead-surveillance-report-_updated-2-27-2020final.pdf

APPENDIX C: CONNECTICUT LEAD LAWS EFFECTIVE 1/1/23

House Bill No. 5045 Public Act No. 22-49 AN ACT REDUCING LEAD POISONING. Be it enacted by the Senate and House of Representatives in General Assembly convened: Section 1. Section 19a-110 of the general statutes is repealed and the following is substituted in lieu thereof (Effective January 1, 2023): (a) Not later than forty-eight hours after receiving or completing a report of a person found to have a level of lead in the blood equal to or greater than [10] 3.5 micrograms per deciliter of blood or any other abnormal body burden of lead, each institution licensed under sections 19a-490 to 19a-503, inclusive, and each clinical laboratory licensed under section 19a-30 shall report to (1) the Commissioner of Public Health, and to the director of health of the town, city, borough or district in which the person resides: (A) The name, full residence address, date of birth, gender, race and ethnicity of each person found to have a level of lead in the blood equal to or greater than [10] 3.5 micrograms per deciliter of blood or any other abnormal body burden of lead; (B) the name, address and telephone number of the health care provider who ordered the test; (C) the sample collection date, analysis date, type and blood lead analysis result; and (D) such other information as the commissioner may require, and (2) the health care provider who ordered the test, the results of the test. With respect to a child under three years of age, not later than seventy-two hours after House Bill No. 5045 Public Act No. 22-49 2 of 8 the provider receives such results, the provider shall make reasonable efforts to notify the parent or guardian of the child of the blood lead analysis results. Any institution or laboratory making an accurate report in good faith shall not be liable for the act of disclosing [said] such report to the Commissioner of Public Health or to the director of health. The commissioner, after consultation with the Commissioner of Administrative Services, shall determine the method and format of transmission of data contained in [said] such report. (b) Each institution or laboratory

that conducts lead testing pursuant to subsection (a) of this section shall, at least monthly, submit to the Commissioner of Public Health a comprehensive report that includes: (1) The name, full residence address, date of birth, gender, race and ethnicity of each person tested pursuant to subsection (a) of this section regardless of the level of lead in the blood; (2) the name, address and telephone number of the health care provider who ordered the test; (3) the sample collection date, analysis date, type and blood lead analysis result; (4) laboratory identifiers; and (5) such other information as the Commissioner of Public Health may require. Any institution or laboratory making an accurate report in good faith shall not be liable for the act of disclosing [said] such report to the Commissioner of Public Health. The Commissioner of Public Health, after consultation with the Commissioner of Administrative Services, shall determine the method and format of transmission of data contained in [said] such report. (c) Whenever an institutional laboratory or private clinical laboratory conducting blood lead tests pursuant to this section refers a blood lead sample to another laboratory for analysis, the laboratories may agree on which laboratory will report in compliance with subsections (a) and (b) of this section, but both laboratories shall be accountable to [insure] ensure that reports are made. The referring laboratory shall [insure] ensure that the requisition slip includes all of the information that is required in subsections (a) and (b) of this section and that this House Bill No. 5045 Public Act No. 22-49 3 of 8 information is transmitted with the blood specimen to the laboratory performing the analysis. (d) The director of health of the town, city, borough or district shall provide or cause to be provided, to the parent or guardian of a child who is (1) known to have a confirmed venous blood lead level of [5] 3.5 micrograms per deciliter of blood or more, or (2) the subject of a report by an institution or clinical laboratory, pursuant to subsection (a) of this section, with information describing the dangers of lead poisoning, precautions to reduce the risk of lead

poisoning, information about potential eligibility for services for children from birth to three years of age pursuant to sections 17a-248 to [17a-248g] 17a248i, inclusive, and laws and regulations concerning lead abatement. The director of health need only provide, or cause to be provided, such information to such parent or guardian on one occasion after receipt of an initial report of an abnormal blood lead level as described in subdivisions (1) and (2) of this subsection. Such information shall be developed by the Department of Public Health and provided to each local and district director of health. [With] (e) Prior to January 1, 2024, with respect to the child reported, the director shall conduct an on-site inspection to identify the source of the lead causing a confirmed venous blood lead level equal to or greater than [fifteen] ten micrograms per deciliter but less than [twenty] fifteen micrograms per deciliter in two tests taken at least three months apart and order remediation of such [sources] source by the appropriate persons responsible for the conditions at such source. [On and after January 1, 2012, if one per cent or more of children in this state under the age of six report blood lead levels equal to or greater than ten micrograms per deciliter, the director shall conduct such on-site inspection and order such remediation for any child having a confirmed venous blood lead level equal to or greater than ten micrograms per deciliter in two tests taken at least three months apart.] From January 1, House Bill No. 5045 Public Act No. 22-49 4 of 8 2024, to December 31, 2024, inclusive, with respect to the child reported, the director shall conduct an on-site inspection to identify the source of the lead causing a confirmed venous blood lead level equal to or greater than 5 micrograms per deciliter but less than 10 micrograms per deciliter in two tests taken at least three months apart and order remediation of such source by the appropriate persons responsible for the conditions at such source. Sec. 2. Section 19a-111 of the 2022 supplement to the general statutes is repealed and the following is substituted in lieu thereof (Effective January 1, 2023): Upon receipt of each

report of confirmed venous blood lead level equal to or greater than [20] 15 micrograms per deciliter of blood from January 1, 2023, to December 31, 2023, inclusive, 10 micrograms per deciliter of blood from January 1, 2024, to December 31, 2024, inclusive, and 5micrograms per deciliter of blood on and after January 1, 2025, the local director of health shall make or cause to be made an epidemiological investigation of the source of the lead causing the increased lead level or abnormal body burden and shall order action to be taken by the appropriate person responsible for the condition that brought about such lead poisoning as may be necessary to prevent further exposure of persons to such poisoning. In the case of any residential unit where such action will not result in removal of the hazard within a reasonable time, the local director of health shall utilize such community resources as are available to effect relocation of any family occupying such unit. The local director of health may permit occupancy in said residential unit during abatement if, in such director's judgment, occupancy would not threaten the health and well-being of the occupants. The local director of health shall, not later than thirty days after the conclusion of such director's investigation, report to the Commissioner of Public Health, using a web-based surveillance system as prescribed by the commissioner, the result of such investigation and House Bill No. 5045 Public Act No. 22-49 5 of 8 the action taken to ensure against further lead poisoning from the same source, including any measures taken to effect relocation of families. Such report shall include information relevant to the identification and location of the source of lead poisoning and such other information as the commissioner may require pursuant to regulations adopted in accordance with the provisions of chapter 54. The commissioner shall maintain comprehensive records of all reports submitted pursuant to this section and section 19a-110, as amended by this act. Such records shall be geographically indexed in order to determine the location of areas of relatively high incidence of lead poisoning.

The commissioner shall establish, in conjunction with recognized professional medical groups, guidelines consistent with the National Centers for Disease Control and Prevention for assessment of the risk of lead poisoning, screening for lead poisoning and treatment and follow-up care of individuals including children with lead poisoning, women who are pregnant and women who are planning pregnancy. Nothing in this section shall be construed to prohibit a local building official from requiring abatement of sources of lead or to prohibit a local director of health from making or causing to be made an epidemiological investigation upon receipt of a report of a confirmed venous blood lead level that is less than the minimum venous blood level specified in this section. Sec. 3. Subsection (a) of section 19a-111g of the general statutes is repealed and the following is substituted in lieu thereof (Effective January 1, 2023): (a) Each primary care provider giving pediatric care in this state, excluding a hospital emergency department and its staff: (1) Shall conduct lead testing at least annually for each child nine to thirty-five months of age, inclusive, in accordance with the Advisory Committee on Childhood Lead Poisoning Prevention [Screening Advisory Committee] recommendations for childhood lead screening in House Bill No. 5045 Public Act No. 22-49 6 of 8 Connecticut; (2) shall conduct lead testing at least annually for any child thirty-six to seventy-two months of age, inclusive, determined by the Department of Public Health to be at an elevated risk of lead exposure based on his or her enrollment in a medical assistance program pursuant to chapter 319v or his or her residence in a municipality that presents an elevated risk of lead exposure based on factors, including, but not limited to, the prevalence of housing built prior to January 1, 1960, and the prevalence of children's blood lead levels greater than 5 micrograms per deciliter; (3) shall conduct lead testing for any child thirty-six to seventy-two months of age, inclusive, who has not been previously tested or for any child under seventy-two months of age, if

clinically indicated as determined by the primary care provider in accordance with the Childhood Lead Poisoning Prevention Screening Advisory Committee recommendations for childhood lead screening in Connecticut; [(3)] (4) shall provide, before such lead testing occurs, educational materials or anticipatory guidance information concerning lead poisoning prevention to such child's parent or guardian in accordance with the Childhood Lead Poisoning Prevention Screening Advisory Committee recommendations for childhood lead screening in Connecticut; [(4)] (5) shall conduct a medical risk assessment at least annually for each child thirty-six to seventy-two months of age, inclusive, in accordance with the Childhood Lead Poisoning Prevention Screening Advisory Committee recommendations for childhood lead screening in Connecticut; and [(5)] (6) may conduct a medical risk assessment at any time for any child thirty-six months of age or younger who is determined by the primary care provider to be in need of such risk assessment in accordance with the Childhood Lead Poisoning Prevention Screening Advisory Committee recommendations for childhood lead screening in Connecticut. Sec. 4. (NEW) (Effective January 1, 2023) To the extent permissible under federal law and within available appropriations, the Commissioner of Social Services shall seek federal authority to amend House Bill No. 5045 Public Act No. 22-49 7 of 8 the Medicaid state plan to add services the commissioner determines are necessary and appropriate to address the health impacts of high childhood blood lead levels in children eligible for Medicaid. Such newly added services may include, but need not be limited to, (1) case management, (2) lead remediation, (3) follow-up screening, (4) referral to other available services, and (5) such other services covered under Medicaid the commissioner determines are necessary. In making the determination as to which services to add to the Medicaid program under this section, the commissioner shall coordinate such services with services already covered under the Medicaid program. Sec. 5. (Effective from

passage) (a) The Commissioner of Public Health shall convene a working group to recommend any necessary legislative changes concerning (1) lead screening for pregnant persons or persons who are planning pregnancy, (2) lead in schools and child care centers, (3) reporting the results of lead tests or lead screening assessments to schools and child care centers in health assessments for new students, (4) reporting additional data from blood lead test laboratories and providers to the Department of Public Health, and (5) any other matters regarding lead poisoning prevention and treatment. (b) Such working group shall consist of the following members: (1) The Commissioners of Public Health and Social Services and the Secretary of the Office of Policy and Management, or their designees; (2) at least four persons who are (A) medical professionals who provide pediatric health care, (B) active in the field of public health and lead prevention, or (C) from a community that has been disproportionately impacted by lead, who shall be appointed by the Commissioner of Public Health; (3) two representatives of an association of directors of health in the state, who shall be appointed by said commissioner; (4) a representative of a conference of municipalities in the state, who shall be appointed by said commissioner; and (5) a representative of a council of small towns in the state, who shall be appointed by said House Bill No. 5045 Public Act No. 22-49 8 of 8

APPENDIX D: PARTICIPANTS INVITATION LETTER

Dear Interviewee,

Principal Investigator name is Heather Aaron. I am a doctoral student at Antioch University's EdD in Edu & Prof Practice & Social Justice Leadership. I am kindly requesting your participation in a doctoral research study that I am conducting titled: Lead Poisoning : A Preventable Disease.

The intention is to interview professionals that are engaged in caring for children who are lead poisoned to gather their input on the barriers within community that are affecting the eradicating of Lead poisoning in children. The study involves completing qualitative analysis of the interview responses. It is the expectation that the data collected will demonstrate methods used to address prevention and recommend methods that work best for the community.

The study is completely confidential; therefore, your name will be removed from the analysis. If you would like to participate in the study please read the Informed Consent letter below. Your participation in the research will be of great importance to assist in social change in ensuring that lead poisoned children are receiving adequate and effective services by assessing the strength of current prevention education, ultimately, eradicating lead poisoning in children. Thank you for your time and participation.

Sincerely,

Heather Aaron
Antioch University, Doctoral Student,

APPENDIX E: LETTER OF CONSENT

Antioch University Letter of Consent: Lead Poisoning Study

You are invited to take part in a research study about the type of barriers that are preventing the eradication of childhood lead poisoning. The Principal Investigator is asking the professionals that care for children with lead poisoning to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by a Principal Investigator named Heather Aaron, who is a doctoral student at Antioch University.

Background Information: The purpose of this study is to assess the barriers childhood lead poisoning eradication and provide recommendation to address what the community of care professionals see as solutions. If you agree to be in this study, you will be asked to be interviewed for approximately one hour discussing the barriers and the possible solutions.

This study is completely voluntary. Everyone will respect your decision of whether you choose to be in the study. Additionally, this study is completely confidential, no one will know if you did or did not participate. If you decide to join the study now, you can still change your mind later. You may stop at any time. There are no risks in participating in this study. However, there are benefits include voicing your thoughts and concerns regarding childhood lead poisoning nationwide, using your solutions to support children everywhere, providing new insight into ways of improving prevention, driving policy and working toward the eradication childhood lead poisoning for generations to come. This study aims to expose the limitation of current prevention and mitigation and provide sensible ways to prevent further exposure.

Payment:

This study is completely voluntary; there will be a $25 dollar gift certificate for the interview.

Privacy: Any information you provide will be kept confidential. The Principal Investigator will not use your personal information for any purposes outside of this research project. Also, the Principal Investigator will not include your name or anything else that could identify you in the study reports. Data will be kept secure by password protection and data encryption. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions: If you have questions now or at a later time, you may contact the Principal Investigator, Heather Aaron. You can ask any questions you have before we begin the interview.

Statement of Consent

I have read the above information. I understand the study well enough to decide about Principal Investigator involvement. By signing below, I understand and agree to the terms described above.

Participant

Signature:_____

Print

Name_____

Date:_____

APPENDIX F: INTERVIEW QUESTIONS & INTERVIEWS

Interview Questions/Community Professionals

1. Please discuss what are some of the barriers you have experience regarding the prevention of childhood lead poisoning in your professional work.
2. What would you suggest to the families to support prevention of lead poisoning?
3. What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?
4. The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city in Connecticut, to Principal Investigator knowledge, collects the fee. Should all cities collect the fee? Should Connecticut adapt the District of Columbia law in your opinion.
5. Should the state of Connecticut require homeowners with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?
6. Should homeowners be fined and serve jail time for not complying?
7. What are current solutions and practices for the prevention of lead poisoning in children?
8. Why is lead poisoning in Children a Social Justice Issue?

9. The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?
10. In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?
11. Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?
12. The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?
13. There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?
14. The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?
15. What are your thoughts on what is needed to eradicate lead poisoning in children?

16. Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Interview Questions: Medical Professional Section

1. The CDC has stated that no amount of lead is safe. Why is treatment of Chelation delayed until a child lead level is over 45 microgram per deciliter?
2. The CDC collects data from each state The most recent data point is 2017. On average most states are only able to test about 20% of the eligible children less than or equal to 72 months. What can be done to improve the number of children tested from the eligible population?
3. The state of Connecticut website and the local health departments websites provide education to the public on prevention. However, Lead poisoning persists. Do you think that there are other methods to add to the current work to help the community with prevention?
4. Chelation involves removing lead from the blood stream. What about the majority of the lead particulates in the teeth and bones? How is the lead in the bones and teeth treated?
5. After treatment what is the follow up process for the family and home in keeping the child safe from further lead poisoning?
6. If it was the home that was the source of the poisoning does the case management follow up assuring the home remediation or relocated before the child is discharged?
7. According to the CDC data approximately twenty-five million children in the United States are eligible for testing between the ages of zero to five years old. The data also illustrates that approximately four million tests are done annually. What do think the federal government and the state can do to increase initial testing; Keeping in mind that the four million tests are not individuals. Each child can have multiple tests.
8. Should all physicians who treat children be required to assess all children for lead poisoning? What are the barriers to addressing lead poisoning eradication in children in Connecticut?
9. What are current solutions and practices for the prevention of lead poisoning in children?

10. Why is lead poisoning in Children a Social Justice Issue

Questions for Teachers

1. Have you experienced any children in your classroom with lead poisoning? If so, how was your experience with educating those children?
2. Did you know at the time that lead poisoning is a disease with irreversible neurological effects on children?
3. Were you provided with educational material on lead poisoning?
4. Was the school nurse provided with a protocol and was the protocol explained to you?
5. Were there any behavioral signs that something might be wrong with a child or children in your class that was not resolved by standard behavioral practices?
6. Did you have students that were diagnosed with lead poisoning in your class?
7. Once a child was treated and returned to class, did you experience an improvement in the child's ability to learn and focus on class?
8. What is the process around developing an IEP for a student? If a child is lead poisoned, is an IEP developed related to the child's lead poisoning diagnose? How does the IEP address for example hyperactivity?
9. Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts on how we can support underprivileged children from being lead poisoned?
10. There has been discussion about school involvement. What might be possible for school leadership to do to educate children and parents about lead poisoning?
11. The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

12. The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?
13. What are the barriers to addressing lead poisoning eradication in children in Connecticut?
14. What are current solutions and practices for the prevention of lead poisoning in children?
15. Why is lead poisoning in Children a Social Justice Issue?

Community Professional Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

I think the biggest barrier is the barrier of how serious lead poisoning is in children and in my career it was mentioned casually with educators, parents and other professionals. It was brought up randomly. I did not know that it was serious until later years. There was not a lot of media attention to it. I mean, it was mentioned that it was a hazard in some homes, but I did not know the extent to which it had an impact on children or adult for that matter.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

Initially It would start with educating parents that that it is a problem that they should be aware of and also educating parents as to what they need to do to make sure that it is not impacting their child. I think it needs to be done at the prenatal stage. I mean I think ideally with the doctor when a woman first becomes pregnant. It should be a big discussion about the seriousness of lead poisoning in children. They should also be made aware of what they would need to do to make sure that it is not a problem for them and their child. I think that's probably where it should start because I think that if you make parents aware of the serious implications that they're going to do all that they can to make sure that it's not impacting their child and they would probably be in a better position or have the motivation to carry on what they need to do to make sure their child is safe.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

I think let us start with the pediatricians and the doctors that are treating children. I think that if, and I don't know how politically correct this is, but there are certain neighborhoods especially where poor people live and if they have patients who live in a certain tract or in a certain neighborhood physicians should make sure that the parent are aware and that they're doing all they can to make sure that children are being treated. You know, they should push the testing and whatever else is needed. I think there is some governmental responsibility to make sure that the home is free of lead. I mean it is a hazard not only to children but to adults as well. There are laws on the books that should be carried out to make sure that all housing is safe and lead free. I think this is the government's responsibility.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to Principal Investigator knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion.

Answer

I think to be effective; the government should go in and pay for all the assessment and remediation and then charge the property owner. That way it is sure to be done. You know when you rely on people to do what they are supposed to do it does not always work. But if it is something that is harmful to the public, then the government needs to take responsibility. So, I think they should follow through. Charge the homeowner for the work done. The government should not wait for the homeowner when there is a public health risk. So, I agree with this law of DC.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

Absolutely

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

I think there may be other ways to bring people into compliance without putting them into jail. Such as taking the driver's license. Putting a lien on their home. Taking away certain rights that they really depend on and count on before the jail time. But it might come down to that. But I think initially take try other things like a lien on the home.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

Well, I think if there are laws regarding new housing there should be absolutely no lead paint in those houses and then the pre-existing homes I think all should be tested for lead because there is a risk to children. Families move in and out of places, but I think that it is the government initial responsibility to make sure that the housing stock is safe. Homeowners should be made to come into compliance, whether they are fined, or privileges taken away. There should be a time limit on how something should be done and when it is not done, if it is not done, I think that the city or the township should do the remediation. The homeowner will be responsible for the cost.

Question 8

Why is lead poisoning in Children a Social Justice Issue

Answer

It is a social justice issue because I think we are all responsible for our children. There are economic concerns on their income level. It is just not right for children to be harm because their parents are not well off. Children should be protected regardless of income. It is not okay to expose children to poison. It is not right just because they do not have money. This is a governmental responsibility.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

I do not know. I think it depends on the age of those. How prevalent is the lead in the neighborhood in general? Was the house was built before 1978. We should have that information before deciding.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

I think parents should be educated by the medical professionals because a lot of times parents do not know. But the medical professionals certainly know. Testing and follow the guidelines of when children should be tested. That should not be a problem because children go in for health checkups. I would think that that would be the time for intervention. Doctors need to educate families. The crux of this is that the parents probably lack the education, and the doctor can probably do a better job of explaining the risk. I am thinking that that the next institution is the schools. Because children have to enter school and there probably should be some component as part of them entering school to make sure that lead test are mandatory

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Just the things that I said before the steps should be taken to make sure that the children are followed and evaluated. To make sure that they are not affected. Well, I think that everybody has

to be accountable. The homes should not have lead paint. I mean initially this is a government responsibility to make sure that those homes are safe that children are living in. There has to be stricter laws and stricter enforcement. If this were an issue mainly in wealthy homes, everybody would be aware of it, and something would have been done about it. Poor people and our health are not taken as seriously.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

It comes back to understanding that the government needs to have better rules, understanding all of that right now, right here in this state and time, you have people living in homes where the paint is peeling. There is generational ignorance. No one in the home is aware of anything about lead from generation to generation living in a home that has all generations living in the same home. The neighbor's house is the same so there is no one in community to educate. Many of these homes are Section 8. Section 8 homes are to be inspected. How is the government monitoring these home inspections. What are they doing to make sure that there is no lead in the homes?

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

Well, from the state level it probably should be part of the educational program in the schools. Kids are made aware of it, what it is and what effects it has on them. But. Even before that, like I said before, if it has just made part of requirement for children to enter school.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

The teacher should be educated and report her findings to the nurse and the parents. The nurse should have some basic questions which should lead to a lead test.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

First step is education. I can see a national campaign to just make the public aware on the dangers of lead poisoning. Government officials should be made aware.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

If we have alternatives and they are tested safe we should go forward. We must be careful not to make things worse. Test the products for safety and make improvements.

Politician Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

The lack of education. The lack of access to resources to education. There is no urgency for this particular issue right now. Years ago, in the 70s and 80s people were more hypervigilant about lead Poisoning, particularly when they were seeing behaviors in the school system. These behaviors often lead to children acting out and being put in facilities or having specialized classes. Back in the seventies and eighty's lead poisoning or the results of lead poisoning impacts were perceived as draining on the school system versus what it was actually doing to children and families in various communities. Now there seems to be kind of a blame game approach to it. The emphasis has been put on the parents or the families to access the resources to be educated about the about this issue on their own. And so that is the biggest barrier is education. Another barrier it is hard to identify certain slumlords. The lack of oversight and consistent inspections, and enforcement of ordinances. There are always excuses for why ordinances are not enforced on landlords. There is always the excuse of not enough staff and time. And then sometimes we will hear about the cost. So, these are all things that play into why lead poisoning has not been eradicated, lack of education like access to education, the fact that people are becoming more lacked about ordinance not being enforced and the overall cost.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

Be more vocal. Come to Council meetings. Go to their legislators and picket. It needs to almost be a movement. Almost nothing happens quickly regardless of the situation. Lots of times our families are busy with life. Working families with limited time and then there is also a fear and a lack of confidence in understanding how to approach and remove systems issues. I deal with a lot of families in the community, and they do not have the confidence in addressing state and local authorities. They go to meet somebody in their child's school system and when people talk about things like PPT and IEP they do not even feel comfortable enough to say how they are feeling. Sometimes they do not understand why they are at the meeting. The teacher said the child is acting out. Even if you know that there is lead exposure in your house you are unable to see that there may be a connection to your child acting out. I think families being vocal, finding activists and advocates in the community to help them fight systems, is necessary. Galvanize, grab 4-5 friends, there is power in number. People will start taking notice and others will join that obviously impacts and affects more people. I think the lack of guidance with someone in the community to help families deal with this issue is a barrier. Number one thing that I really see is families, particularly a lot of households led by women, do not have the confidence that they can make a difference. There is a fear of going against the system. There is a shame and a sense that come with I do not feel knowledgeable enough to fight these people. I do not feel secure enough or intelligent enough. I do not know what to do with those feelings when people speak to me as if I should understand what they are saying, and I really do not understand what they are saying.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

A lot of times you are not going after an individual homeowner or landlord. Often it is a large company. So, if it is just an individual landlord enforcing the ordinances, and fines should work. In cases where the property owner is not addressing the problem restricting payment until something is rectified. When the situation is an urgent situation tenants, should be relocated at the property owner expense until the lead had been remediated. I think if landlords had to deal with something like that, that would really eradicate lead poisoning. When it comes to companies who own multiple residential apartment where it is very difficult to locate who is responsible the state should set up a legal office just to address the absent property owners and support the tenants.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city in Connecticut to the Principal Investigator's knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

Again, we know lead poisoning can cause irreversible brain damage. There needs to be lawsuits and settlements long term for the life of the victims. This is no different than the lawsuits on big tobacco and big pharma companies. If a homeowner did not know that the home had lead give the homeowner time to remediate. However, if the property owner refuses to remediate timely

then there needs to be lawsuits. Also, if the property owner is aware of the lead and is hiding it, there should be an extra penalty for hiding the fact that lead is in the property. Making sure that people are held accountable and then again a liaison, someone to relieve the drain on families, because oftentimes people will start a fight, will get exhausted and run out of resources. Even if they get people to support them monetarily for the fight, sometimes the mental strain is too much.

This is not only about eradicating lead poisoning is also about making the landlord accountable for the harm done to families. We have to follow the money and make on imprint on the bank account of the property owners who are often taking rent from people who have no choice in where they live. Another option is the use of eminent domain because the property is a danger to community and considered blighted.

This is a dangerous landmine in the community, and it needs to be handled. I know it sounds extreme and lots of politicians who sit in high places will not favor such a move. We need to follow the dollars they are usually connected to people sitting in high places. So, Connecticut should definitely enforce and adopt the DC law for all cities and towns. People definitely should be accountable. At the end of the day, give the property owners a certain time period and in the meantime the family should not have to sit in that environment. And here is the thing, it is going to always go to cost, just so people will know the minute you ask for service to even be implemented. Reviewing and evaluating would cost money, would cost staff and staff public service salaries. Like you just cannot train someone off the street so to speak and send them out to remediate lead. And if they have to have certain credentials educational wise, you are going to have to pay that salary for an education. Key persons to go out with expertise. It would be great to send nurses out who could maybe do blood test and give results instantly like how you could

do a COVID test. Something like that for lead poisoning You always going to come into it is about money. It is about cost. It is like it should not be about cost. It should be about lives. So yes, Connecticut definitely needs to implement this DC law.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead ?

Answer

Yes. To me, there should be a whole department focused on lead remediation at the state departments. This should be a department or a unit on the Department of Health. Again, you would have people who could be consistently monitoring and reporting. Property owners should submit reports on remediation by property owners and be inspected with the licensed personnel.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

Someone had to keep passing these homes on, maybe knowing or not knowing. Some homeowners might need resources to help with remediation. The legislators have different funding sources that can be prioritized to support property owners on a sliding scale. We know that there are property owners that have the means to remedy and those we do not. It is the responsible of the state government to protect the health of community. Jail time would not help with compliance. For the rich it would not be a real jail anyway. There are property owners who know that there is lead in the property, but they keep moving families in and out without remediation We need a law stating that a property owner knowing that there is lead on the property endangered the life of the persons. Similar to the laws on transmission of HIV. I again

think if you hit people in the pocket, impact their funding stream they will engage. Income might hurt someone more than jail. That being said, if we were to say you are going to go to jail for being a person, who caused families to lead poisoning, which may help with public awareness and have other property owners pay attention.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

Education, education, education. I think there should be education in schools, like when teachers talk about anything related to health, they should talk to children about lead poisoning. Maybe there is a infographics that every kid can get and take to their parents. The nurse in school should follow up and make certain the kids are tested Discuss at parent teacher meetings and send information home.

Question 8

Why is lead poisoning in Children a Social Justice Issue

Answer

Because it mainly harms marginalized. Because it leads to other things that most communities are going through. Perpetuating bias systems. Lead poisoning can make kids act out. Your kid is now a special Ed and cannot learn. This kid got a whole lot going on so now and is not learning. The kid is in behavioral classes and behavior does not improve. I know, before politics I worked for the department of children and families for thirty-four years. The kids are just moved along in the system basically the pipeline to prison. I do not want people to always have the idea that poor people want to do crime because they do not. But it certainly is a crime to take away the brain of

a child. I think it is one of the public health crisis that people are not looking at because it is going under the radar, but it is definitely one of the top societal ills.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut.

Answer

Absolutely yes. There should be protections as well, so you will be able to make a complaint but also be protected so that there is no recourse against you.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

If there are no enforcement people will kind of go along until they get caught. So, education so people can be aware that they are being exposed. Really leverage the accountability in the fines and settlements to the advantage of the families.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Educating the children and the families. Have community advocates. We need to give families a voice at the table. Education is the key.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

The education is needed. We need more testing. The hospitals should be giving information to parents from the beginning of the pregnancy.

Question 13

There has been discussion about school involvement. What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

I think it can be part of the health curriculum in schools. Teach kids how to recognize lead. Tell the parents where the children should not play. Make a kid friendly curriculum on lead poisoning. And then again having the nurse test the kids for lead poisoning. They can use the school base health centers. Let make certain that this parent really understands.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Most definitely. Teachers should be able to discuss their observation of the children and if they are trained to know the signs of lead poisoning they should be able to work with the parents and the nurse to advocate for the child to be tested.

Question 15

What are your thoughts on what is needed to eradicated lead poisoning in children?

Answer

First step to fit the laws to make landlords accountable. Get rid of the loophole to wave the lead testing in homes upon sale of homes. Politicians need to take that language out of the law.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

I would say that we should make sure it is tested and not harmful to humans. It is urgent that we find something better. Safer.

Politician Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

As an owner of an apartment complex in Hartford, I have section 8 tenants. Imagineers provided section 8 tenants and required that families would be subjected to lead paint. With each new tenant the apartment had to be reviewed for lead paint. Never in the 39 years that I owned the building was anyone lead poisoned or exposed. Each time there was a new tenant the housing inspector reviewed and certified that there was no lead paint, and the tenant was notified. Imagineered were receiving federal funds and was required to make certain there was no lead exposure in the units. There were times when lead was identified, and I would be notified. I would then sand down the area and repaint it. I did not have any special attire. I may or may not have worn a mask but that was the way I removed the lead when notified of lead. I am not sure the inspectors were lead certified. I do not know what their back grounds were. Keep in mind the remediation standards of today were not the remediation standards 39 years ago to my knowledge I only had to sand down the area and repaint.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

The first thing is to review the content of the paint they are purchasing. I would certainly tell people not to just sand the lead down. Finding other places of residents especially if they are not equipped to remediate they should move.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

The property owner is responsibility. The town should provide a stipend or grants because it is very costly. There is money for assessment and then there is money for remediation due to the considerable amount of lead that is in these old homes.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city in Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion.

Answer

The best-case scenario maybe to mandate this mechanism to all towns and municipalities. Some responsible owners will take care of it immediately, but some will not. But if they felt that they were going to be sued in some way they may response better.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

My view would be that the state and the federal government should pay for remediation for homeowner who had lead paint before 1978. The law should not apply to those homes because the law came after. The cost for the home with lead before 1978 should be grandfathered in

Question 6

Should homeowner be fined and serve jail time for not complying.

Answer

No jail. But I think the homeowners should be fined.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

Before purchasing the seller should abate the home. People need to do their due diligence before purchasing. The current owner should take care of the problems. Take landlords to court and sue them. Some people only respond to litigation.

Question 8

Why is lead poisoning in Children a Social Justice Issue

Answer

It is in communities that are already impoverished. The housing standards are at a substandard level. Parents in these situations are often fighting to pay rent with low wages. There is social determinant that stand in the way of what is a priority for preventing lead poisoning.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can

take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut.

Answer

I think they should. It has to be managed because there may be false accusations from a disgruntled neighbor. There are legal implications and there must be careful monitoring.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

I think something can be set up in the school system and test all students everyone in the school system. Do not test some and not others. Do universal testing and begin the remediation neighborhood by neighborhood.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

I think that in additions pamphlets which may not work well It will help to have individual professional speak to families. Use social media to give information. Provide hotlines for conversations and education.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

The parents would need to be more conscientious about what they are purchasing and renting. Again, parents need education to understand what they need to do. There are many environmental factors and parents need education.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

During some of the parent teacher times an element of the agenda could be beneficial to parents and allow for discussion. The schools definitely need to participate and educate the family.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

I know for certain that teachers are too busy trying to control the class and are not thinking about lead poisoning. The teachers have twenty plus kids. It may be helpful for the teachers to be educated first.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

We need prevention. More information needs to be provided to parents for remediation. Also, communities that work with the school and the children should also be educated e.g., the YMCA and YWCA. Information could be distributed when parents come in showing how important this information is. Need emphasis on licensing and inspections. Certified inspections need to be properly trained. The inspectors must be given full authority to work with absentee landlords.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

It depends on how effective the new product is. I think there is an evolution for everything, and this may be the next evolution.

Community Member

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work ?

Answer

Sure. There are many silos in care, and I think one of the challenges is that when you look at the silos between families, medical providers and local health enforcement, I think we all function very independently and take for granted that we do not know what the others are doing. You know, we are under screening our mandated screenings for lead in Connecticut. In this community I think we are pretty well connected, and we are getting better. We are seeing more providers responding to the lowering of the CDC rates and they want to know how to help the problem. It starts in the exam room, and whether you have an MD or PA asking questions that parents may provide accurate answers. Parents and guardians have extremely limited understanding of both how to recognize what hazards are in the home and what activities are causing their children to be exposed to lead. They do not even have the visual lens to even recognize what the doctor is asking them. Parents may not know the age of the home that they are in, the conditions, whether there has been any type of remediation to cover up lead. Whether it might be in the soil, or the dust. So, parents are poor historians in the exam room. Doctors are not environmental specialists, and therefore they do not know how to look deeper to figure out the true answers. If there is a follow up there are inspectors who go out into the home who may not be objectively reviewing the home. In other words, they may be doing an excellent job with the inspection but might not be as skilled in actually doing teach back to the people that live in the home. They should be helping to empower the families to start taking their own

interventions. So, I think then what happens is that doctors get also frustrated because they do not know whether local health is doing anything and then the burden falls on these inspectors not knowing how much they should teach. Once parents receive the results from the inspectors they may not know what to do. I have asked very often when I do home visits and I have done hundreds. Parents do not know what to do with the inspectors' report. So, a lot of times what I end up doing is trying to connect those dots, figuring out what the inspection did using and explaining the report to parents. And then looping in the provider to make sure that everyone understands that the blood test is the best way to confirm whether things are improving or not. You know, people, especially in this housing market, do not have the luxury of leaving their homes, whether they are renters or if they are property owners. We have seen this housing crisis where even if you do find a unit, it is so expensive most of our families cannot leave. I have to teach people how to feel safe even when there's lead in the home. So that is just the starting point. Linking the families and providers together is really the best thing we can do. So, I used to work in geriatrics years ago and one term that we use with that population is ADL's activities of daily living. We use the same concept when demonstrating to parents how to live with lead in their homes. So, I ask a series of questions to help draw out what to avoid in the home and how to protect the children. So, for example, I ask ' if you were to come home today from the doctor's office which way are you going inside? Oh, do you have a porch or balcony? During the warm weather months, is that somewhere where you and your family sit and play during the summer? Do you have air conditioning? If your child is going upstairs to the second-floor unit, do you carry them? Do they go hand to feet up the stairs? How low are the windows? Where is the bed placed? What I try to do is to consider the activities the child is engaging in that are seemingly innocuous. If you can avoid these areas, avoid them. If you can, put down a play mat or an

outdoor rug on the porch or sheet over the railing so you can be outside. If you can put weatherization plastic around your windows to block that area. If the wall is peeling because your child keeps picking at it, can you get a poster or cardboard that you tape up over it, so they are not tempted to go back in that? Identifying the hot spots where the child would have most easily access to and then also identifying low risk areas. So, a lot of times certain rooms might be in the clear. Sometimes you know, even just focusing on the perimeters of the rooms is less likely to have concentrated areas of lead. It not good for parents to go home in a panic every day that their kid is going be poisoned in the place that is supposed to be your respite. It is probably not the entire home you have to worry about. It is just certain areas, you know, even outdoor space, because we want kids to play outdoors. You know, typically lead will concentrate around the drip line. So, we say you know if even if you want, if you have a yard that you can use. The further you go away from the house, the better. It is less likely you have risks of exposure away from the perimeter. So, block the perimeter or if you can even get a lawn chair and sit in front of where you do not want them to play, and they get too close you scoop them away back into the further part of the yard. We are health professionals we have concrete ways of recognizing lead but not the average person. The average person has a limited understanding of the full scope of what lead poisoning is and the level of toxicity. So, it is really about trying to track down how they live within the home and how can we identify the high-risk areas and also do a strength list perspective on how you can live with minimal risk.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

I think I have said this in conversation, is that if there could be an intermediate team. This team would be able to give direct support and put an interim controls for families between the inspection and abatement in that in between. If there is a crew that had supplies and safety gear, whether or not they can do it with full abatement, I think that would be really helpful to people You know, there is this whole stigma too about lead poisoning and it should not happen. But when you hear what happened to your kid, it is such an awful thing to hear. If parents know what they are looking for and they do those little things It helps to decrease the lead levels. When the parents finally have a good understanding of what they are looking for. And you know, I always tell people who were so quick to tell toddlers no, stop. Get away from that, I told them. Give yourself a second to see where they are really drawn to in the home. You know when parents do that, they are really effective. It is not ideal because the issue should be rectified but the parents get to participate in helping their child. It is sad when we look at the number of abatement orders annually that carry over and how many abatements are completed. It is really abysmal. It is like less than 20% and the average time is a year and ten months. You cannot wait two years to do the abatement or wait for someone else to come in and swoop in and do it for you. We work really extensively to give people those concrete recommendations. When they do those things the levels the will come down and the numbers are very concrete. We then support the parents and let them know that they are doing a great job to keep the hope until an abatement can be done. Some parents are unable to adjust, or the condition of the home does not allow, and the levels go up. You know, when I talk about like an interim crew, I mean, you know, when you have multiple children and you are working, it is really hard to start lead proofing your house, right? It is very overwhelming, and it is hard to know that you are doing good. I tell them to get a roll of

painter's tape get a roll of cabinet liner you know for $5 and cover. I mean I have had people asking is there anyone who could help me like do this you know and sort of encapsulating and removing you know? It would be nice if we had a team who could physically come in with the report and look and say, OK, these are the things your kid could get into. Let us help you remove those risks short of abatement. Banister coverings, with window protectors. You can get these things at Walmart or Amazon. Mesh window screens where you can still open the window, but you cannot get to the window because you screwed in. Radiator covers where you know they are boxed in, and they look very nice. Financially, I think it is less expensive than abatement. Again, full abatement would be ideal, but we do not have a toxic waste dump in Connecticut, and you need the cooperation of property owners. I used to apply for like supplemental grants. I used to give out HEPA filters. I bought some of those window guards. I would give them out. So many Swiffer's with the wet pads, you know, there are things you can put in. You know, you can buy those play mats. And cover those surfaces. I do think there needs to be a step in between the inspection and then lingering abatement orders.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

So, abatement is fully removing the lead hazards within the home completely. So not just encapsulating or putting good radiator box, but fully having lead certified contractors. Remove leaded surfaces into a Toxic dumpster. Replacing lead with nonleaded components versus remediation, which is all the other interventions, mulching soil and encapsulating putting vinyl siding over wooden shingles, things like that. The parent gets the information first. And their

ability to act is only as good as the education they get. Many times, their initial attitude to lead exposure comes from the attitude of the pediatrician. If you have a pediatrician who kind of waves it off, sometimes it could be really hard for parents to be convinced that it is something worth prioritizing. Conversely, if a pediatrician is really anxious. And you know, has a sense of urgency around it. They have a heightened sense of urgency to with everybody and might also get upset that things are not happening fast enough. We want parents concerned but not so concerned that they cannot sleep at night and feel like they cannot control anything in their home. So somewhere in the middle. I always feel better with the parents who are panicking because I can give them information and bring them back down. Rather than someone who is pretty apathetic about it because they think their child is okay. They see no signs of sickness. There is no fever. They do not keep them from school. Other parents are really overwhelmed, and it would be nice if someone could help them when they feel too overwhelmed or do not know how to do it. Home hygiene is always an issue and always really hard to tackle. A lot of times those housekeeping, you know, procedures and things and norms are kind of intergenerational. Sometimes there's other mental health things going on. Anytime you go into somebody's house, you are always going to unlock things that maybe the public would not see otherwise. You know, I do think that going to the home is helpful. I used to before COVID and then we lost funding for mileage, but I have gone in hundreds of homes for visits. And there's, certain things that you would never know about a family in the exam room compared to when you go into their homes. I do think when an inspection happens, the inspectors do an objectively good job doing the inspection themselves, of getting it on the books, doing whatever notices that they have to do abatement orders. I do not think that they are all created equal in their comfort level doing qualitative interviewing and educating that is the teach back to the families. I think

that could be better. I think that the greater bureaucratic system after that is where things fall apart because how then do you hold property owners accountable? I think it is really challenging because the whole real estate market is created in a way to turn a blind eye to lead. You know the lead disclosure forms that you are supposed to get has a loophole option that say we have no knowledge of lead-based services, but all that means is that you did not pay an extra $500 to identify lead. Yes. So, if someone purchases or is leasing a home that was built before 1978 they are supposed to receive a lead disclosure form and there are a few options where it can say yes, this unit has been tested for lead. However, the test is not mandatory because the seller can say there is no known lead in this property. No lead was found, and then there was no knowledge of less lead containing surfaces. But all that again means is that there was never either a willing private inspection or a child that triggered the local ordinance to inspect and identify lead. That form is a very protected form. Some people think that you could never sell or lease any property in Connecticut because over 70% of our housing stock was built before 1978. A lot of Fairfield County families where, you know, it is more affluent, a lot of them are not screening as much as they should because they do not think it could happen to them. But they do not know how to get lead certified contractors. We have had a number of family who are pretty affluent, who have led exposed children because they were renovating a den and had no clue about lead. With the renovation they created a toxic lead dust hazard. We have had a Grammy nominated musician whose child was exposed. We had owners who were architects they knocked down $1.7 million home and there kid was lead poisoned because the lead was not removed properly and contained. I mean, there's people who buy real estate, they buy to invest in the stock market. They are often planning to turn over the property as investors. When there is an issue it often difficult to ascertain the original owner, the current owner no one is being held directly accountable

anymore. And that is really problematic. And it is very expensive. You are not talking about $3000 loss: you are talking 5-6 figures projects. If you do not want to put your money in the stock market because it is too risky, you have to understand there is risk in real estate. Some people are just in it to flip the house does not maintain it. It is interesting if you over lay redlining maps you will find exactly where the lead is located. Also, in Connecticut we have a growing number of management companies where you have absentee landlords, and they are doing minimal necessary repairs. They are just a management company. How do you speed up remediation, if someone is avoiding you and even if you took everyone to housing court, can housing court support the volume? What is housing court capacity. I have been in this for eight years now. I have to work with what the reality is for people.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

OK. I think we have half of this; we do not know whether or not they are specifically told where it is and what to eliminate and the cost associated with it falls them on. To My knowledge only New Haven not all of Connecticut's 169 town. In New Haven we can charge the cost of the

inspection. There are circumstances where the director of health can waive that cost at his or her discretion. Do I agree? So again, it is who knows who it is at the discretion It also based on the condition of the child. There are more actions when the child having chelation But if you go one town over into Hamden, one local director has to do it all. Nail salons, food inspection etc. How are they supposed to do this right? Right. XRF machines costs somewhere in the park of thirty to $50,000 and only one company serves them that went bankrupt. Even when you have those machines, if you are not using them frequently enough the calibration is off, and the test is also off. Also, I understand we have some new laws, but the towns do not have staff, sounds nice, but does the state understand the workforce and even more problematic post COVID I do not want to see these inspectors dropping like flies because of the workload due to lack of resources. I do not think it is a bad thing to adapt the law. I worked in adult medicine for a number of years before coming back into Pediatrics, and one of the biggest differences is that if you are between the ages of 18 and 64 and you are sound of mind but making questionable life choices, we let you go. You can be an adult making bad choices for yourself and we let you go. We try to avoid that, but still, it is your right to participate in Risky behaviors. As an adult you have your own autonomy. But if you are an adult and you are the guardian of a child and we are aware of you making bad decisions related to that child, we will not let you go out the door with that child. If you own the property and the child is becoming poisoned because you are not maintaining the home for which you are legally responsible. That is a little different. Do we put a cost on life. What is the price on the decrease of IQ points lost? What is the cost of that child becoming an adult having lead in their bones where they have become risk, and at higher risk of hypertension, stroke, cancer etc. A women who is moderately poisoned can pass the lead onto her baby. We had a case where this child had a level of 115 and when I arrived on site with the lead inspector,

there was a construction crew that had a billowing cloud of dust outside from the front of the home piled up. Chips that they scraped off. We needed a cease-and-desist order. This kid went through like five rounds of chelation, but the owner was this 80-year-old woman. And the project was going to be like over $120,000 plus. Maybe the town can put a lien on the property for relocating the family out of the home. We did get the family connected to the healthy homes program at Connecticut Children's, but the program is capped and does not provide the level of funds that is often needed for remediation. They have a cap. During the process, the woman died creating more legal problems. The interesting outcome of this situation was that the sister had a lethal level of 115microgram per deciliter and her brother 12micrgrams per deciliter. Developmentally, the sister is grade appropriate and the brother at 12micrgram pr deciliter is not grade appropriate. You would have thought it would be flipped.

At this point it all about economics. I have seen areas that routinely get millions and millions of dollars to do this work. And it just feels like there is not even a dent. A couple of us who work in lead laugh and say if we could put ourselves out of a job, we would happily do so if we could be so effective and get rid of the lead issues here. Part of the problem also speaking hypothetically, let us say you are city gets $5,000,000 in HUD funding, $5 million does not all go towards abatement. It goes to a little community partnership here and there. And then here is a little bit leftover for the actual abatement and the families. That is very wrong. And I always wonder, why don't the state focus on the blighted vacant housing?

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

I think you are better off knowing than not knowing. I think it is scary for people if there is this kind of legal, punitive aspect that follows it. People are often unaware when they are buying houses. I remember when I bought My house, I knew enough about lead to question. People do not remember if they got a lead inspection.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

Jail is harsh. However, if you know you have someone living in your home and your home has lead and you cause someone to be lead poisoned you should be held accountable because you know. My only issue with that is that putting the person in jail does not make the abatement happen any faster.

Another option would be providing a tax break for remediation. Put a lien on the assets. If the owner is not responding.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

When I first started here to the reference level was ten and even when I would get like fives and sixes, My mentality would be like oh great, what am I supposed to do with these little ones. My practice has changed and that, so I think the fact that we are doing lower levels. I think that is, a big deal and a huge advancement towards prevention. I started with no knowledge about poisoning and learning. All the way and learning, learning, learning, shifting My own practice and perspectives and how to deal with it. So, and I do think that this, these newer generations of

physicians are more socially conscious. You know, sometimes the older providers are some of the hardest to motivate to change. Getting, prenatal screening, I think that is really important. You know, the more primary prevention we could do. I mean, you know, you cannot use kids as lead detectors and wait for the Canary to pass out before you do something. So, I think we are trying, There's really no primary prevention in the state either. I wanted to do a project to do semi regular webinars for a new and expecting parents. You know, you talk about, you know, baby proofing the house, getting the nursery ready, getting all your car seats, your safety stuff. Do you ever think about lead safety and testing? Right. That is one thing I would really like to tackle in that arena is really saying when you are talking about getting ready to have a baby in your home, let us make it lead safe before they are even crawling on the ground. Work with birth to three agencies. So, they probably have far many more lead poisoned children that they have identified. Having lead testing mandatory for kindergarten is a big one about which we have talked.

Questions 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

It is a social justice issue. I mean, aside from the fact that it disproportionately impacts Black people and Latino families and lower income families, it is not just that, but when you look at the bell curve too of societal IQ. It shifts the bell curve backwards. You have more children with lower IQ scores, and you have fewer children who have superior IQ as well. You are losing potential in every aspect of life. And you know, we talk about, we look at this sort of bubble of life right to screen and identify. But their repercussions are lifelong. You have a child who goes to school, and they are behind on reading readiness, and they have trouble concentrating. And

children are so conscious of their short comings, it lowers their self-esteem which causes behavioral issues, they start to act out. You see children who are more impulsive later in life. Maybe they do not see higher education as something attainable, so they look for other means to meet their needs. You know girls with levels of ten. And then higher are known to be at higher risk of teen pregnancy. You know, their ability to earn a living, their earning potential, even if they have not had diagnosable learning and developmental delays is less. There are more prone to other illnesses as they get older as lead in the bone is released back into their bloodstream and other damages to other organs. They are more prone potentially as older adults to have dementia and stroke. So, you are creating cost to society by having lead exposure, you are diminishing the quality of life these people experience. It impacts everyone that is around them too. And it is preventable. Because who knows who those children could have been if not if they were exposed? There is lots of evidence We talk about the prefrontal cortex. It does not fully come online until you are about 25 years old. It is what it is. Which helps with emotional intelligence. It is the reason why you cannot rent a car until you are at least twenty. 25 Because the insurance companies know that you are a higher risk to engage in poor decision making and impulsivity, then once you have that fully developed. Prefrontal is the last to develop and when it is time to come online. It is not right because the lead has impacted the neurons. And the damage is irreversible, and parents are so afraid of the developmental aspect of that. I always tell them if you want to help your kid, try to offset whatever could come of this. Read to them every day. Puzzle and strategy games. Have them play a musical instrument. You know those three categories of activity. It is going to force stimulation and it is the best thing you can do is continue firing from this part of the brain to try to engage the brain.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

Yes, we should test. I know where the leaded areas are in your region. I can tell you about any pocket in New Haven that is at higher risk than others. And I have always said we know where the higher risk communities are. Why couldn't you literally go door to door. Find the people. let us do it. But this is about lead. We know there's high risk here. We want to come into your home. We want to do it Right. And if we can get to your property owners and funnel in some money, this is what we are going to need from you. We will need your information. We may need to relocate you when this happens. You do not have to go looking for it. It is here. We know where it is. If you really wanted to push this money, if you really wanted to solve the issue, if you really wanted to create better housing for people, we know where it is. You could have focused efforts. This could be done where we help tenants and property owners. The state can work on a sliding scale.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

Well, I think also just building a better communication system to three parties. I initially talked about to the family, the medical provider and. Local health. Work with families to track process and provide assistance. Based on the findings of the inspections have you been able to move forward. Do you understand the report. I can work with the families using telehealth appointment and see the progress and help them. Connect families with inspector pediatricians and healthcare providers and build trust. The city gives a report that sometimes difficult for families to translate. Inspectors are skilled in the procedures but not in communicating to the tenants and homeowners They're not as skilled and interpreting and guiding. It is not part of the flow. The cost of machines for the physician's office and reimbursement for the physician time is needed.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

It is obviously wrong but to be specific it's the housing. The Style of housing. The areas are packed together and most of your traffic and other environmental factors add. There are no places to play except in the apartment where the lead is found. The kids really have anywhere to go, windows are the source of entertainment because they want to see the world. You hear something outside?. Could just be all mommy's home, daddy's home, there is a siren. But you are more prone to the perimeters.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

More can be done to help families safeguard their children with support from the schools. It should be possible for school leadership to educate children and parents about lead poisoning. Since they have such a captured audience. I am attempted to do a kindergarten to first grade classroom trying to work with the schools. It is good to also take with the siblings because they can take the information home and discuss with the family. Explain to the older children to watch their little sister or brother to keep away from the window. Play with them so they would move away from the window. Children have health class Lead poisoning should be included and other environmental hazards.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

Teachers should be provided with the information about lead poisoned and be aware of the risk factors and the symptoms.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for

children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

I do think that a teacher should be within their rights to say if we do not already have a screening history, can we get one to see if there is anything that that we have overlooked? The teacher should be looking at correlation with the health issues especially in developing an IEP.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

I think more primary prevention. Educate Expecting parents so that we can get ahead of them. Again, I think to have like an intermediate. Action Team to help with hands on help for the families safeguard their homes. So at least we can put preventions measures in place before the full remediation. And I think better management of the funding, you know there is $70 million in ARPA money coming through this, this is. Where is that money? How did it get spent? Where is the transparency? Can I go pull up a public record and show me how that next down to zero? You know, we used to get some money from the city. And you know, every time there was a problem where we were angry about some of the stuff that they were doing, My director would go guns blazing, ready to go knock down the door, they would throw extra money at her, and she had come back skipping. My program used to get almost 500,000 every year, and then the hospital decided that it did not want to contribute the 300,000 anymore, so they withdrew it. We had two other contracts aside from the state where we had a little supplement. No money no hope. I had a person to do this job with me. That funding ran out, so I went from having 250 cases to about five hundred by myself. The doctor is 1 FT E for lead, which means 4 hours a

week to devote to lead poisoning. Five hundred cases on My own, plus community outreach. The DPH, grant is stagnant except for the cost-of-living increases, which is like nothing. So now between the three of us for a lead treatment Center for the entire Southern Tier of Connecticut, we do not even make up 1FTE. I have been cut down to 32 hours. Next year I am going to be thirty, after that will be twenty-seven and after that will be twenty-five. But we have seventy million in ARPA funds. For 2024 work with government relations from the two lead centers in Connecticut for advocacy.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

I Don't know enough about product because when I do hear plastics, I have my own concerns. I do hope that in the near future we remove lead form products that cause health problems for all.

Politician Interview

Question 1

Please discuss what are some of the barriers you have experience regarding the prevention of childhood lead poisoning in your professional work ?

Answer:

OK. The issue with lead poisoning in children is that information should be provided by educating the public. It cannot be assumed that everyone is in the know and connected to this information. Everyone is not connected. The information needs to be sent to parents through the parent portals connected with the schools. Connect with the schools to get to the parents The health department needs to be more forth coming with the distribution of data. Not everyone goes on the health department website to seek information or know how to navigate the site. They may not understand exactly what is written. What happens sometimes is that we have those in the know and those who are not in the know. We need to reach people maybe on the many social media outlets. More information to communities with the highest risk. The health department can send out more information to parents and guardians. Everyone is not on the internet. There is also the digital divide not everyone is going on the internet especially in some of the areas of high risk. You cannot assume that everyone is connected to their phones.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer:

I am not sure because obviously there will be a cost factor. Families should reach out to the health department unless they have money to take care of it themselves.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer:

Renters should contact their landlords to look into the issue and figure out when it will be fixed. The responsibility is with the owner. If I know that my home has the potential for lead poisoning I should find out the cost and seek out resources from local health department to help me remediate

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer:

I would need to know what the assessment fee is. What is the range of the fee. If it is a few thousand dollars. Will the average landlord have that the money. Will the assessment be mandatory. What constitutes making the process mandatory. It is a little complicated. Without understanding all the variable, I am not sure that is the right direction for Connecticut. Say I live in a single-family home, and I find out that I have lead in my home, but I do not have the money

should I be assessed with a fee. We would have to make a distinction for single family home. If there is a fee it should be phased. The solution is that funding should be made available just like the situation regarding Brownfields. We should decide whether a property should be demolished for new construction or remediated. Make the money available so that tax payors do not have to come up with that cost.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer:

Yes, provided that there is some funding for that assessment and testing.

Question 6

Should homeowner be fined and serve jail time for not complying.

Answer:

No. I think that local and state authorities should work with the homeowners. Also, provide education. Instead of jail time put a lien on the property.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer:

I think we should provide graphic illustration for residential spaces along with preventative tips.

Questions 8

Why is lead poisoning in Children a Social Justice Issue?

Answer:

I think it is a social justice issue because it is affecting those who are unable to afford remediation when it is no false of their own.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

Yes they that is local health should be allowed to go in and make an assessment.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer:

A collective package after funding has been secured. Full-Court Press contract with the state and just go out to each property to remove the lead. Block by block. However long it takes Put a schedule out block by block. Just like the leaf collection. Street by street zone by zone

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer:

I think we should supply information in a manner that is understood by everyone. Provide infographics that are clear and provide information in the neighborhoods that are most affected. The state health department must play a larger role in this process to support prevention.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer:

I do not know given the impacted people and area. It is about enforcements. It is about how local authority does their work. There should be accountability. We can also ask the schools to assist.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer:

I think it would be a good idea to for the schools to support families with more communication on the subject of children being lead poisoned.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer:

I think from the standpoint first looking at professional development time with the teachers. They discuss a whole lot of stuff, and this should be part of the professional development time From there working with the school community teachers should be able to hand out that information to parents and families. However, we should first educate the teachers and administrators. So that they can digest and get a full understanding knowing how grave this situation is and how they need to be aware first and foremost from an educational standpoint. Teachers should know the signs of lead poisoning in children and ask for help for the child.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer:

Huge problem with absentee landlords. Maybe some more extreme measures should be taken. To make sure there is a focus is on prevention. We know that socioeconomics varies among landlords homeowners, and property owners. If there are economic concerns I can be flexible. If Landlords and owners are not responding we can look at housing tax penalty. We can look at foreclosure of the property. We can transfer the property over to the housing authority of the state. We should also consider Eminent domain.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer:

Something to consider.

Medical Professional Interview

Question 1

The CDC has stated that no amount of lead is safe. Why is treatment of chelation delayed until a child lead level is over 45 microgram per deciliter?

Answer:

Yes, you are right. The number to begin treatment is 45 Micrograms per deciliter. This is the most effective way to outweigh the risk to the body. What we have found is that at levels that are below 45, we are able to effectively work with the family to remove the child from that list source and the levels start to decrease. Then the body will get rid of lead very effectively on its own. At 45 micrograms per deciliter and above the child needs additional assistance because the body burden is high. Chelation comes with its own risk and concerns. First of all, the chelation medicine smells and tastes horrible. So, the parent is literally gagging as they are giving the medicine. The child has to take the medicine for weeks at a time, which becomes a challenge. The second thing is that chelation has side effects. The most popular ones are low white cell count, which is obviously a problem and liver inflammation. Probably the top two. When we administer in the hospital, we are monitoring their kidneys and monitoring their heart. The chelation is a binding agent. The chelation affects systemically impacting the whole body. And then the third piece which I would also say is tangential for the child they cannot go back home. So, they cannot go back to the home where they were living. If the child returns to a home that is not remediated the child will absorb all of the lead that is anywhere around them and that becomes very problematic When working with family with a toddler, it would be great to place the children, perhaps in a place like Ronald McDonald House. Parents are trying to work, take care of a sick child, manage in daycare. It is so incredibly stressful. I would say if the child really

needed it we would get around that, but we know medically that under 45 micrograms per deciliter, chelation medication does not make sense.

Question 2

The CDC collects data from each state The most recent data point is 2017. On average most states are only able to test about 20% of the eligible children less than or equal too 72months. What can be done to improve the number of children tested from the eligible population?

Answer

Knowledge is power. That being said, # 1 is the kind of knowledge about lead. 2. socioeconomic status of the home. The rules of engagement are varied, and each state has its own way of testing. # 2, towns and localities do not follow the same lines of process, because each state has its own rules about how much lead testing is acceptable. # 3, the test is not being ordered. There is a gap between the test being ordered and the family going for the lead test. The physician tells the parents go and get this blood work, but we might not actually take the time to explain why because we are so incredibly busy. The other thing is, not every clinic has the lab that is on site. So, parents have seen the doctor just had their babies vaccinated. The child is finally sleeping in the car. They do not want to take them out. They say to themselves I will go another time. So, I guess another piece of this is Point of care Testing. Testing just the fingerstick in the doctor's office. Testing equipment is very expensive, very expensive. And so, a lot of doctor's offices do not have the equipment in the physician's office and the parents need to go right to a lab for venous draw. A lot of people are averse to that Venus draw. So, I think probably all of those things combine not ordering the test and then the test not being done. That is probably why testing is not as high as it should be. Maybe if we had more professional staff in the offices to sit and explain the consequences. If we could take maybe an extra minute just like why we are

getting it. I think Point of Care testing is the way to go. They might still need a venous test after that, but if parents are told in the doctor's office that their child's lead level is elevated, they are much more likely to go. So, I think throwing the money behind the point of care testing probably makes more sense.

Question 3

The state of Connecticut website and the local health departments websites provide education to the public on prevention. However, Lead poisoning persists. Do you think that there are other methods to add the current work to help the community with prevention?

Answer

So, they are not going on to the website to look for it right necessarily because usually the doctor will reach out. Our lead clinic will reach out, and we will talk to them about prevention. I will tell you that this is how this is. I literally say this to every. I know you feel helpless, but you could take your power back by doing this. Wash your child's hands, obsessively, wipe down their toys, all of those things. It really works. Parents are highly motivated and even if they are living in a limited environment, the lead level goes down. It is amazing. So, to go back to your question. I think that when parents know they are affected they become engaged. I think the bigger picture is that they do not know about lead poisoning. So, what do we do about it? Probably more than online. We probably need to get to people where they are at, right? With like QR codes and places that are more accessible social media where literally everybody gets their news. Facebook. So, I feel like, and we are talking about parents, right? And they are young, right? So they're in their 20s and 30s. We need better communication.

Question 4

Chelation involves removing lead from the blood stream. What about the majority of the lead particulates in the teeth and bones. How is the lead in the bones and teeth treated?

Answer

It is all the same. So, unfortunately, you know, like there is no natural form of lead in the human body and once ingested, which is the most common form of poisoning of how people are lead poisoned. It is mostly eating it. So, once you ingest it, then it enters the bloodstream, and it literally goes everywhere. So it goes into the brain, soft tissue. Chelation is like opening up the drain, so the lead starts to pour and get sucked down the drain. Lead in bone also separate from the bone and leeches it out of everywhere. However, the lead in the blood stream moves more easily out then other parts of the body.

Question 5

After treatment what is the follow up process for the family and home in keeping the child safe from further lead poisoning?

Answer

So, when the child's hospitalized the health department of that town goes out and they will find where the lead is. Every situation is different and then they go back, and health department goes back in after the repairs are done to check and make sure the lead is actually gone. If medically cleared the child can go back home at that point. Again, the timeline on that is variable. It depends on the town, we had a family who was undocumented, they had no finances to be able to do the abatement which is incredibly expensive. So, in that particular case. They were placed in a hotel for a year. Because they have literally had nowhere to go so. The system is definitely broken as you know, but basically we are making sure that the child is not allowed back into a

leaded environment, certainly when they are being chelated, but even after we follow them as a lead clinic until there is a steady downtrend in the lead.

Question 6

If it was the home that was the source of the poisoning does the case management follow up assuring the home remediation or relocated before the child is discharged?

Answer

Once the medical process starts and the child is heading home or placement we follow up in two to three months, sometimes we will continue to follow until the end. The city follows up on their process for remediation. Actually, when chelation level hits the state and the town and our team are in constant communication, so the inspection will happen, you know, often. Sometimes we get a lead on a Friday, so then the kid is in the hospital all weekend, they go out Monday that is, the town. So, I have to say that that kind of closely communication has been pretty good in terms of investigating where the lead is coming from in the house, but then the placement of the family. And the abatement can get a little trickier.

Question 7

According to the CDC data approximately twenty-five million children in the United States are eligible for testing between the ages of zero to five years old. The data also illustrates that approximately four million tests are done annually. What do think the federal government and the state can do to increase initial testing? Keeping in mind that the four million tests are not individuals. Each child can have multiple tests.

Answer

I think first of all, like I was mentioning earlier, if we are able to do lead point of care testing and someone who knows how to use it in the office, that would help so much because then we are not

having to send kids to the lab. And I think there is a lot of that is lost between office and that as opposed to your literally just doing it right there. So that is the first thing. And then the second thing is that we need to figure out an effective way to ensure that providers know that they need to test everybody by law. Oh, maybe that comes at the state level where there is, there are audits, right? Because right now, when we are looking at kids, you cannot track them by practice. So, we have no idea maybe. I mean we trace our practice at our clinic actually and we are doing great. But that was because we had an IT person create tool for us. So, I think we need probably a tool at the state. The national system feeds from the state so I think the state system where we need to improve. There could be a central state tracking database about whether you are testing for patients. The state has a system currently that states how many tests have been done. There should be a feedback loop to practitioners. It would need to be a more sophisticated system, like our central vaccination system at the state. We need something like that state system for Lead. We collect data on MMR why not do the same for Lead. It is a reportable disease.

Question 8

Should all physicians who treat children be required to assess all children for lead poisoning?

Answer

I think we need the Point of Care machines that will go a long way. The parents would get the information immediately

Question 9

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

I think that everyone should be aware of the lead burden their communities and aware of their state laws, right. Need to be heightened awareness in inner cities and in rural neighborhoods.

There is lack of funding and even when there is a lot of funding we are not clear on what is being done. Millions of dollars in grants, but they were having trouble reaching landlords that were having trouble finding contractors. We were testing kids who are poisoned and there is the whole prevention piece where we have no system in place here anyway. We need to routinely inspect and make sure that the paint is intact. So, I think a huge barrier is that lead is so ubiquitous, and it is really hard to figure out where it is and keep it contained. In addition to the fact that the kids who are most vulnerable are the youngest ones, but also the ones who are most impacted because their brains are growing. They are putting everything in their mouth. That is how we learn. So those are definitely barriers I think, lack of knowledge about lead. That the lack of central systems, systemic tracking. Appropriate testing is a barrier by physicians. I think that not every town has adequate funding for proper lead inspection or even, providing education to parents about lead in the inner cities. So, Connecticut, as you know, do not even have adequate numbers of inspectors. The XRF machines which are really helpful, are incredibly expensive tens of thousands of dollars. I think there's trouble with inspectors going out to the house and communicating to the families. They like send a letter to the landlord who never sends anything to the family and so the inspector will come, and nobody has any idea why the inspector is at the house. I think that is a housing issue. Refugees who are being put into this housing when they arrive here. People get stuck in languishing homes because affordable housing is a problem. People cannot afford to live and so they end up in dilapidated housing and then they get poisoned. So, there are so many things broken.

Question 10

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

I would really love it if we could come up with systems like other states do. I think Massachusetts has it where at least for landlord owned buildings lead inspection and remediation are done consistently because there is more control on Section 8 housing. Landlords are held accountable by a higher power and Section 8 has routine checks with dust wipes for home. Especially if children are going to be staying there, children six and under. Have a better sense of like we are putting you into a home that's leaded right and this needs to be addressed before you actually get in. I think that would be great. I also really love the idea of point of care testing. Lead inspections should be initiated anyways even if the levels are below or undetectable. I really think we need to start empowering parents because I think the more they know, right the sooner we can help. Especially now as we are talking about physician patient collaboration, parents will start to as questions. I think all of those things and more seamless communication between parents and physicians. There are only two lead treatment centers in this entire state. So, it is not that difficult for us to have direct lines of communication with the individual towns in the state. I am very concerned about the closing of the loop. People really need to be taken off the defensive, so we can have all parties resolve the issues. Let us forget all the blaming and figure out how to end. Also, teachers can be given training, so they understand how lead poisoning affects children.

Question 11

Why is lead poisoning in Children a Social Justice Issue?

Answer

Oh, well, for so many reasons. One, just because they are kids, right? So, they have no defense. They have no control over the poisoning process. So, we are responsible. The second thing is

you disproportionately effects children. You know, we are taking kids who may already be having trouble and then poisoning them. These kids are often misunderstood with behavioral issues. There are a lot of issues. This is environmental racism. Because of the effects of its poor children disproportionally Black and Brown.

Teaching Professional Interview

Question 1

Have you experienced any children in your classroom with Lead poisoning? If so, how was your experience with educating those children?

Answer

All my students are over eighteen in my college Some of these young adults shared that they have been lead poisoned and require accommodation for their disability. To receive accommodations, it is the responsibility of the students to request an accommodation Some of these accommodations can be providing additional time for the test and creating a space for taking a test without distraction. Some of the students were also on the autism spectrum.

Question 2

Did you know at the time that lead poisoning is a disease with irreversible neurological effects on children?

Answer

I knew it was a disease and I always suspected because of my educational training that it was irreversible, but I have never read the research to follow it through to confirm that.

Question 3

Were you provided with educational material on lead poisoning?

Answer

Definitely not at the college level. But I do know when I worked in a high school, specifically as a case manager we had children with 504 plans that were lead poisoned and designated as special education. We did receive quite a bit of training around lead poisoning at that level. I do not

recall if that was a standard process or if that was a special professional development because of the cases we managed.

Question 4

Was the school nurse provided with a protocol and was the protocol explained to you?

Answer

There is no School nurse in my college.

Question 5

Were there any behavioral signs that something might be wrong with a child or children in your class that was not resolved by standard behavioral practices?

Answer

It is a difficult question in a sense of by the time students get to me at the college level it unclear. Students who have multiple diagnosis at different times, plus social, economic issues and other personal issues. Sometimes the behaviors we see in class may be the first time they have ever been exhibited. And other times they may be recurrent. I would maybe because of professional background, I typically am able to deescalate those, and I do not have as many issues as some of my colleagues do. Just by the nature of what I teach. Students often come seeking help or answers, or they are more comfortable because of their perceived notion of my knowledge. Sometimes we put some strategies into place ahead of time or we create some signs and hints so that they are not as disruptive to others and do not bring attention to themselves. We work with some basic guidelines because student issues vary. If we exhaust those guidelines we call in our care team, a group of professionals on campus from a variety of different expertise levels to address those needs. Sometimes we have students that even with accommodations, they still are unable to get a C grade on the material.

Question 6

Did you have students that were diagnosed with lead poisoning in your class?

Answer

Students reported that they were lead poisoned when they were younger before coming to my class as a college student.

Question 7

Once a child was treated and returned to class, did you experience an improvement in the child's ability to learn and focus on class?

Answer

No Applicable

Question 8

What is the process around developing an IEP for a student? If a child is lead poisoned is an IEP developed related to the child's lead poisoning diagnose. How does the IEP address for example hyperactivity?

Answer

Not applicable for college students

Question 9

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Yes, I am aware of that, and I think the basis is one of accountability on the part of landlords. Landlords housing dwelling should ensure that the properties are updating and painting if you

will, every two years because that will support remediate. If you look into something that is twenty some odd years old, never been painted that is just wrong. If landlords and property owners do not comply they should be fined. The fine should also be enforced.

Question 10

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

A possibility could be that as early on, even before birth in the prenatal process, the pregnancy process starting that education even then with the expecting parents and then reinforcing it with the pediatrician with the healthy wellness visits. This will certainly help reinforce this issue in the first three of life Parents will have been properly informed for the first three years which will give the underprivileged a greater advantage. If we do not start making it a standard part of the education process, as part of the planning process, as part of healthy pregnancy we will not have a good start. At least we are increasing the knowledge base because many people do not even know about it, they do not know about it until it happens, until the child is lead poisoned. I think the first part is the education early on, as we would any potential health risk.

Question 11

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

This is going to sound snarky. But first teachers have to be educated about what lead poisoning. Secondly it needs to be built in as a priority part of the strict standard piece of their strategic plan and built into every discussion in every notice on every communication.

Question 12

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

As stated before, it the education and the fines and enforcement for property owners

Question 13

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

I do not feel teachers are qualified to be able to make that assessment. I think it is the responsibility of teachers to document behaviors that they are seeing and concerns that they see. A broader support network at the school would need to participate. Situations viewed on a one-on-one basis and holistically specific. I just do not think that it should be the teacher.

Question 14

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

Lack of advocacy engagement and education of the public. Lead poisoning in children is a public health crisis. So, we need to start there and move the needle towards addressing and solving the problems with education and landlords.

Question 15

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

I think similar to what I said earlier about early education, as early as the family planning phase and then education and the willingness to enforce fines against the property owners. Enhance the mechanisms for lead testing. Work with providers to improve throughput on prevention?

Question 16

Why is lead poisoning in Children a Social Justice Issue?

Answer

It is a social justice issue because it feeds on the population of children who are in Black and Brown communities, primarily those of African descent, of lower social economic status. Also, immigrant families. By not addressing lead poisoning as a public health crisis is continuing to support the status quo of those who have and those who have not. It is continuing to keep a sub-category of our world's population. If you will, to eradicate members of a certain class and or race as a means to someone's desire, which is not fair. It is a basic human right for everyone to be able to have the opportunity to live as best they possibly can. When we take the position that we are not going to address something that is affecting all children or all families, just based off of where they live the color and the color their skin it is a social justice issue. We are supposed to

live in a democracy. Eradicating a preventable disease should not be a huge problem for any state of the union.

Teaching Professional Interview

Question 1

Have you experienced any children in your classroom with Lead poisoning? If so, how was your experience with educating those children?

Answer

No, I have not had children who were diagnosed with lead poisoning however I have had several children with inappropriate behavior activity, they were diagnosed with ADHD ADH.

Question 2

Did you know at the time that lead poisoning is a disease with irreversible neurological effects on children?

Answer

No we were never educated as teachers to look for lead poisoning signs in children.

Question 3

Were you provided with educational material on lead poisoning?

Answer

From my own reading I knew that it would have neurological effects I am disappointed that I was not provided with any professional development training on Lead poisoning and its effects

Question 4

Was the school nurse provided with a protocol and was the protocol explained to you?

Answer

If the nurse was provided with protocol I am not aware The information was never provided.

Question 5

Were there any behavioral signs that something might be wrong with a child or children in your class that was not resolved by standard behavioral practices?

Answer

Yes, if there were lots of outburst we were expected to work with parents to put a plan in place. If that did not work children were sometimes sent to the Institute of living for more intense behavioral modification.

Question 6

Did you have students that were diagnosed with lead poisoning in your class?

Answer

Nobody ever talked about anything other than ADHD and ADD. I did not even know much about lead poisoning.

Question 7

Once a child was treated and returned to class, did you experience an improvement in the child's ability to learn and focus on class?

Answer

Some students improved based on the behavioral plan, but the behaviors were still present.

Question 8

What is the process around developing an IEP for a student? If a child is lead poisoned is an IEP developed related to the child's lead poisoning diagnose. How does the IEP address for example hyperactivity?

Answer

The teacher would be given a behavior plan once administration gets observation information. No IEPs were developed specifically for lead poisoned children. Lead poisoning was not discussed in school.

Question 9

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

I was not aware Again, there was no education.

Question 10

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

We need an education campaign especially in high-risk neighborhood.

Question 11

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

I think the first thing we can do is start educating our administrators. The state board of education and the Connecticut state department of education should infuse lead poisoning education in the school system. The system needs to address the children appropriately with the

correct diagnosis. I am thinking for of a student right now and I am getting emotional because I knew something was not right and he ended up being killed by police. He kept getting into trouble and nothing worked to moderate his behavior. I do not know it is just heartbreaking he had a supportive mother she was involved but nothing worked.

Question 12

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

I think some of the same things. I think doctors need to alert parents and have the kids tested. It starts with the pediatrician. I think it can start there even before entering school and then parent workshops, parent support groups to help each other to know what is going on. I think it is probably like me not really educated on lead. When I did home visits some of the homes were not in the best conditions.

Question 13

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Something like lead poisoning I think it starts with your doctor. Kids need to be tested before starting school. However, teachers should be able to know the signs and alert the nurse and administration.

Question 14

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

I am going to be very frank it seems to be affecting Black and Brown children disproportionately. I am going to use an example of the war on drugs. I remember they had a war on drugs when it started affecting more people that were other than Black and Brown all of a sudden we had this long war on drugs. If other than Black and Brown were being affected disproportionately there would be more action on eradicating lead poisoning.

Question 15

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

The state health department should begin an education campaign and hire enough inspectors to start identifying and eradicating lead poisoned.

Question 16

Why is lead poisoning in Children a Social Justice Issue?

Answer

Lead poisoning can be prevented. It is not a disease of genetics or some deliberate action on the part of a lead poisoned child. These are defenseless children. I think that the government is not doing enough education and follow through at all levels. I am talking about even from social workers, the doctors working with children, and hospitals.

Politician Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

Lack of education and lack of knowledge. Back in the day 20-30 years ago communities were more integrated in terms of what was happening to their neighbors in the community. Communities need to become committed to change. Community health clinics should be educating the public about lead poisoning and the effects on children. In particular either children and household need screenings to identify if the homes have lead and require remediation. I remember a time when the churches were involved in helping with community in the sixties and in the seventies. The response would need to come from the community and the community leaders need to organize. City council members need to speak out about these issues and ask questions. The landlords do not care because they do not live in the community and legal action by the state should be taken against them for poisoning human beings. The tenants do nothing about what they see because they are not educated about the issue of lead poisoning. Even when they know the landlords do not respond. The cities give permits to these landlords knowing the buildings are not safe. Things got worse with covid. Everything was put online, and nobody is reachable in the city offices to help address issues.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

Communities need to support the families and leaders need to step up and provide education. The head of households especially single women head of household. There is power in numbers. Many of the people in the community are intimidated when they have to interact or communicate with government officials or with town officials. They feel as though these officials are talking over them and they are not listening to them, and they do not understand their complaints. Many of the times when officials get a call they are dismissive, and they say make an appoint that is delayed several times. These families have jobs that are not flexible, and they cannot keep asking for time off. These are frontline workers making sure the community is operational and they are rejected. I also think the churches need to partner with community members and help address community needs.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

I think the town, or the city needs to hold landlords and owners responsible. All properties are listed on a schedule with the city. We know where all the housing are located and the year the homes were built. It is not hard to find. It is not even confidential records. A listing on roster of all of the inventory of houses and buildings and towns are readily available, so there should be some kind of schedule of when these were passed after inspected. Make sure that those buildings are safe for individuals to occupy. I think that has to be the partnership piece because there is so much inventory and as we continue to advance into 2024, we are dealing with so many old buildings, so many buildings that are blighted. Many of these buildings are getting scooped up

by these contractors, but what they are they actually doing is just investing in the land with no evidence of the community needs. The housing authority should not allow for sale of these properties for rental when the buildings are not lead safe. I understand that it is expensive to remediate but it expensive to get people sick. The state should work to subsidize the owners to remediate with some kind of fee scale.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city in Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

I think it could be adopted and perhaps modified or even streamed lined to the state of Connecticut and to the towns that would find it helpful. We have 169 towns and cities. I think that would be a good place to start. You can see what they are doing in the District of Columbia and make some adaptations. It makes sense.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

Residential homes, I totally agree with that. Many young people purchasing homes. They are having families and those young children will be at risk. It is better to remediate now then wait 20 to 30 years allowing for more children to be affected and for the health cost burden and the remediation burden to increase. Many of families are going into these homes and doing a complete dump. They may not realize the hazard of doing that, but this may be the first time that they are buying a house and excited about the modeling. But oftentimes when you do that without knowing the building code. Some other environmental issues, you can make a bigger mess than you thought you had initially, so I do think. Also, maybe they should work out some kind of payment plan for people who cannot afford.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

Jail is not the answer but there needs to be full transparency on purchase and rentals to identify the lead then the owners can be subsidized by the state based on their earning. Using a sliding scale that does not bankrupt citizens.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

Inventory of the homes locate the lead and remediate block by block.

Question 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

Innocent poor children are being poisoned. There is no voice for these children which makes it a social justice issue.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

It should be investigated to test if a housing or business close to residential housing is found with high levels of lead.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

The main issue is education for prevention and the need for testing to be able to apply the remedies to the home.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Like all other diseases it no surprise to me that Black and Brown children are the most at risk.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

Until the remediation can be done families should be educated to know what to look for lead in their homes. That way they can be mindful to keep children away from windows and other areas of the home with peeling paint and adjust their living areas to protect the children.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

We have collaboratives to educate children about waste management we certainly should be able to add this information to children' health class and parent teacher meeting. So, I think it is a perfect platform to use to educate both students and children.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Teachers should be trained on the symptoms and be allowed to ask for a test to rule out lead poisoning.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

The state and federal government needs to put the resources in place to eliminate the problem. The communities at risk need to be educated to give themselves a voice The health departments should be transparent about how funding is applied for lead poisoning remediation. Part of the lead remediation has been contracted out, however very little transparency of how the dollars is spent and the actual completed remediations. We need transparency.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

I do not know much about the product. I do agree that as a society we need to replace the lead with safe material. I also think that manufacturers who will continue to manufacture equipment with lead in it should have signs on their products if the product contains lead.

Community Professional Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

In my work the majority of the youth we work with, or target are from the greater Hartford area which is inner city and many of the students live in neighborhoods with older housing stock. I would assume would have high lead exposure. The old housing is a barrier.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

I am thinking of the cost of remediation, especially if many would say, have the students that we support in our outreach programs come from mostly poor socioeconomic backgrounds. I do not know what I would recommend to them besides relocating or moving to an area where they may not have that exposure. They may not even be able to afford to go through their remediation process, or if, the landlord who is absentee and is not really engaged with the tenants. So, what else could they do besides go to court which is a time-consuming process.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

I would say the responsibility really rests with the institutions that are responsible for the lead exposure. So, whether it is the gas companies, if it is found to be in the soil or the surrounding

areas to work with the homeowner or property owner. With remediation and also working with the state, I understand at the time that we have buildings built that's over one hundred years old and lead paint was used. Users may not have been aware, as with other products, of negative impact on human health. But I think once we recognize and acknowledge the impact than the state, the federal government and that institution responsible for that product work together to try to remediate. Educate those residing in those areas so that they are at least informed. Try to implement some measures to protect themselves or better protect themselves. I would like to add to that too, I think in governments, whether state or federal, offering some type of solution. Prioritize the dollars allocated to the neighborhoods where mostly impacted and then monitoring the distribution of those funds that are earmarked. Where is the check and balance? Who decides who gets the priority or who decides who receives the funding for the remedy?

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

So, if each municipalities makes the decision for who remediated there is probably bias in the selection process. What is jumping out at me is the process for the children and the housing to be

addressed. I see bias because the care provider recommends whether there will be a test. So, is there bias playing there? So that is the barrier because if as a parent understand truly the possible outcome the parent would want to get the test. What is the procedure. What of the cost.? In the remediation of home is there biases in what is allocated? That is another barrier. And then thinking about, well, now you are coming into My home doing an assessment and as a property owner and also thinking about families that live in the inner city that may have had a home passed down from generation to generation. Are they able (1) able to afford remediation? And then (2) now you are telling then to pay this assessment fee. Who is making the decision on who has to pay the assessment.? And is there bias also there? OK. To answer your question, I would say they there would have to be some guidelines to offer. I would say My first choice would be not to have this in other cities in the state or towns to adopt that law requiring the homeowner to pay for the assessment unless it is like a second or third assessment where the homeowner clearly did not, especially the homeowner is a property owner or a landlord and chose not to act. I think if it is a residence where the homeowners reside I think we have to look at their income and maybe have it be a sliding scale.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

I would say yes, but I do not think it is realistic. With the number of homes in this state that were built prior to 1978. That is the problem. Most of Connecticut stock was built before 1978. Who going to do the testing. I am saying that it is not realistic to test everybody. I believe so because then I think unless there is priority again given to areas that have been shown to have exposure.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

I think if they are a landlord they should be fined after a set period of time and that is for them to be able to act at a reasonable amount of time and if they refuse to do that or to act. Within what, you know, the states seem to deem as reasonable, then I think jail time might be appropriate, especially if there's numerous attempts to contact the property owner to have them take some form of action. However, for someone who is residing in their home, I think income level should be considered. I think in within an appropriate timeline, considering other barriers for them to act. There may be examples where you may have a grandmother who has a three-story family house where she has everybody in there making ends meet as best they can. A sliding scale is necessary with government assistance.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

I think that goes back to resources. Are they able to be relocated temporarily or did not even have the resources to move or relocate? We already talked about housing shortage, so the likelihood is they going to remain in that space? Have some education to be honest, I do not know what to recommend.

Question 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

I would say, as we talked about earlier, that Americans or students who or families that live in the inner city or areas that are highly impacted by lead contamination. It is mainly people of color. Or low-income families. And so, it is a social justice issue because they do not have the access to the resources, they need to have it remediated or? On the access order resources that require for them to be able to have their children tested to. Have access to adequate healthcare. They are not prioritized in this country and so if we want them to have some equity in access to healthcare, equity in the neighborhoods that they live in, that are not going to be causing them harm and other health related issues then I think we really need to be serious about providing equal access to students and neighborhoods that come from the city, just as we do with the suburbs. I think it all boils down to access. To adequate healthcare access. But it seems like prevention relies on one, the testing of the home and then two, the testing of the child.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

Absolutely, because I think there could be a way to target maybe faster residences or buildings that have potentially lead exposure.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

There is a number of ways I think in initiating identifying all the structures that were built prior to 1978 that on record have not been remediated and begin testing. I would also maybe propose that testing of children between certain ages be required, not optional and not left to the pediatrician or primary care. You know, make the decision that the healthcare worker, just like as we test now for other diseases at various stages of a child's development, maybe that should be a standard part of the testing we do especially for checkups. But then we are assuming that everyone has equal access to healthcare to do those checkups.

I think there needs to be funding that may be available to prioritize the areas that have the highest number and appear to have the highest impact for that local community to see what we can be done as far as remediation. Before even that we need education. So, I think having opportunities for forums or other forms of health communications, to families in those areas that are high risk so that they become aware. Are there any conversations about environmental health and the training? Not just pediatricians but primary care in general, be more sensitive to what are the environmental factors. I think it should be maybe a step further and have all healthcare professionals that are patient facing to be trained in that area so that way they can hopefully identify any signs that another healthcare professional may miss early if possible. I think including this information as part of like parental classes and other, you know, education for parents. Brochures or other things available in the doctor's office. Providing information to parents from zero to five. I think that will improve their relationship building with their patients

but help them be able to identify potential risk to that child's development. It is necessary. We also need to not forget abouts environmental injustice. It is huge and definitely akin to these issues.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Yes, now I am aware that that is the case. I would think maybe having some education about it in schools, especially for middle and high school students to be thinking about health disparities, Have a class or an in school, or after school program. Where they might be able to learn about some of these things, or have it aligned with what they are learning in their health and science classes But I think the prevention piece still comes from identifying those structures and dwellings that contain lead and try to see what we can do to remove their exposure cause you also thinking about the schools that the students are in which some maybe old structures.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

We can educate and endeavor to remediate as soon as possible.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

I think having a part of the school curriculum where students are encouraged and empowered to have their school act. If they are learning it in their class and being a part of the classes required curriculum they become part of the assessment. I think if they are made more aware and knowledgeable than and if they are passionate about it and knowing the impact it has on their health, students or younger generations tend to push older generations to act. I think they will be the ones to be able to advocate for some of the change that we might want to see.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

I would say the parents, and teachers should be within our right to request or recommend testing or an assessment. I think that they should consult with the family, but they should probably recommend that as an option. But they should be trained to recognize signs. So, when they recommend disciplinary action consult with the social worker or other professionals that might be experts in their field. If there is a school nurse as a healthcare professionals trained to talk to the families get that recommendation and then also be advised as to what the parents next steps

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

It would be to identify housing and facilities that contain lead and do a full remediation. But also, in environments so the soil and other areas are impacted as well to remediate. Full community campaign.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

History shows us that we usually move in that direction anyway it is inevitable, but I think being more stringent on the testing to make sure that we do the adequate studies to make sure it does not have just as bad or worse health impacts. I think it is putting investing dollars in not only remediation, but also developing alternative materials to replace the harm that is being done in our inner cities

Community Professional Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

In my professional experience working throughout different departments, it has always been around staffing. Staffing to respond to elevated blood lead levels or the investigation portion. The guidelines have change from what we use to respond to requiring additional staff. My previous experience has always been around funding to help me staff and respond to prevention. I want to work on prevention before it gets to the point of an investigation. Most of the lead issues found in your rental properties in lower economic types of housing stock areas. Landlord disclosure of Lead is a barrier especially prior to the lease.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

Renters should call the city to pull records on homes before they lease. Call municipality to pull records to see if there are any existing orders or standing violations. Coordinating with either the Housing Authority or the association or the landlord.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

As the owner of the property, you are the person responsible for the remediation and you are the person responsible for the environment that you are providing to yourself, the kids and anybody living within the dwelling. As an owner you have responsibility for having your home inspected, especially based on the age of the home. However, this all depends on how much you know.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to My knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

I am always looking at it from a workforce perspective. So, although I think that it would be yes, the short answer is yes, with the caveat that there are inspectors to do the work. That is the only caveat. Yes, I think yes, that I would, like to adopt that law. The other side to this is the practicality if we do not have the workforce to back it up.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

Absolutely. Regardless of the area.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

I think definitely should be fined. We need enforcement but we also need education. There are a series of events that happens before a citation. Identification of a problem, a letter to the owner and then the owner should be fined. If the problem is unabated within a reasonable time limit like what was mentioned in the District of Columbia. If there is no compliance then I think yes, they should be fine.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

We should institute universal blood testing for lead. In Connecticut the law states that children should be tested between 9 to 35 month however that is based on the pediatrician's assessment. So, I recommend the universal testing to make certain no child is missed. Also educate the families and primary care physicians need to become more engaged in this problem.

Question 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

The children are innocent victims.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

It is an idea to consider.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

A simple answer would be to relocate families. We need to do some big outreaches educate the areas that we know are high level. I think about temporary housing. Access dormitory rooms from universities around. I think that we can have some type of long-standing contract with the hotel in the area. Relocate them temporarily. We should look at this as an investment in housing infrastructure and provide economic development in these communities. We need to look at the entire scope and look at the economic and social and environmental growth of the community. more accessible to not only better housing, but better programs after school, and before school programs and better playgrounds with increased green spaces. We are talking about rebuilding the community. When I talk about the outreach we need to go neighborhood by neighboring. Again, I am assuming that it is a perfect world and all the towns and communities come together and work out the problem.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

We need to get the children out of those homes and remediate and educate the public.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

We need to get the children out of those homes and remediate and educate the public.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

I think we need a lead awareness campaign in the schools. Educate administrators, teacher, students and parents.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

I would be concerned that parents may view the request as a teacher overstepping and making medical decisions. However, I do think they should be able to let the school nurse know about the behaviors in class.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

Change in the infrastructure. Develop the community Create economic development. There needs to be better housing to get better health. A large part of our life in indoors, major impact well-being. Improved housing means improved health, and a safer environment for all. Communities are better off with clean environments. We can lower rate of crime and different things that go on in broken down neighborhoods. This is the also aspect of economic growth about which we are talking. We are talking about better schooling, better school programs. You know, we can hope because we are going to have revamped those neighborhood and playgrounds. And then a step from that would be to try to push some money into the education system as well.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

I think it is a step in the right direction. There is a lot of hands in the pot when we talk about those type of products and manufacturers. The products that this would replace. I think we are going to have to see the research.

Community Professional Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

First of all, awareness. Those with lower social economic status or with social drivers of health. However, lead poisoning affects everybody rich and poor. There just is not enough general awareness. Barriers include things like not having information readily available when you get a permit to do construction or modifications on a building. If they do not have requirements to put instructions or information at places like Home Depot or some of the places where people buy paint and their supplies to do the home construction that leads to problems. Some places do not give the information because they do not want to be sued. There are not good communication channels to get the information to the people on time.

Getting access to the people when their children start crawling around is an opportune time. There is not any mechanism to reach them. There are not monies available to remediate the conditions or the places where there is lots of lead.

Right now, we write orders to property owners where a child has an elevated blood lead level, and they cannot afford to make the changes because it costs so very much. One of the policy issues is that Block grant funds or (CDBG) Community Development Block Grant funds to address lead poisoning have been limited by a state official from My understanding from the Department of Housing who said we are not giving people money to abate lead unless they abate all of it. But the amount of money that is giving them is not sufficient to do the job, so they get nothing. We are told that the monies are available in the towns. The people who most need it

cannot take advantage of it because they cannot fix everything in their home. So wealthy residents use it as a low-income loan or gift making cosmetic improvements to their properties. There needs to be some accountability. Somebody with oversight is making arbitrary decisions about how to release funds. We need more money, and we need it to be released on time. And we need those monies to go to places beyond inner cities. There is lead in old housing in Northeast Connecticut, this area was categorically denied funding. Even though the money was supposed to go across the state. The state worked with an agency hired by Connecticut Children's Medical center who are supposed to abate properties with state and federal funds. Another really big barrier is that state laws on the federal laws on disclosure of lead in properties are not being followed and there is nobody in the state that enforces it. So, lots of families do not know that there might be lead in the building. Connecticut lacks enforcement. Second families into a property maybe under the misconception that the home was checked and made safe. That does not necessarily happen. It has to be revealed and disclosure needs enforcement authority or capabilities. There are no monies for hiring building inspectors or public health officials. Another major element is when it comes to subsidized housing. The building inspector is supposed to inspect the property before somebody moves in. They do not inspect for lead. They do not even look for the simplest things, like whether the property was built before 1978, whether there's chipped and peeling paint. They may only check for hot water and electricity. Many of our lead poisoning cases come in subsidized housing. The building inspector should have inspected it, and there is nothing in state law that says the building inspector needs to know how to do inspections. Another issue is the significant shortage in public health workforce with increased mandates. The towns are not budgeting dollars in the town's budget for lead and there is no law that states they have to.

Landlords are not addressing lead in the buildings. When the tenants take them to housing court the landlord tell the judge that they are making progress and that is as far as it goes. This kind of action allows these conditions to continue for years. Another issue is the disconnect with local public health enforcement and building codes

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer

Educating parents to not have children on the floor that has not been scrubbed. Advise families if they are in a building that was built before 1978, that it most likely has lead. Educate families about the environment to understand that there can also be lead in the dirt that the kids are playing with outside. Recommend testing to the high-risk families. Advise parents that work with lead products to change out their cloths before mingling with the family, especially the children.. Keep up with maintenance and repairs. Wash the toys often. Parents can keep their eyes on their children. Do not leave children in rooms to play unattended Keep the children away from the windows.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

The property manager is responsible. It is a combination of the property owner and the tenant to make sure that surfaces are maintained so that lead is not released. But it is absolutely the responsibility of the state when the system fails and tenants are unable to force the landlords to make required corrections. It is absolutely the responsibility and the fault of the state because

they have laws that protect the property owners. They let the property owners enter into limited liability status or work with the banks where we cannot even figure out who owns the property and cannot even write an order to correct. The. state laws that shield property owners from legal action are not only part of the reason there are lead poisoning cases. These actions by the state are one the reasons we have lead childhood injury.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. One city is Connecticut to My knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

I would say that we should be allowed to bill the property owner for the work that we do, just like we restaurants for their permit. For the inspection that we are required to do, but I do not agree that the health department should necessarily tell them what needs to be repaired and how it needs to be prepared.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

Yes, if the state will do what is necessary to remediate.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

The reality is that we can fine the owners and hope the judge gives a judgement.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

We need a large investment to get rid of lead. Relocate the children and remove the Lead. We can put families in hotels while the work is completed. Primary prevention again, would be awareness.

Question 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

It is a social justice issue because there are people who do not have the means. They are not under the control or able to unsubscribe to the conditions imposed upon them by people that do have the control and they are the landlords.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular

neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

I do not know if DC law is the answer, but Connecticut needs enforcement for property owners.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

Education, Funding and enforcement of laws. Training of officials that are in charge of enforcing the laws and supporting the housing courts system that helps enforce the laws. Absolutely changing the laws that protect the property owners who are operating under an LLC or as a bank etc.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

The lead poisoning is disproportionately effecting underprivileged children. Yes, but I feel bad. And I do understand that's part of the social justice issue, but I often think that it is not until somebody wealthy is impacted that something is done as they demand rights. Only then will those rights be expanded to all others who have not been heard. There are people of low socio-economic status and social drivers of health that are impacting them. With all of the issues the underprivileged have to deal with they now have the stigma of lead poisoning

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

More can be done to help families. Educate them about lead dust and how to clean the lead dust. Keep away from the windowsills because of the movement of widows up and down created creates more peeling of the paint.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

Only to the extent that the kids who are in school have younger brothers and sisters if they already past the age where they are likely to be poisoned. But we know that people who have children are the most likely people to have more children, so that might be one of the ways to prevent.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

IT is important, but it could turn into a huge backlash against the teachers. Parents may think that the teacher is making a medical judgment or accusing their child. Than problem with people thinking the government getting involved and telling them that they are not doing a good job taking care of their child pushing them for testing.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

As I stated in the beginning the main change has to be education and enforcement for property owners

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called *Eco mass* Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

As we go into the future we will start changing out products. People will capitalize on this new product. Hopefully, we use a safer product and this Eco Mass maybe good.

Teacher Interview

Question 1

Have you experienced any children in your classroom with Lead poisoning? If so, how was your experience with educating those children?

Answer

As the principal of the school, I am not teaching a class. There are things that I know about them, but I do not know as intimately as the classroom teacher. We have a student who is new to our school this year and I do know that he has lead poisoning. And when I observe him in the classroom, I did notice different behaviors that I believe might be because of the impact of lead in his system. And there are multiple things that are happening. But as I get to know him, I think that there is a great deal of impact to him regarding the lead exposure. There is a separate protocol related to how that child is educated in the classroom. This particular student has what is called an IEP, which is an Individualized Education Plan. He is the student who currently is in foster care. So, I suspect that part of his background or his profile is the reason for this IEP. Based on his IEP he is entitled to some additional services he. He is also new to us we are still learning him. We actually have a meeting with his providers coming Friday. To really put his plan more solidly in place, but he is entitled to additional support from a Special Ed. He will be also receiving some social work and counseling services through that IEP.

Question 2

Did you know at the time that lead poisoning is a disease with irreversible neurological effects on children?

Answer

I knew that it had impact on children I did not know that it can cause irreversible brain damage.

Question 3

Were you provided with educational material on lead poisoning?

Answer

We have never been provided with any material on lead poisoning.

Question 4

Was the school nurse provided with a protocol and was the protocol explained to you?

Answer

To my knowledge the nurse does not have any protocol to follow on lead poisoning

Question 5

Were there any behavioral signs that something might be wrong with a child or children in your class that was not resolved by standard behavioral practices?

Answer

Students show behaviors such as impulsivity and aggression. When these actions occur with the particular student that I am thinking we have behavioral practices in place. We have universal strategies that we use for all students, and then we have what are called Tier 2 and Tier 3 interventions or strategies that we apply with students. Tier 2 interventions might be incentive chart. It might be that the student is able to use toys or sensory toys to help them to manage their hyperactivity and such a wobble seat. We use all types of strategies that we might put in place for a student. We have tried some interventions with him. None have worked to date.

Question 6

Did you have students that were diagnosed with lead poisoning in your class?

Answer

In my twenty plus years of experience I am not aware of any students being diagnosed with lead poisoning. As a principal now I am aware of one particular case, but the lead poisoning was not included and the IEP plan.

Question 7

Once a child was treated and returned to class, did you experience an improvement in the child's ability to learn and focus on class?

Answer

N/A

Question 8

What is the process around developing an IEP for a student? If a child is lead poisoned is an IEP developed related to the child's lead poisoning diagnose. How does the IEP address for example hyperactivity?

Answer

The process to develop an IEP is based in a collection of observations that is reviewed by a team of educators in order to develop the IEP for the student. The plan includes measurable goals.

Question 9

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

I think that education of the professionals who come into contact with child. Certainly, in schools there should maybe be some screenings.

Question 10

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

Maybe we could perhaps have some celebrities who might take this on. We need communication and distribution of information.

Question 11

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

Program for teacher training. My school is fortunate in addition to the school nurse we have a school base clinic that we can utilize to complete lead poisoning if the policies allow. Coordinate PTA and add to our parent resource website. We should advertise the same way we did for covid.

Question 12

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Teachers can be trained to recognize the symptoms of lead poisoning discretely. Discuss with parents for next steps. However, this should not be another added burden to the school system.

Question 13

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

I think the barriers are lack of education communication advocacy and enforcement.

Question 14

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

The screening for lead but it is not enough. We need a universal campaign.

Question 15

Why is lead poisoning in Children a Social Justice Issue?

Answer

This disease has affected people through no fault of their own and who lack the resources to remediate the problem. It sets them even further behind than where they were before. It adds to an already marginal life and deepens the depths of disadvantages. This lead poisoning has impacted brain development and then therefore that child is not in control of what he or she may be doing or the actions that they are doing. It then is perceived as cultural, biases set in, and that child is believed to be just bad. Later on, such this child is red flagged in the school system and pushed out of school. Pushed into right the juveniles and prison. It becomes then a vicious cycle. So, it is a social justice issue because those that are the most vulnerable, that are the neediest. Who need the resources are not able to get the resources. But they really are victims that are made to be the perpetrators. It turns into blaming and the lead poisoning becomes their fault. A lot of work to do in our country to remedy these issues. One of the things that comes to mind is one when there's discussion about reparations. Given the historical aspect of most Black and

brown people in this country and the results of slavery and oppression. Even with reparations, it would not have made up for what we have lost. That does not mean that we do not deserve reparations. We have to make sure that people really understand the importance of having a voice and using that voice.

Medical Professional Interview

Question 1

The CDC has stated that no amount of lead is safe. Why is treatment of Chelation delayed until a child lead level is over 45 microgram per deciliter?

Answer

Lead chelation involves use of chelating agents, chemical agents which bind this heavy metal. They are not benign. They make a child feel sick. The chemical agents have Toxicity. And the tradeoff between the use of chelating agents for very low lead level levels versus waiting until there's a certain threshold that has a stronger evidence base that there can be a developmental or intellectual harm to the child is what groups like the American Academy, Pediatrics, the CDC, the various entities with NIH weigh in on this see as the trade-offs that they make now. If we treated very low levels we would also be treating a vast pool of child and we would far outstrip our mobility to manage chelation and when you have so many more kids being treated there will be more rare side effects from chelating agent. Because you are using it. I think that I would have to go back to the literature and study if we should decrease the cut off point for treatment.. Should it be thirty, should it be forty-five? I would say forty-five is a no brainer. We would like to chelate above 45 because the evidence there is really substantial, but I would have to research neurotoxicology to see whether there's stronger evidence that we should be chelating at a lower level. I have not done that research. That is the generic reason there is actually a threshold rather than treating somebody with a low-level lead level of three or 13 or 23, so in other words. Chelation has substantial unpleasant side effects. It has made a child sick. So first you know harm is the model and so not wanting to make somebody who is healthy sick. Now is the level of 30 a trigger to find its source, yes. Can we find its source and mitigate the source and thereby

decreasing risk? Yes. However, if with the child with a lead levels at 39 does not mean do nothing for the child with the lead level 39. But it means chelation may be premature. By the way. It is also helpful to know if you are talking about 10 to 25 to 39. the pediatrician may choose to chelate even though it did not achieve the forty-five level because they see that there is an ongoing exposure, and it could go from 39 to 59.

Question 2

The CDC collects data from each state The most recent data point is 2017. On average most states are only able to test about 20% of the eligible children less than or equal to 72 months. What can be done to improve the number of children tested from the eligible population?

Answer

Perhaps I can answer that at two planes. Plane # one is surveillance. Plane #2 is individual diagnosis. For individual diagnosis, pediatricians do well to test kids for life. It is wise, especially neighborhoods known to have higher lead levels in their paint, in their environments. So, a low threshold to test for lead and widespread screening for lead with no threshold in neighborhoods that are endemic for lead poisoning. It is not known how expensive that would be on wearing my My clinicians' hat, wearing My public health hat we can get a lot out of two types of surveillance. One does routine surveillance just help the health department with the data that they get collected, help them with geo-mapping, help them characterize the cases precisely where they live. I see what their age and social backgrounds are and help the health departments analyze the data they've already getting. Along with that is Sentinel surveillance. And Sentinel surveillance could be special relationship with clinics in high prevalence areas and special investments in those clinics, so in those clinics one might do a lead education in service training. One would then look for subsidies for lead poisoning screening. Have that clinic be functionally

a Sentinel site so that you are almost integrating what I said earlier about the clinicians being aggressive with what we can learn from public health screening. So, in that sense, Sentinel surveillance can make a big difference. So, there are ways that you could say based on the age and maintenance of the housing infrastructure. And based on potential industrial exposure you identify lead the areas of need. Similarly, to what Willie Sutton said, I rob the banks because that is where the money is. You have Sentinel surveillance where you are going to find the most cases. And then you can use that, those trends over time to have a little bit of a finger on the pulse of the community as represented by the children. By the way childhood sentinel surveillance tends to be more representative than adults' surveillance. Why? Because children come for routine care. They come for school physicals, they come from under five care, and you do not get the bias ascertainment in who is coming in children than you do in adults.

When I was training it was the 1970s and there was an exceedingly high consciousness towards the risk of lead, and lead gasoline. So, we had lead that was in every kid who lived on the first floor near a busy street and every time the door opened then the lead fumes that populated the walls and floors could harvest that lead for many months. There was the old paint. We were closer to when lead paint was banned in 1978. So that is when I was training 1970 to 7077 to 1980's. So, at the end of the day, we had a consciousness about pica and about lead dust in buildings We had a lot of repeat case. We had a lot of kids who we chelated. We would drop their level and they return back to their environments.

Question 3

The state of Connecticut website and the local health departments websites provide education to the public on prevention. However, Lead poisoning persists. Do you think that there are other methods to add to the current work to help the community with prevention?

Answer

So, we had a lot of lead poisoning cases, and it was a major part of our medical work in the seventy's. By the way, there was a very long backlog of contracted painters to come and try to scrape away and then mitigate lead. And so we had a lot of repeat cases. We had a lot of kids. Who were chelated and went to their environments, came back again. The point being that it was high in our consciousness. And I think today's pediatricians have workbook learning, they have not seen the severe cases. And the lower-level cases are often not symptomatic. And even if something triggered the lead test that you cannot be certain that it was the lead that caused that caused the problem. Modern pediatricians do not have the lived experience. That is speculation on my part. Based on the information from the CDC marketing and educational efforts come to mind, the notion of in-service training. The grand rounds. Building this into medical school. Pediatrics, General practitioner residency programs. Nursing programs, probably nursing even more than anybody of public health programs, which might be a way to go to maximize the coverage of, as you say, the readily available educational materials that you and I are guessing are woefully under subscribed.

Question 4

Chelation involves removing lead from the blood stream. What about the majority of the lead particulates in the teeth and bones. How is the lead in the bones and teeth treated?

Answer

Largely when you get a heavy metal into bone and teeth the metal or the mineral itself may affect the teeth or the bone, as in the case of fluoride. It is unlikely lead would cause bone disease or tooth disease. However, it is possible for the lead to leach back into the bloodstream. So, what is happening with bone is in the bone marrow. So that is where a lead seems to affect the bone. The

toxicity to the bone marrow affecting red and white blood cells so not so much the bone itself? I am not aware of anything except in extreme cases, for example. Back in the days we identified the worst levels ever seen in human beings related to contamination from a battery factor. First of all, in making the batteries there were smokestacks and lead was being spewed into the air. Second of all, the workers at the factory wore overalls, those overalls and their shoes and their hair, all of that was then seeding in the households. And uh, in those cases, studies that were done with those children did not seem to implicate high levels of lead in teeth and bones.

Question 5

After treatment what is the follow up process for the family and home in keeping the child safe from further lead poisoning?

Answer

Well, that is a great question. The strategies that are deployed.

So, the standard procedures are to engage the local health department to do an inspection of supports. And if you are lucky, that health department does not have a four-month waiting list. And the next week, somebody can go in to inspect. In my experience working 11 years as pediatrician New York City, there was a waiting list. So, the lack of promptness did not help the children much.

Question 6

If it was the home that was the source of the poisoning does the case management follow up assuring the home remediation or relocated before the child is discharged?

Answer

We would teach moms about mopping the floor. About peeling paint. About industrial exposure that usually the man of the house, sometimes the woman might bring home from work. We

would also talk a little bit about street pollution and the like. And I had some moms who were very studious, and they would wash walls periodically and they would mop every day and they vacuumed every day, and they were trying everything to bring the lead levels down. Not sure I have the memory from those days to tell you the lead dropped, but we were chelating them and then they were doing that at home and that was an effort to try to reduce environmental exposure. But I also had parents who had very chaotic lifestyles, had another problem, had a drug problem etc. Sometimes they were just bleeding financially, where mom was working on an evening shift and night shift and dad was working a day shift and evening shift, and the older children were taking care of the younger children in the evening when neither parents were available. They came home to sleep. That lifestyle does not support mopping the floor every day. That is what the case Management follow up would share. Another problem was that the medical system and public health were not coordinated. I would use an analogy in the modern world of the homeless, asthmatic who is diabetic comes into the hospital is stabilized status asthmaticus diabetic ketoacidosis is stabilizing once and then discharge into a highly unfavorable environment.

Question 7

According to the CDC data approximately twenty-five million children in the United States are eligible for testing between the ages of zero to five years old. The data also illustrates that approximately four million tests are done annually. What do think the federal government and the state can do to increase initial testing? Keeping in mind that the four million tests are not individuals. Each child can have multiple tests.

Answer

Removing the physical barrier to testing makes perfect sense. I know that health departments do free lead testing All health systems do free testing. Provide point of care machine on site. If all

Pediatricians in New Haven and general practitioners and pediatric nurse practitioners and PAs and the whole family of child healthcare providers if they could be facilitated to do lead testing for free. So that if there is a lead test, they can be given a prepaid Mailer and all they have to do is give the fill out the little form so that the health department knows everything that they need to know. Put the mailer in and access health, you know protected website, confidential website and they can then find the results in three or four days. Making it really easy and free for the patient to get the results of this test. And then the educational campaign along with this. I do not think that kind of program would break the bank. And I think it would maximize volume testing, which for the reasons you indicate, will have economies of scale. You'll calibrate your machine. You will be using your machine every day. You will be recalibrating every day. You will know that the validity of the test is high. Through proficiency panels and all the controls specimens that are run, and you will get economies of scale because prepaid mailers do not cost that much and the notion that doctors and nurses' offices would be able to get this extremely conveniently, extremely reliably, with no expense for them and no expense to the patient. And that to me would be some effort.

Question 8

Should all physicians who treat children be required to assess all children for lead poisoning?

Answer

I think there is a point where you have such a low yield. That testing a lot of kids for lead poisoning. And having two hundred out of two hundred not have lead poisoning that is not strong. Socioeconomic testing is a better approach. It unlikely the house with the intact paint is likely to have a child that is lead poisoned No lead paint, maybe ever in the house or the apartment. Test in the pockets of risk. That would be incredibly important. So, I think that is a

perfect role for state health department. They can harvest all of the of the lead test from all of the hospitals in the state and they can start making geo-maps. Maps of where the action is. And prioritize those areas for your lead testing, your mailers, your community outreach, your physician and nurse education and emphasize that. And then the ones that are not much of a heat map, you can still educate, you can still encourage.

Question 9

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

Community consciousness, which we have talked about, is a barrier. Umm. I did not know until you told me that quality of testing is also a barrier because of the expensive machines for point of care testing... And then I think that we have considerable public health constraints as well. Underfunding of remediation which has been my whole career. I have seen underfunding since I was a resident. And then I think the educational piece. Is not vibrant. You do not see too many public service announcements. You do not hear much about it. So, I think that. Yes, there is also. An under appreciation at the health department itself for the kind of work that needs to be done to promulgate now. I am sympathetic with health department because they have a lot of things added to their plate when you talk about environmental risks to children. We now have PFAS.

Question 10

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

The educational system from preschools. Are teachers aware of lead in teacher education and health staff education efforts. We already talked about clinicians and the various types of clinicians. Big mistake just to focus on pediatric, focus on the nurses running those offices. We

now have the world of nurse practitioners; we got the world of physician's assistants and there plenty of general doctors who are seeing kids. So, it is a longer list than just pediatrician. A pediatrician is a good place to start because you can often access many of these other populations through Pediatrics. And then community engagement to identify community leaders. For community train the trainer, Train communities to have sort of health lead in the building through a social service organization. So, I think there is a wide opportunity for us to advocate.

Question 11

Why is lead poisoning in Children a Social Justice Issue?

Answer

There is no question in my mind that if rich people got this disease instead of poor people. Or white people got disease instead of persons of color we would have a differential investment. Compare Sickle cell disease remediation with Cystic fibrosis. With Cystic fibrosis I have taken care of patients with those conditions. And every one of those children needed help. Cystic fibrosis cases were sick as dogs, and they needed continuous ongoing support and the children with serious sickle cell disease do not have continuous social support. I have seen in my own practice in my own life. So, I feel that there is systemic racism in our healthcare system and in our society. And the diseases of more influential people are often front center compared to the diseases of others. And that not equal, and it is a serious ethical problem we have in our society.

Politician Interview

Question 1

Please discuss what are some of the barriers you have experienced regarding the prevention of childhood lead poisoning in your professional work.

Answer

I think some of the barriers could be houses are not being inspected before tenants move in and the tenants do not know of the Lead. The agencies that do inspections of houses before people move may not be doing a full and proper inspection and that is not okay. The inspectors are not inspecting the entire home including the old porches and not understanding that the porches are a major part of the spaces where people live. I think lead screening has to be mandatory in sale of rental and if there a deviation from that policy the persons involved should be fined.

Question 2

What would you suggest to the families to support prevention of lead poisoning?

Answer:

It is funny that you asked because a lot of people are not informed about this lead. We need to provide knowledge about lead prevention. We have a lot of things happening to us and we do not know about them until after they happen. We need broaden the points of communication in community about lead.

Question 3

What are your thoughts about residential housing that has lead paint? How should the environment of living be addressed? Where does the responsibility rest for remediation?

Answer

I guess that would go on both. If I am moving into a place and I want to be sure that environment is safe. If the parties are aware that lead is possibly in the home they have a responsibility to test and treat. Tenants should be with the inspector when there is a lead inspection.

Question 4

The law allows the Government of the District of Columbia to enter a property and conduct a lead risk assessment to determine if lead-based paint hazards may exist. If a lead hazard is found, the property owner may be issued an Administrative Order to Eliminate Lead-Based Paint Hazards. The order specifies the type and location of the hazard and how and when it must be eliminated. Additionally, the property owner is charged for recovery of costs associated with conducting the risk assessment. Only one city is Connecticut to my knowledge collects the fee. Should all cities collect the fee. Should Connecticut adapt the District of Columbia law in your opinion?

Answer

If Connecticut does not have that law it is important to review and use as a baseline for Connecticut residents.

Question 5

Should the state of Connecticut require homeowner with homes built before 1978 to have an inspection to test for lead and provide a specific time to remediate the lead?

Answer

Yes Absolutely, people do not know what is in their homes that can harm them.

Question 6

Should homeowner be fined and serve jail time for not complying?

Answer

I do not think people should be put in jail, but I do believe they should be held accountable. I do think that we should consider adding lead remediation into some kind of homeowners policy and start a government insurance fund for remediation of these home.

Question 7

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

People should find out when their home was built and get tested for lead If you see peeling paint and you cannot afford to remediate call the city and the state and ask for assistance and direction as to how to get rid of lead. Keep your children from those areas of your home. When you have an inspection ask the inspector to explain the report. Make sure you understand what is happening.

Question 8

Why is lead poisoning in Children a Social Justice Issue?

Answer

Children are not responsible for the lead poisoning. As a society we have a responsibility to take care of children. What gives anyone the right to take away the potential of any child.

Question 9

The Government of the District of Columbia is empowered to inspect residential housing or child-occupied facilities (DC Official Code § 8-231.05(a)). Under this authority, inspections can take place for a variety of reasons, including a tenant complaint or knowledge that a particular neighborhood has a higher prevalence of lead hazards. Should Connecticut have such a law. Do you think that should be allowed in Connecticut?

Answer

If you see something you should say something. Is not that what the law said?. So, if you neighbor has lead in the nearby building odds are you have lead in your building so this law should be allowed in Connecticut.

Question 10

In general, what are your thoughts on the steps needed to address lead poisoning in young children in Connecticut?

Answer

The next steps again are awareness. I do not hear too much about the lead poisoning. People are not being informed about lead. We need a campaign.

Question 11

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

During the pandemic we found out that the African American population were the highest risk and dying more than any other race. Now I hear about lead. It is the same story. African Americans more at risk. The state should make every efforts to get the lead out of Connecticut homes.

Question 12

The literature indicates that most children are infected from eating peeling paints and toys. The children are primarily infected from ingesting paint at home. What more can be done to help families safeguard their children in their homes?

Answer

More communication.

Question 13

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

They teach driving. Now they are teaching about gender I think they could fit in teaching about lead poisoning and the environment of living.

Question 14

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Yes, teachers should be trained to know the systems and let the nurse know. The nurse should follow up with the parents.

Question 15

What are your thoughts on what is needed to eradicate lead poisoning in children?

Answer

Awareness and empathy from the health care leaders. Sometimes issues go unresolved because people are unaware. I had not thought about this until this interview. I think it is really important. It is shocking that sometimes we do not know things happen until we see them on the news. Things that could have been prevented. So, I think that every now and then a blurb should go out

stating that one should r get tested for lead poisoning. Maybe the doctors could have something in their offices, pediatricians. You know pharmacies like CVS and all those places where we go to get COVID shot flu shot and all those things. I think that would be very helpful. Even in hospitals, emergency rooms and things like that.

Question 16

Since lead is ubiquitous in our environment. There is a product that has been developed by a company called Eco mass Technologies. It is a high density Therma plastic that can replace lead. What do you think about changing out all the products we use lead to build with this high-density plastic? Example: Xray machines.

Answer

You see the thing is that people make money on Lead in products and until the government steps in it unlikely to change. Some of the people in our society are to selfish. They are making money and they do not seem to care. To answer your question it would be good to use another product that would be safer.

Teacher Interview

Question 1

Have you experienced any children in your classroom with Lead poisoning? If so, how was your experience with educating those children?

Answer

I have not. It may have been lead poisoning, however, that is not what it was identified as being. I did not know at the time.

Question 2

Did you know at the time that lead poisoning is a disease with irreversible neurological effects on children?

Answer

No, I did not know.

Question 3

Were you provided with educational material on lead poisoning?

Answer

No educational material was ever provided in my thirty plus years of teaching.

Question 4

Was the school nurse provided with a protocol and was the protocol explained to you?

Answer

I do not know, if the nurse was provided protocol. I am thinking. If she had. Possibly she could have informed teachers like me, but no, I don't know, and I was never informed.

Question 5

Were there any behavioral signs that something might be wrong with a child or children in your class that was not resolved by standard behavioral practices?

Answer

Yes. Students could not stay on task. I taught children that came from low economic means. Children could not stay still for short periods. Could not stay on task. Some had major outburst Some children seemed to have no control. Just the inability to be able to follow through on a given task. We developed IEPs for students. There was no discussion about testing for lead poisoning as a possible cause.

Question 6

Did you have students that were diagnosed with lead poisoning in your class?

Answer

If there were I was not notified and was not aware of any accommodation directly related to lead poisoning.

Question 7

Once a child was treated and returned to class, did you experience an improvement in the child's ability to learn and focus on class?

Answer

Some Kids did improve with behavior modification as written into their IEP, but lead poisoning was never discussed.

Question 8

What is the process around developing an IEP for a student? If a child is lead poisoned is an IEP developed related to the child's lead poisoning diagnose. How does the IEP address for example hyperactivity?

Answer

An IEP is developed based on observations by the teachers in the class related to the child's behavior. Again, in my 23 years of teaching we never discussed the possibility of lead poisoning.

Question 9

Are you aware that lead poisoning affects mostly poor children in rural town and dis-proportionately affects Black and Brown children? What are your thoughts of how we can support underprivileged children from being lead poisoned?

Answer

Education. Educating parents. Teachers educating everybody who is involved in with that child's development and growth. I do not recall any PD Professional Development on lead poisoning specifically.

Question 10

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

Educating using TV media. Social media platforms. Info graphics. Work with the Churches to discuss with the parish. Possibly. Hospitals. Maybe lower this state laws to start testing from birth instead of waiting for 9months.

Question 11

There has been discussion about school involvement What might be possible for school leadership to do to educate children and parents about lead poisoning?

Answer

Professional development, so that people who are educators, are made aware of lead poisoning. In my school district we have school base clinics. I think the SBC's can be helpful in testing for lead. Students can be given a letter to parents and if they want their child to be a part of it then they just have to sign off on it. So that could be a way to educate. Letters to parents in the summer enforcing that the child must have a lead test before entering school. A young child spends more time with their teacher. The teacher's experience with the child has a huge impact on the child's future.

Question 12

The literature indicates that most children are infected from eating peeling paints, toys with lead primarily infected from ingesting paint at home. What more can be done to help families to know the signs and prepare their homes?

Answer

It all about education and enforcement of housing codes and the landlord responsibility. The removal of lead required special training and money.

Question 13

The data on lead poisoning illustrates that one of the symptoms of the disease is hyperactivity. Should teachers be trained to consider lead poisoning and be required to request a lead test for children with behavior problems in the class or at the minimum, let the nurse know that the child needs an assessment?

Answer

Teachers and administrators need to be educated first then decide on how to go forward with parent engagement.

Question 14

What are the barriers to addressing lead poisoning eradication in children in Connecticut?

Answer

The lack of educating to those being affected. The lack of resources for the delipidated housing

Question 15

What are current solutions and practices for the prevention of lead poisoning in children?

Answer

It seems to me that we only wait for kids to be poisoned and then test them. That is not a solution. We need aggressive testing.

Question 16

Why is lead poisoning in Children a Social Justice Issue?

Answer

It is just really hard to put into words because we are not educated enough about what is affecting us. Everyone hurts. It is not just the Black and Brown people. It's our society. It is the world, the country that we live in. Everybody will suffer. And I think that is social justice and I do not think people really think of it that way. Black and Brown children are all victims. They are going to grow up and become adults. What kind of world do you want to live in? You have to ask; I think we have to ask that question. What kind of world do we want to live in with what kind of people? Those kids are the ones taking care of adults at some point in their lives. These kids are angry and misunderstood and lead poisoning is never part of the conversation. You called me from the interview, and I am thinking but lead poisoning was never a part of the conversation. This is just wrong It's wrong. It is just wrong if you know that there are lead pipes or lead paint. If you know at what point do you take responsibility once you know.