

CONTAMINATED CHILDHOOD: HOW THE UNITED STATES FAILED TO PREVENT THE CHRONIC LEAD POISONING OF LOW-INCOME CHILDREN AND COMMUNITIES OF COLOR

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Lead poisoning has plagued society for centuries, dating back to the Roman Empire. Children and adults exposed to the neurotoxin regularly experience an elevated risk for permanent brain damage, disability, and, at higher levels, death. Despite scientific evidence of the dangers of lead, the heavy metal was commonly used throughout civilization and quickly integrated into the American home in the form of paint containing up to 70% lead. At the same time, lead smelters and leaded gasoline left a toxic footprint across the United States. Today, over twenty-three million homes contain one or more lead hazards and thirty-eight million have lead-based paint that will eventually become a lead hazard if not closely monitored and maintained; the majority of those homes are located in impoverished and marginalized communities of color. Federal laws and policies have consistently failed to prevent lead poisoning in these areas, depriving low-income, minority children of equal opportunity and trapping generations in poverty. Federally subsidized housing programs are intended to provide safe, decent, and affordable housing for low-income families. These homes are often clustered in areas with high rates of lead poisoning and the U.S. Department of Housing and Urban Development estimated in 2016 that 450,000 federally assisted housing units were built before 1978 and likely contain lead-based paint. Federal law governing these homes takes a “wait and see” approach that delays lead hazard inspections of a home until after a child is lead poisoned. Rather than requiring lead hazard risk assessments that could identify and control sources of lead poisoning before a child resides in the home, according to federal regulations, the child must develop lead poisoning at levels more than four times the Centers for Disease Control and Prevention standards before the government requires any intervention. This policy places millions of children annually at risk of permanent neurological damage. This Article describes how lead poisoning policies governing federally assisted housing perpetuate health inequities, increase socioeconomic and racial inequality among low-income and mi-

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nority children, and thwart the promise of multiple civil rights laws and policies. It examines the legislative history of federal lead poisoning prevention laws, including compromises that resulted in ineffective laws as well as the civil rights laws violated by the lack of primary prevention. Finally, with the aim of identifying policies that abide by principles of health justice, this Article proposes urgent reform measures to end the lead poisoning epidemic.

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INTRODUCTION

Undisputed scientific evidence demonstrates that no amount of lead in the blood is safe. Children and adults exposed to the neurotoxin regularly experience an elevated risk for permanent brain damage, disability, and, at higher levels, death. Even low levels of exposure can cause permanent neurological damage. Lead poisoning is especially prevalent among minorities and people living in poverty. Under current policy approaches, and despite knowledge of the dangers of lead exposure, “children are used as biologic monitors for environmental lead.”¹ Rather than identifying and controlling the lead hazard before a child is harmed, public policy follows a predominately “wait and see” approach. For example, the majority of local, state, and federal programs require that a child develop lead poisoning before lead hazard investigation and remediation in the child’s environment is permitted or required. These lead poisoning “prevention” policies are hardly preventative in nature, create a false sense of safety, and mislead the public.²

The lack of primary prevention is especially acute in federally assisted housing, in which millions of low-income and predominately minority children are at risk of lead poisoning. The laws governing federal project- and tenant-based rental assistance programs, including the Housing Choice Voucher (“HCV”) Program, are premised on antiquated standards and, unless a 2017 rulemaking goes into effect, do not require lead hazard risk assessments until after a child’s level of lead poisoning presents at *four times* the Centers for Disease Control and Prevention (“CDC”) reference value. Further compounding the risk of lead poisoning, federally assisted housing is often clustered in high-poverty, low-opportunity areas with unmaintained units that contain lead hazards or lead-based paint. These laws and policies ignore principles of health justice³ and deprive low-income and minority children of equal opportunity to succeed. As a result, generations are trapped in poverty where they are unjustly

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1. Comm. on Envtl. Hazards, Comm. on Accident & Poison Prevention, *Statement of Childhood Lead Poisoning*, 79 PEDIATRICS 457, 463 (1987), <https://perma.cc/YC9B-DPXS>.
 2. See generally Council on Envtl. Health, *Prevention of Childhood Lead Toxicity*, 138 PEDIATRICS 1 (2016), <https://perma.cc/KM7D-PGFT> [hereinafter CEH].
 3. See Emily A. Benfer, *Health Justice: A Framework (and Call to Action) for the Elimination of Health Inequity and Social Justice*, 65 AM. U. L. REV. 275, 293 (2015).

burdened by health disparities and poor quality of life. The majority of federal lead poisoning prevention laws apply to federally assisted housing, despite the serious and extreme problem in private housing.⁴ As this Article demonstrates, laws governing lead poisoning prevention in federally assisted housing and, where applicable, private housing, are not only erroneously named, they are wholly inadequate, perpetuate racial disparities and socioeconomic inequality, and contribute to the social determinants of poor health.

Part I of this Article provides a historical overview of the United States' dangerous legacy of lead poisoning, the social structures and federal policies that placed residents of impoverished neighborhoods and communities of color—especially those of Black people—at higher risk of lead poisoning, and the poor health effects caused by exposure to lead hazards. Part II examines the legislative history of lead poisoning prevention policies, including the development of the U.S. Department of Housing and Urban Development (“HUD”) regulations, and uncovers a series of compromises that failed to prevent and end the lead poisoning epidemic. Part III describes how the lead poisoning epidemic is evidence that the federal government has yet to fulfill the promises of major civil rights laws. Finally, Part IV suggests future policies to truly prevent lead poisoning among low-income children and communities of color.

I. THE UNITED STATES' TOXIC LEGACY OF LEAD POISONING

This famous Dutch Boy Lead of mine can make this playroom fairly shine.

– Dutch Boy Lead Paint Jingle⁵

For centuries, dating back to antiquity, lead has plagued society and caused severe neurological damage, convulsions, coma, and death.⁶ Despite proof that lead causes devastating and permanent harm, in the early twentieth century paint companies and the lead trade association heavily marketed paint containing up to 70% of the toxic metal to families. Lead, which was added to paint, bathtubs, fixtures, toys, and other goods, quickly saturated the home environment.

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4. For a discussion of lead poisoning prevention strategies in private housing, see generally Emily A. Benfer & Allyson E. Gold, *There's No Place Like Home: Reshaping Community Interventions and Policies to Eliminate Environmental Hazards and Improve Population Health for Low-Income and Minority Communities*, 11 HARV. L. & POL. REV. (forthcoming 2017).
 5. GERALD MARKOWITZ & DAVID ROSNER, *LEAD WARS: THE POLITICS OF SCIENCE AND THE FATE OF AMERICA'S CHILDREN* 8 (2013) [hereinafter *LEAD WARS*].
 6. At least 2000 years ago, a Greek physician recognized, “Lead makes the mind give way.” HERBERT L. NEEDLEMAN, *HISTORY OF LEAD POISONING IN THE WORLD* (1999), <https://perma.cc/NEF4-RSE9>.

Ultimately the lack of regulations restricting the use of lead created a completely preventable public health crisis that persists today and disproportionately affects low-income and minority children. Although the use of lead-based paint was banned for residential purposes in 1978,⁷ many homes built before that time still contain lead hazards, while millions more contain lead in some form.⁸ Twenty-three million homes have one or more lead-based paint hazards,⁹ and thirty-eight million homes have lead-based paint that will eventually become a hazard if not closely monitored and maintained.¹⁰ One in three homes with children under the age of six—the age group most sensitive to lead poisoning—has significant lead-based paint hazards.¹¹ At the same time, over 400 lead smelting plants deposited dangerous levels of lead and other contaminants in soil across the country.¹²

Today, children are exposed to lead hazards in the form of chipping and peeling lead-based paint, lead dust, lead soil, and water contaminated by lead pipes, solder, or leaded sealant in wells.¹³ When the surface of lead-based paint or a lead pipe is disturbed, often through the friction of opening and closing

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7. See Press Release, U.S. Consumer Prod. Safety Comm'n, CPSC Announces Final Ban on Lead-Containing Paint (Sept. 2, 1977), <https://perma.cc/23MR-SBSH> (discussing regulations banning the use of lead in residential paint). European countries banned the use of lead paint as early as 1909. The delay in banning lead paint in the United States is a result of marketing and lobbying efforts of the lead and paint industries. See Bruce P. Lanphear, *Childhood Lead Poisoning Prevention: Too Little, Too Late*, 293 J. AM. MED. ASS'N 2274, 2274 (2005). The president of the Lead Industries Association said in 1984, "Our victories have been in the deferral of implementation of certain regulations." *Id.*; see generally LEAD WARS, *supra* note 5.
 8. See Benfer, *supra* note 3, at 293. See also U.S. DEP'T OF HOUS. & URBAN DEV., AMERICAN HEALTHY HOMES SURVEY: LEAD AND ARSENIC FINDINGS 4 (2011), <https://perma.cc/8MLT-DA9L> (estimating the number of homes to be around thirty-seven million). See generally Perry Gottesfeld, *Time to Ban Lead in Industrial Paints and Coatings*, 3 FRONTIERS PUB. HEALTH 144 (2015), <https://perma.cc/HRD8-YDE7> (discussing allowable uses of lead paint).
 9. See FED. HEALTHY HOMES WORK GRP., ADVANCING HEALTHY HOUSING: A STRATEGY FOR ACTION 13 (2013).
 10. See Teresa Wiltz, *Decades After Ban, Lead Paint Lingers*, PEW CHARITABLE TRUSTS: STATELINE (July 27, 2016), <https://perma.cc/J7LB-DXQ2>.
 11. See ROBERT P. CLICKNER ET AL., OFFICE OF LEAD HAZARD CONTROL, U.S. DEP'T OF HOUS. & URBAN DEV., NATIONAL SURVEY OF LEAD AND ALLERGENS IN HOUSING: FINAL REPORT 1, at ES-2 (2001) [hereinafter LEAD & ALLERGENS], <https://perma.cc/5C9A-YDBX>. Lead paint is present in approximately 87% of homes constructed before 1940, 69% of homes constructed between 1940 and 1959, and 24% of homes constructed between 1960 and 1977. *Id.*
 12. See *Ghost Factories: Poison in the Ground*, USA TODAY (Apr. 25, 2012), <http://usatoday30.usatoday.com/news/nation/smelting-lead-contamination>.
 13. See *Lead and Drinking Water from Private Wells*, CTRS. FOR DISEASE CONTROL & PREVENTION (2015), <https://perma.cc/HLH5-LGYA>; see also CTRS. FOR DISEASE CONTROL & PREVENTION, CHILDHOOD LEAD POISONING (2013), <https://perma.cc/FML7-53EL>.

windows or doors, or from hard water, lead particles are dispersed throughout the home and in the water.¹⁴ Lead in the environment does not dissipate, making it likely that a developing child will inhale or ingest it and become lead poisoned.

Flint, Michigan, is infamous for the systemic government malfeasance that exposed an entire city population to lead.¹⁵ Regrettably, Flint is not an isolated incident.¹⁶ This pattern of government and societal complacency is apparent across the country and evidenced in the lead poisoning of over half a million children between one and five years of age today.¹⁷ The percentage of children who have elevated blood lead levels above the CDC reference value (lead poisoning) in Flint is lower than averages in many states. A recent report identified over 2,600 areas in the United States with recorded lead poisoning rates at least double those in Flint during the peak of that city's contamination.¹⁸ In Flint, 4.9% of children tested for lead had lead poisoning, compared to 6.7% of children in New York, not including New York City, and 8.5% of children in Pennsylvania in 2014.¹⁹ In 2012, 32% of children tested in Iowa had lead poisoning.²⁰ Over ten million homes and buildings receive water from lead service lines.²¹ Children in neighborhoods across the country live and play near

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14. See Benfer, *supra* note 3, at 294; *Lead in Drinking Water*, PENNSTATE EXTENSION (Jan. 2016), <https://perma.cc/AG5G-ZM45>.
 15. When government officials switched the water supply to the hard water in the Flint River in April 2014, it caused major corrosion to lead pipes, leaching the toxin into the water. Despite knowledge of hard water and a leaded pipe supply, the government did not treat the water with an anti-corrosive. In February 2015, city testing revealed high lead content in the water. Even then, the city did not switch its water source, waiting until after the lead poisoning rate doubled eight months later. Merrit Kennedy, *Lead-Laced Water in Flint: A Step-by-Step Look at the Makings of a Crisis*, NAT'L PUB. RADIO: THE TWO WAY (Apr. 20, 2016), <https://perma.cc/F773-636T>.
 16. See generally Brady Dennis, *In Some Zip Codes, 1 in 7 Children Suffer from Dangerously High Blood Lead Levels*, WASH. POST (June 15, 2016), <https://perma.cc/DL9S-U3RT>; Nicholas Kristof, *America Is Flint*, N.Y. TIMES (Feb. 6, 2016), <https://perma.cc/2N5C-64T5>.
 17. See William Wheeler & Mary Jean Brown, Ctrs. for Disease Control & Prevention, *Blood Lead Levels in Children Aged 1–5 Years — United States, 1999–2010*, 62 MORBIDITY & MORTALITY WKLY. REP. 245, 245 (2013), <https://perma.cc/YZT2-S73U>. See also Jamie Raymond & Mary Jean Brown, Ctrs. for Disease Control & Prevention, *Blood Lead Levels in Children Aged <5 Years — United States, 2007–2013*, 63 MORBIDITY & MORTALITY WKLY. REP. 66, 66 (2016), <https://perma.cc/CH5B-JD78>; Kristof, *supra* note 16; *Lead Poisoning*, LEAD SAFE AM. FOUND., <https://perma.cc/SQQ4-LVBA> (more than twenty-two million American children under the age of eighteen have had an unsafe level of lead in their body in their lifetime).
 18. See M.B. Pell & Joshua Schneyer, *The Thousands of U.S. Locales Where Lead Poisoning Is Worse Than in Flint*, REUTERS (Dec. 19, 2016), <https://perma.cc/N6NX-CY4C>.
 19. Kristof, *supra* note 16.
 20. *Id.*
 21. Arthur Delaney, *Lots of Cities Have the Same Lead Pipes That Poisoned Flint*, HUFFINGTON POST (Jan. 28, 2016), <https://perma.cc/8DFE-S3EX>; Michael Hawthorne, *Chicago to Test*

former lead smelting and refining factory sites that left toxic levels of lead and arsenic in the soil.²²

All of these children are the victims of government inaction and inadequate lead poisoning prevention laws that fail to address the social determinants of health underlying lead poisoning and eliminate the lead epidemic.

*A. When the Multiheaded Hydra Strikes:
Lasting Outcomes and Costs of Lead Poisoning*

[L]ead is a multiheaded hydra whose dangers are constantly being revealed in new forms.

—David Rosner & Gerald Markowitz²³

The definition of lead poisoning has evolved as the science has developed. Lead poisoning was first defined by the CDC as a blood lead level of sixty micrograms per deciliter ($\mu\text{g}/\text{dL}$), a level that often results in severe disability or death.²⁴ Over time, the CDC reduced the definition of lead poisoning to forty $\mu\text{g}/\text{dL}$ in 1971, thirty $\mu\text{g}/\text{dL}$ in 1978, twenty-five $\mu\text{g}/\text{dL}$ in 1985, and ten $\mu\text{g}/\text{dL}$ in 1991.²⁵ Since 2012, the CDC recommends public health intervention when a child's blood lead level exceeds five $\mu\text{g}/\text{dL}$.²⁶ However, in recognition that there is no safe level of lead exposure and the pressing need to engage in primary prevention, the CDC intends to revise its threshold every four years based on the current reference value of the U.S. population of children ages one through five years who are in the highest 2.5% of children when tested for lead in their blood.²⁷ The CDC is overdue to lower its reference value to a planned 3.5 $\mu\text{g}/\text{dL}$.²⁸

for Lead in Water on Higher-Risk Streets, CHI. TRIB. (Aug. 2, 2016), <https://perma.cc/26ZS-ZBFF>. Chicago mandated leaded pipes until the mid-1980s. *Id.*

22. *Ghost Factories*, *supra* note 12.
23. David Rosner & Gerald Markowitz, *Building the World That Kills Us: The Politics of Lead, Science, and Polluted Homes, 1970 to 2000*, 42 J. URB. HIST. 323, 340 (2016).
24. Lanphear, *supra* note 7, at 2274.
25. *Id.* See also generally Steven G. Gilbert & Bernard Weiss, *A Rationale for Lowering the Blood Lead Action Level from 10 to 2 $\mu\text{g}/\text{dl}$* , 27 NEUROTOXICOLOGY 693 (2006) (arguing that 2 $\mu\text{g}/\text{dl}$ is a feasible standard that “represents a reasonable blend of scientific information, feasible policy alternatives, and analytical reliability”).
26. CTRS. FOR DISEASE CONTROL & PREVENTION, CDC RESPONSE TO ADVISORY COMMITTEE ON CHILDHOOD LEAD POISONING PREVENTION RECOMMENDATIONS 6–7 (2012), <https://perma.cc/7SHP-E9Y2> [hereinafter CDC RESPONSE].
27. ADVISORY COMM. ON CHILDHOOD LEAD POISONING PREVENTION, CTRS. FOR DISEASE CONTROL & PREVENTION, LOW LEVEL LEAD EXPOSURE HARMS CHILDREN: A RE-NEWED CALL FOR PRIMARY PREVENTION 3 (2012), <https://perma.cc/FL35-REMP> [hereinafter CDC 2012 ADVISORY REPORT].
28. Joshua Schneyer, *CDC Considers Lowering Threshold Level for Lead Exposure*, REUTERS (Dec. 30, 2016), <https://perma.cc/4GG4-232L>.

The CDC has made clear that the current definition does not reflect a *safe* blood lead level.²⁹ Today, the overwhelming scientific research proves, and Children's Health Protection Advisory Committee, the CDC, the American Academy of Pediatrics, and the Environmental Protection Agency ("EPA"), among others, agree: no blood lead level is safe and children require a wide margin of safety.³⁰ As described herein, blood lead levels well below five $\mu\text{g}/\text{dL}$ can be harmful and result in brain damage.³¹ Contrary to the belief that lower blood lead levels are inconsequential, the largest decrement in intellectual abilities from lead, for a given exposure, can occur at the lowest levels of exposure if the neurological system is at an early stage of development.³² "Unlike toxins whose acute effects disappear with the elimination of the poison, lead's effect on the child's brain is immediate and permanent."³³ Once a child is exposed to lead, the harm is done and no clinical or public health interventions can reverse the effects.³⁴

Lead poisoning has an adverse effect on most major organ systems, including the cardiovascular, reproductive, immune, nervous, digestive, kidney, and renal systems.³⁵ As a result, lead poisoning causes severe and permanent biological and neurological damage that affects cognition, behavior, bodily functions, growth, and development. Even at low levels of exposure, it can lead to brain damage, reduced IQ, diminished intellectual and academic abilities, academic failure, juvenile delinquency, developmental delay, and learning disabilities.³⁶ It

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29. See, e.g., CDC RESPONSE, *supra* note 26 ("CDC will emphasize that the best way to end childhood lead poisoning is to prevent, control or eliminate lead exposures. Since no safe blood lead level in children has been identified, a blood lead 'level of concern' cannot be used to define individuals in need of intervention.").
30. See, e.g., National Ambient Air Quality Standards for Lead, 73 Fed. Reg. 66,963 (Nov. 12, 2008); U.S. DEP'T OF HEALTH & HUMAN SERVS., TOXICOLOGICAL PROFILE FOR LEAD 31 (2007), <https://perma.cc/7RMM-CEL4> (explaining that "[minimum risk levels] were not derived for lead because a clear threshold for some of the more sensitive effects in humans has not been identified"); CEH, *supra* note 2.
31. See generally NAT'L TOXICOLOGY PROGRAM, U.S. DEP'T OF HEALTH & HUMAN SERVS., NTP MONOGRAPH: HEALTH EFFECTS OF LOW-LEVEL LEAD (2012), <https://perma.cc/UJ8H-R9TQ> [hereinafter NTP MONOGRAPH].
32. Rosner & Markowitz, *supra* note 23, at 340 ("New research shows that the most serious damage from lead occurs at some of the lowest levels of exposure, often in utero or in the first years of life, when the neurological structures of the brain are forming.").
33. *Id.*
34. *Id.*; see also *Lead and Children's Health: Hearing Before the Comm. on Env't & Pub. Works*, 110th Cong. 1 (2007) (statement of Sen. Barbara Boxer), <https://perma.cc/ZHF5-SZGJ>.
35. See generally NTP MONOGRAPH, *supra* note 31.
36. See Bruce P. Lanphear et al., *Cognitive Deficits Associated with Blood Lead Concentrations <10 $\mu\text{g}/\text{dL}$ in U.S. Children and Adolescents*, 115 PUB. HEALTH REP. 521, 526-28 (2000); Bruce P. Lanphear et al., *Low-Level Environmental Lead Exposure and Children's Intellectual Function: An International Pooled Analysis*, 113 ENVTL. HEALTH PERSP. 894, 897-99 (2005); Letter from Sheela Sathyanarayana, Chair, Children's Health Prot. Advisory Comm., to Gina McCarthy, Adm'r, EPA (Jan. 8, 2015), <https://perma.cc/D4VP-GCYQ>.

can result in neurobehavioral disorders, including hyperactivity, attention deficit, and other problems.³⁷ At high levels, it triggers encephalopathy, convulsions, and coma.³⁸ Ultimately, lead poisoning can result in death.³⁹ Before chelation therapy was developed in the 1950s, two-thirds of children who ingested lead-based paint, and subsequently suffered convulsions and swelling of the brain, died as a result.⁴⁰ Today, children with high levels of lead poisoning can survive, but remain severely disabled.⁴¹

Lead poisoning has an extreme cost to the child's health and future, and profoundly affects society at large. It causes a downward shift in the population IQ, thereby decreasing the number of gifted people and increasing the number of people who require remedial assistance.⁴² Lead poisoning results in numerous costs to society. In a study examining one cohort of children, lead poisoning resulted in \$165–233 billion in lost lifetime earnings,⁴³ \$25–35 billion in lost tax revenue, \$30–146 million in special education expenses, \$11.6 billion in indirect costs, which include medical treatment for physiological and physical damage, and \$11–53 billion in additional healthcare costs.⁴⁴ Lead poisoning in children has been linked to brain damage, hormonal issues, and behavioral problems, costing U.S. taxpayers an estimated \$55 billion annually.⁴⁵ In addi-

(noting that at blood lead level of 0.1 µg/dL, lead poisoning was associated with a one-point IQ_{loss}, as well as other neurological, health, and developmental harms).

37. CEH, *supra* note 2, at 1.
38. See AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, U.S. DEP'T OF HEALTH & HUMAN SERVS., THE NATURE AND EXTENT OF LEAD POISONING IN CHILDREN IN THE UNITED STATES: A REPORT TO CONGRESS 26, 100 (1988) [hereinafter NATURE & EXTENT OF LEAD POISONING]; CEH, *supra* note 2, at 1.
39. See CEH, *supra* note 2, at 1; NATURE AND EXTENT OF LEAD POISONING, *supra* note 38, at 1.
40. See Rosner & Markowitz, *supra* note 23, at 326. Chelation therapy introduces dimercaprol and ethylenediaminetetraacetic acid into the blood stream to bind with lead and allow the lead to pass from the body. *Id.*
41. WORLD HEALTH ORG., CHILDHOOD LEAD POISONING 9 (2010), <https://perma.cc/K7V3-UKMP>.
42. Gilbert & Weiss, *supra* note 25, at 696–98. See also Hilary A. Godwin, *Lead Exposure and Poisoning in Children*, UCLA INST. ENV'T & SUSTAINABILITY (2009), <https://perma.cc/TZL6-XTXQ>.
43. Elise Gould, *Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control*, 117 ENVTL. HEALTH PERSP. 1162, 1164 (2009). Because of the damage that lead poisoning causes to children's developing brains, it causes a loss in IQ points. Each IQ point lost roughly correlates into a loss of almost \$18,000 in lifetime earnings. All told, lead poisoning causes the loss of 9.3–13.1 million points, which correlates to roughly \$165–233 billion. *Id.* at 1164.
44. *Id.* at 1165. When children with even higher levels of lead are included, the total costs of lead treatment (excluding the cost of chronic conditions resulting from lead poisoning) is between \$10.8 and \$53.1 million. *Id.* at 1164.
45. David E. Jacobs, *Lead Poisoning: Focusing on the Fix*, 22 J. PUB. HEALTH & MGMT. 326 (2016); Wiltz, *supra* note 10.

tion, lead poisoning results in \$1.8 billion in costs related to criminal activity, such as direct costs to victims, costs associated with the criminal justice system (e.g., legal proceedings and incarceration), and lost wages for both victims and criminals.⁴⁶ A reduction in the average preschool blood lead level of one $\mu\text{g}/\text{dL}$ “results in 116,541 fewer burglaries, 2,499 fewer robberies, 53,905 fewer aggravated assaults, 4,186 fewer rapes, and 717 fewer murders,” and the elimination of the attendant costs.⁴⁷ For just one cohort of children, the “net benefit of lead hazard control ranges from \$181 to \$269 billion, resulting in a return of \$17–221 for each dollar invested in lead hazard control.”⁴⁸ For comparison, vaccines, celebrated as the greatest societal cost-saving measure, result in a cost saving of up to \$16.50 for every dollar spent.⁴⁹ Nevertheless, millions of children over the course of the past century have suffered the debilitating consequences of an entirely preventable disease.

B. *The Social Determinants of Lead Poisoning: Poverty, Discrimination, and Environmental Racism*

Lead toxicity is a source of ecological inequity by race and a pathway through which racial inequality literally gets into the body.

—Robert J. Sampson & Alix S. Winter,
*The Racial Ecology of Lead Poisoning*⁵⁰

1. *The Link Between Poverty, Race, and Lead Poisoning*

Poverty is the most under-recognized public health crisis of the twenty-first century.⁵¹ It is widely accepted that poverty and lower socioeconomic status are closely linked to poor health outcomes.⁵² Poverty, discrimination, and envi-

46. Gould, *supra* note 43, at 1164–65; see also Deborah W. Denno, *Considering Lead Poisoning as a Criminal Defense*, 20 FORDHAM URB. L.J. 377, 393–94 (1993) (advocating for a lead poisoning defense to mitigate criminal charges because lead poisoning has been linked to disciplinary problems, aggression, and crime).

47. Gould, *supra* note 43, at 1165.

48. *Id.* at 1162.

49. Gould, *supra* note 43, at 1166.

50. Robert J. Sampson & Alix S. Winter, *The Racial Ecology of Lead Poisoning: Toxic Inequality in Chicago Neighborhoods, 1995–2013*, 13 DU BOIS REV.: SOC. SCI. RES. ON RACE 261, 279 (2016).

51. Benfer, *supra* note 3, at 279 (“[D]isadvantaged groups have poorer survival chances and a higher mortality rate, die at a younger age, . . . and have overall diminished health and well-being when compared to other members of society.”).

52. See NANCY ADLER ET AL., REACHING FOR A HEALTHIER LIFE: FACTS ON SOCIOECONOMIC STATUS AND HEALTH IN THE U.S. 7 (2008), <https://perma.cc/TAB2-DU27> (asserting that social circumstances were a contributing factor to premature morbidity). See also Norman Daniels, *Justice, Health, and Healthcare*, 2001 J. BIOETHICS 2, 7 (discussing the

ronmental racism are among the social determinants of health that significantly influence individual health outcomes and increase a child's likelihood of being lead poisoned.⁵³ Individuals and families in poverty are exposed to environmental hazards commonly found in low-income communities, such as old, dilapidated housing that can cause "asthma, respiratory infections, lead poisoning, learning disabilities, behavioral and mental health problems, injuries, long-term brain damage, cancer, and other harmful conditions."⁵⁴ For these families and individuals, there is a negative correlation between socioeconomic status and premature birth, low birth weight and birth defects, signs of future disease, chronic diseases, toxic stress,⁵⁵ infectious diseases, and disabilities.⁵⁶

According to the most recent census data, 43.1 million people, or 13.5% of people in the United States, were living in poverty in 2015.⁵⁷ Approximately 14.5 million children lived in poverty in 2015, which constituted 33.6% of the total people living in poverty.⁵⁸ People living in what scholars call "deep poverty" or "extreme poverty" are people with incomes at less than half the poverty line.⁵⁹ Approximately 19.4 million Americans, or 6.1% of the U.S. population, and 45.1% of people in poverty live in extreme poverty.⁶⁰

relative-income hypothesis, which states "that inequality is strongly associated with population mortality and life-expectancy across nations").

53. See generally Benfer & Gold, *supra* note 4. See also *Social Determinants of Health*, WORLD HEALTH ORG., <https://perma.cc/P5U3-ST6B> (defining the social determinants of health as "the conditions in which people are born, grow, live, work and age[,] and the wider set of forces and systems that shape the conditions of daily life).
54. Benfer, *supra* note 3, at 293.
55. THE ANNIE E. CASEY FOUND., RACE FOR RESULTS: BUILDING A PATH TO OPPORTUNITY FOR ALL CHILDREN 3 (2014) ("Research has shown that growing up in chronic poverty contributes directly to stress at a level that can affect children's health, brain development and social and emotional well-being—a response known as 'toxic stress.'").
56. Benfer, *supra* note 3, at 282 (citing Alistair Woodward & Ichiro Kawachi, *Why Reduce Health Inequalities?*, 54 J. EPIDEMIOL. & CMTY. HEALTH 923, 924 (2000)); ADLER ET AL., *supra* note 52, at 7.
57. BERNADETTE D. PROCTOR ET AL., U.S. CENSUS BUREAU, INCOME AND POVERTY IN THE UNITED STATES: 2015 CURRENT POPULATION REPORTS 12 (2016), <https://perma.cc/AHV2-CUQV>. The 2017 federal poverty guidelines define a family of four with an income of \$24,600 or below as living in poverty—a slight increase from the \$23,550 threshold defined in 2013. *2017 Poverty Guidelines*, U.S. DEP'T OF HEALTH & HUMAN SERVS. (Jan. 31, 2017), <https://perma.cc/YD52-Q8K4> (providing the 2017 thresholds); *Prior HHS Poverty Guidelines and Federal Register References*, U.S. DEP'T OF HEALTH & HUMAN SERVS. (Sept. 3, 2015), <https://perma.cc/N87J-HAX6> (providing the thresholds prior to 2015).
58. PROCTOR ET AL., *supra* note 57, at 14.
59. H. Luke Shaefer & Kathryn Edin, *The Rise of Extreme Poverty in the United States*, 2014 PATHWAYS 29 (estimating that 1.65 million households with approximately 3.55 million children were surviving on two dollars or less per person per day in 2011).
60. PROCTOR ET AL., *supra* note 57, at 18.

The burden of poverty and its adverse health effects fall primarily on communities of color.⁶¹ In 2014, child poverty in Black and American Indian populations was nearly three times more common than in White populations, with 38% of Black children and 36% of American Indian children living in poverty.⁶² One-third of poor Black children live in high-poverty areas and below the poverty line, *nine* times the rate for poor White children (4%).⁶³ The Black population has the highest rate of poverty at 24.1%, followed by the Hispanic population at 21.4%.⁶⁴ The rate of poverty within the White population is the lowest at 9.1%,⁶⁵ followed by 11.4% of the Asian population.⁶⁶

Children living in impoverished communities have the highest prevalence of lead poisoning,⁶⁷ with Medicaid recipients having the highest risk.⁶⁸ In fact, more than one-fifth of children from the poorest neighborhoods have the highest levels of lead poisoning.⁶⁹ The risk of lead poisoning falls disproportionately on minority children, with non-Hispanic Black children nearly three times more likely than White children to have highly elevated blood lead levels and the consequent disabling conditions.⁷⁰ Similarly, the most recent National Health and Nutrition Examination Survey (“NHANES”) confirms that ele-

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61. While there are regions in which the concentration of poverty is in predominately White communities, such as Appalachia and some rural areas, communities of color in poverty are greater in number and experience the poor health effects at a higher rate. For example, one study found that the Appalachia region displayed lower rates of lead poisoning even though the region had high poverty rates. Cem Akkus & Esra Ozdenerol, *Exploring Childhood Lead Exposure Through GIS: A Review of the Recent Literature*, 11 INT’L J. ENVTL. RESEARCH & PUB. HEALTH 6314, 6328 (2014), <https://perma.cc/5TYX-DV6N>. See generally Paula Braveman et al., *Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us*, 100 AM. J. PUB. HEALTH S186, S186 (2010), <https://perma.cc/TB64-VFWW>.
 62. THE ANNIE E. CASEY FOUND., KIDS COUNT: DATA BOOK: STATE TRENDS IN CHILD WELL-BEING 22 (2016), <https://perma.cc/2AG3-RJMU>.
 63. *Id.* at 19.
 64. PROCTOR ET AL., *supra* note 57, at 14.
 65. *Id.* at 12.
 66. See *id.* at 14.
 67. See Gould, *supra* note 43, at 1162–63.
 68. Jaime Raymond et al., *Lead Screening and Prevalence of Blood Lead Levels in Children Aged 1–2 Years—Child Blood Lead Surveillance System, United States, 2002–2010 and National Health and Nutrition Examination Survey, United States, 1999–2010*, 63 MORBIDITY & MORTALITY WKLY. REP. 36, 36 (Sept. 12, 2014), <https://perma.cc/DTX8-PHKW> (indicating that 5.3% of children one to two years of age with blood lead levels = 5 µg/dL are on Medicaid while merely 2.1% of children not insured by Medicaid have blood lead levels = 5 µg/dL).
 69. See Michael Hawthorne, *Lead Paint Poisons Poor Chicago Kids as City Spends Millions Less on Cleanup*, CHI. TRIB. (May 1, 2015), <https://perma.cc/P65K-C7EC>.
 70. See ROBERT L. JONES ET AL., TRENDS IN BLOOD LEAD LEVELS AND BLOOD LEAD TESTING AMONG US CHILDREN AGED 1 TO 5 YEARS, 1988–2004, at 6, <https://perma.cc/M4RG-9ZTH> (“[A] higher percentage of children with BLLs . . . were non-Hispanic black (3.4% vs 1.2% for Mexican American and 1.2% for non-Hispanic white children”).

vated blood lead levels persist in Black children, despite considerable progress in lowering blood lead levels throughout the rest of the young population.⁷¹ In 1976, the first NHANES to include blood lead levels found that 780,000 children under six years of age had blood lead levels exceeding thirty $\mu\text{g}/\text{dL}$.⁷² At the time, the rate of lead poisoning among Black children was six times higher than the rate among White children.⁷³ In one study, lead toxicity prevalence rates in Black and Hispanic neighborhoods topped 90% of the child population.⁷⁴ The study determined that Black disadvantage in “toxic inequality” related to lead poisoning was pronounced relative to White and Hispanic populations in every year from 1995–2013.⁷⁵ Persistent high lead poisoning rates in Black communities demonstrate the undeniable link between poverty, poor housing conditions, and racial inequality.

2. *The Link Between Racism and Lead Poisoning*

Federally sanctioned discriminatory practices and racism are largely responsible for the high concentration of poverty and risk of lead poisoning in communities of color.⁷⁶ In 1935, the Federal Housing Administration (“FHA”) and the Veterans Administration (“VA”) promoted racially restrictive covenants to create homogenous neighborhoods and discriminated against minorities by refusing to provide mortgage loans to anyone living in a neighborhood with even the smallest Black population.⁷⁷ This amounted to the withholding of

71. See CDC 2012 ADVISORY REPORT, *supra* note 28, at 15.

72. Rosner & Markowitz, *supra* note 23, at 330.

73. *Id.*

74. Sampson & Winter, *supra* note 50, at 279.

75. *Id.*

76. In the 1930s and 1940s, a series of federal policies developed and implemented by the FHA and the VA excluded communities of color from federal programs designed to spur economic prosperity for Americans after the Great Depression. These policies cemented racial barriers that have had long-term negative effects on communities of color that is evident, especially for children of color, today. See Benfer, *supra* note 3, at 283–87. See generally RICHARD ROTHSTEIN, *THE COLOR OF LAW: A FORGOTTEN HISTORY OF HOW OUR GOVERNMENT SEGREGATED AMERICA* (2017).

77. In 1935, the Federal Home Loan Bank Board enlisted the Home Owners’ Loan Corporation (“HOLC”) to create a series of “residential security maps” that evaluated the level of real estate risk in 239 cities across the country. Benfer, *supra* note 3, at 283 (citing Amy E. Hillier, *Redlining and the Home Owners’ Loan Corporation*, 29 J. URB. HIST. 394, 395 (2003)). The presence of a small Black population in an entire community presented a hazard for investment and resulted in a color-code of “red” and the refusal of loan companies to provide mortgage loans to anyone living in “redlined” areas. *Id.* at 283–84 (citing Juan F. Perea, *Doctrines of Delusion: How the History of the G.I. Bill and Other Inconvenient Truths Undermine the Supreme Court’s Affirmative Action Jurisprudence*, 75 U. PITT. L. REV. 583, 598 (2014) (“Federal underwriting guidelines thus directed and enabled race discrimination by private banks and real-estate brokers.”)).

\$119 billion of mortgage insurance investment from minority communities and the creation of ghettos.⁷⁸ Similarly, the Servicemen's Readjustment Act of 1944, commonly known as the "G.I. Bill," provided generous educational and training benefits to 7.8 million veterans for college and vocational programs, but discriminatory practices prevented minorities from accessing the benefits.⁷⁹ Housing authorities concentrated public housing projects in segregated neighborhoods, furthering the gap between Whites and minorities.⁸⁰ In effect, these policies cast entire communities into longstanding poverty and prevented Black families from moving to opportunity areas, free of environmental health hazards. The effects of these discriminatory practices are apparent in today's persistent residential segregation,⁸¹ clustering of low-income families and indi-

78. Benfer, *supra* note 3, at 284.

79. See THE ANNIE E. CASEY FOUND., *supra* note 62, at 4 (citing M.F. HIGGINBOTHAM, GHOSTS OF JIM CROW: ENDING RACISM IN POST-RACIAL AMERICA (2013)).

80. KENNETH T. JACKSON, CRABGRASS FRONTIER: THE SUBURBANIZATION OF THE UNITED STATES 196–98 (1985). The FHA delineated four categories of housing area. The first grade of green described areas that were "homogenous," meaning American business and professional men and excluding Jewish neighborhoods, and was considered "in demand as residential locations in good times and bad." *Id.* at 197. The second grade of blue described areas that were "still desirable" but had "reached their peak" and were expected to remain stable for many years. *Id.* The third grade of yellow described "definitely declining" areas. *Id.* The fourth grade of red described areas in which "the things taking place" in the third-grade areas had "already happened." *Id.* at 197–98. "[B]lack neighborhoods were invariably rated as Fourth grade, but so . . . were any areas characterized by poor maintenance or vandalism." *Id.* at 198. The HOLC did not begin the practice of including race and ethnicity in real-estate appraisal. See *id.* at 196–99 (recognizing that not only did realtors consider race in determining how a house would sell, but also that academic writings in the 1920s and 30s stated that the presence of "least desirable" elements in a neighborhood would bring down housing prices). Some public subsidies were used to further racism and segregation. See Perea, *supra* note 77, at 588–601 (discussing racism in implementation of the G.I. Bill and services at VA hospitals). The FHA feared that if a neighborhood was not rigidly segregated, it would become unstable and lose its investment value, which caused the agency to bluntly warn that neighborhoods should be only occupied by one social and racial class. See JACKSON, *supra*, at 208. For additional background, see also generally BERYL SATTER, FAMILY PROPERTIES: RACE, REAL ESTATE, AND THE EXPLOITATION OF BLACK URBAN AMERICA (2010); Emily Badger, *Obama Administration to Unveil Major New Rules Targeting Segregation Across U.S.*, WASH. POST (July 8, 2015), <https://perma.cc/52WC-4GD7>.

81. See Douglas S. Massey & Jonathan Tannen, *A Research Note on Trends in Black Hypersegregation*, 52 DEMOGRAPHY 1025, 1032–33 (2015) ("Although the number of [hypersegregated metropolitan areas] was almost cut in half from 1970 to 2010, falling from 40 to 21, average segregation within hypersegregated areas fell by only 8%.")

viduals into impoverished neighborhoods,⁸² gaps in wealth accumulation between races,⁸³ and increased exposure to urban squalor and health hazards.⁸⁴

At the same time, racism and discriminatory practices are directly responsible for the constant and disproportionate rate of lead poisoning among Black children and the sluggish pace of the policy response. When lead poisoning first began to gain attention from the media and public health departments in the mid-1950s, lead poisoning became defined as a problem for poor Black and Hispanic children, blamed largely on their parents, and not discriminatory practices or paint companies.⁸⁵ The Lead Industries Association (“LIA”) deliberately argued that the basic problem was the “slums” and their occupants, not the leaded product.⁸⁶ According to Manfred Bowditch, the director of Health and Safety for the LIA in 1956, the only way to address lead poisoning was to educate the parents.

“[M]ost of the cases are in Negro and Puerto Rican families, and how . . . does one tackle that job? . . . Until we can find a means to (a) get rid of our slums and (b) educate the relatively ineducable parent, the problem will continue to plague us.”⁸⁷

Overt racism and social segregation of the pre-Civil Rights era resulted in an acceptance of the lack of interventions.⁸⁸ “As the War on Poverty took form in the years following President John F. Kennedy’s assassination, the links between poverty, housing, and racism became increasingly apparent to many Americans. Lead poisoning—particularly from peeling paint in slum housing—became a signature disease of poverty.”⁸⁹

Public officials deliberately moved and confined communities of color to disadvantaged areas with known environmental hazards, exposing them to neurotoxins and carcinogenic substances. Approximately 70% of Superfund sites, with dangerously high levels of contaminants including lead, are within a

82. Alexander Polikoff, *Housing Mobility: Why Is It So Controversial?* 24 *POVERTY & RACE* 1, 3, 6 (2016), <https://perma.cc/V77C-CKGQ> (citing THE ANNIE E. CASEY FOUND., *DATA SNAPSHOT ON HIGH-POVERTY COMMUNITIES 2* (2012), <https://perma.cc/Q74M-WW4T> (finding that children whose families live in poverty are also more likely to live in a community made up of residents who also live below the poverty threshold)).

83. The average wealth for Black families was \$4,900 in 2010, whereas the average wealth for white families was \$97,000. ECON. POL’Y INST., *THE STATE OF WORKING AMERICA: AFRICAN AMERICANS*, <https://perma.cc/UQ7J-EN3V>.

84. Benfer, *supra* note 3, at 283–84; *see also* Massey & Tannen, *supra* note 81.

85. Paul Krugman, *Black Lead Matters*, *N.Y. TIMES* (Sept. 2, 2016), <https://perma.cc/S8Y3-LTWX>.

86. Rosner & Markowitz, *supra* note 23, at 324.

87. *Id.* at 325.

88. *Id.* at 324.

89. *Id.* at 326.

mile of public housing or federally assisted housing.⁹⁰ In a typical example, in 1966, the East Chicago, Indiana, Housing Authority Executive Director, Benjamin Lesniak, selected “vacant areas surrounded by industries, and undesirable residential areas” for a new public housing complex.⁹¹ Lesniak stated that the majority of tenants would be African-American and Hispanic or Latino and that public housing would be built in areas that were predominately occupied by minorities.⁹² Lesniak and the East Chicago Housing Authority were aware that the location selected for the public housing complex was the former site of an Anaconda Copper Company lead refinery and an Eagle-Picher Company white lead plant.⁹³ Between 1985 and 1986, lead testing revealed children with elevated blood lead levels which prompted a lawsuit against EPA related to lead emissions in the area.⁹⁴ Despite clear evidence of lead poisoning and other disabilities among residents, in 1996 the East Chicago Housing Authority used a \$1.5 million modernization grant to keep the complex open in the same location.⁹⁵ As a result, generations of families have been exposed to toxic levels of lead and arsenic and suffered permanent disability or death over the past five decades.⁹⁶ As recently as 2016, former Indiana Governor Mike Pence refused to provide disaster relief necessary to relocate the East Chicago families to safety, though he did not hesitate to provide similar assistance to Greentown when the lead content of its water was slightly elevated.⁹⁷ Greentown’s population is 97% White.⁹⁸ As one author reflected, “[t]he continuing poisoning of half a million American children is tolerated partly because the victims often are low-income children of color.”⁹⁹

Federally assisted housing programs also present health dangers because they are often clustered in low-income, segregated areas with a deteriorating

90. Sylvia Carignan, *Majority of Superfund Sites Near Low-Income Housing*, BLOOMBERG (May 9, 2017), <https://perma.cc/6925-BV5S>.

91. *Public Housing Sites Are Scarce*, CHI. TRIB., Oct. 6, 1966, at 1, <https://perma.cc/HJW8-37SQ>.

92. *Id.*

93. Complaint at 6, *O’Berry v. E. Chi. Hous. Auth.*, HUD No. 16-167 (Aug. 29, 2016); *For New 346 Unit Housing Project East Chicago Gets \$13.4 Million*, CHI. DAILY DEFENDER, Apr. 11, 1970, at 18.

94. *EPA Faces a Suit on Lead Emissions*, N.Y. TIMES (Aug. 21, 1986), <https://perma.cc/TJ2W-VHE3>.

95. Steve Patterson, *Grant to Improve Housing*, POST-TRIB., Sept. 23, 1997, at B1.

96. See Abby Goodnough, *Their Soil Toxic, 1,100 Indiana Residents Scramble to Find New Homes*, N.Y. TIMES (Aug. 30, 2016), <https://perma.cc/W2W4-R83C>; Alex Zielinski, *An Indiana City Is Poised to Become the Next Flint*, THINKPROGRESS (Aug. 15, 2016), <https://perma.cc/E2W7-U7YH>.

97. John Halstead, *Mike Pence’s Environmental Racism*, HUFFINGTON POST (Jan. 14, 2017), <https://perma.cc/BQ7R-J6KS>; Craig Lyons, *Pence Disaster Relief Denial Leaves Legislators Scrambling to Help East Chicago*, CHI. TRIB. (Jan. 19, 2017), <https://perma.cc/7GRV-PP33>.

98. Halstead, *supra* note 97.

99. Kristof, *supra* note 16.

housing stock. “Public housing tenants tend to be clustered in census tracts with high poverty rates, and black and Hispanic residents of public housing are the most likely to live in census tracts with poverty rates over 40%.”¹⁰⁰ Similarly, although the HCV Program should enable poor households to move to neighborhoods of opportunity, in practice, voucher holders are concentrated in poor neighborhoods. “This is even more the case for black voucher holders, whose neighborhoods are far more segregated than white voucher holders.”¹⁰¹ Minorities make up the majority of occupants in federally assisted housing units and Blacks are disproportionately represented in federally assisted housing.¹⁰² In addition, Black, female-led households are disproportionately represented in federally assisted housing.¹⁰³

For the children in these households, the health risks in federally assisted housing are particularly acute. These children are more susceptible to lead poisoning, because many of the units were built before lead-based paint was banned and the homes are not maintained or the units are located in areas with elevated risk of lead poisoning.¹⁰⁴ In 2016, HUD reported that it is aware of 57,000 federally assisted housing units with lead hazards and 450,000 federally assisted housing units built before 1978 which have the potential to develop a lead hazard, in its tenant-based rental assistance program and occupied by at least one child under age six.¹⁰⁵ Over 2.7 million children currently reside in federally assisted housing programs.¹⁰⁶ Children occupy more than one-third of public housing and HCV Program households and nearly one third of the project-based Section 8 program households.¹⁰⁷

As demonstrated by the following maps, which compare the location of HCV Program units, lead poisoning rates by neighborhood, and the discriminatory redlining maps, these homes are largely occupied by families of color and

100. NAT’L LOW INCOME HOUS. COAL., HOUSING SPOTLIGHT: WHO LIVES IN FEDERALLY ASSISTED HOUSING? 3 (2012), <https://perma.cc/4JPQ-TFGC>.

101. Eva Rosen, *The Power of Landlords*, ATLANTIC (June 9, 2015), <https://perma.cc/S38J-FTSL>; see also generally PAUL JARGOWSKY, CENT. FOUND., THE ARCHITECTURE OF SEGREGATION (2015), <https://perma.cc/852S-H8D4>.

102. *Id.*

103. See *id.* at 2–3.

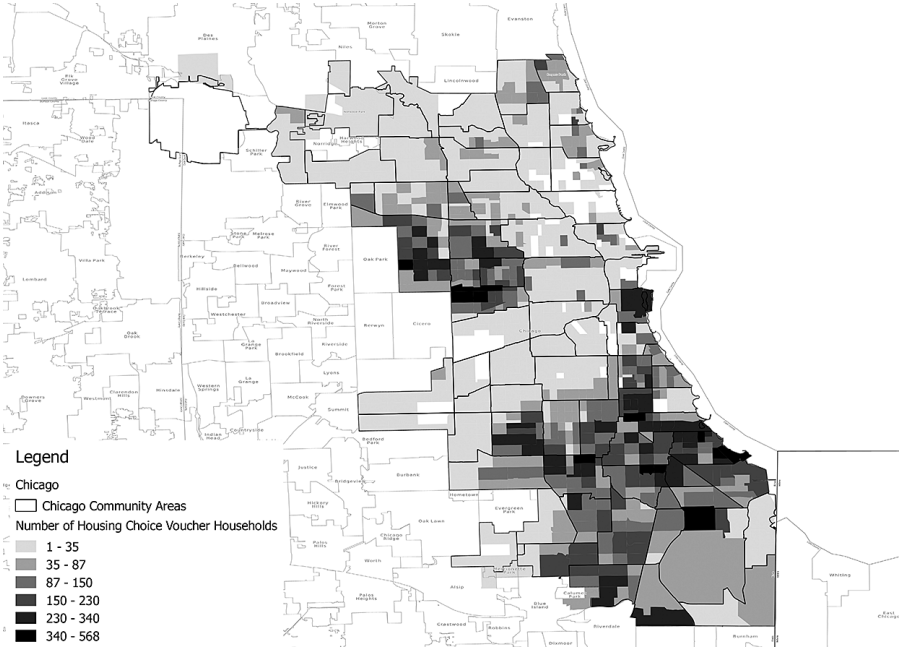
104. See Bryce Covert, *We Know How to Stop The Epidemic of Lead Poisoning. So Why Aren’t We?*, THINKPROGRESS (Mar. 24, 2016), <https://perma.cc/WDG8-WQZ3>.

105. See e.g., Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels, 81 Fed. Reg. 60,304 (Sept. 1, 2016). *But see* Dean Reynolds, *Fear of Lead Paint in HUD Housing Leads Family to Homeless Shelter*, CBS NEWS (June 21, 2016), <https://perma.cc/YKC3-4L9X> (noting that HUD estimated that 2.5 million units in the federal housing assistance program have lead hazards).

106. See U.S. DEP’T OF HOUS. & URBAN DEV., RESIDENT CHARACTERISTICS REPORT (2017) (tallying 774,518 children under age five and 1,935,548 children ages six through seventeen).

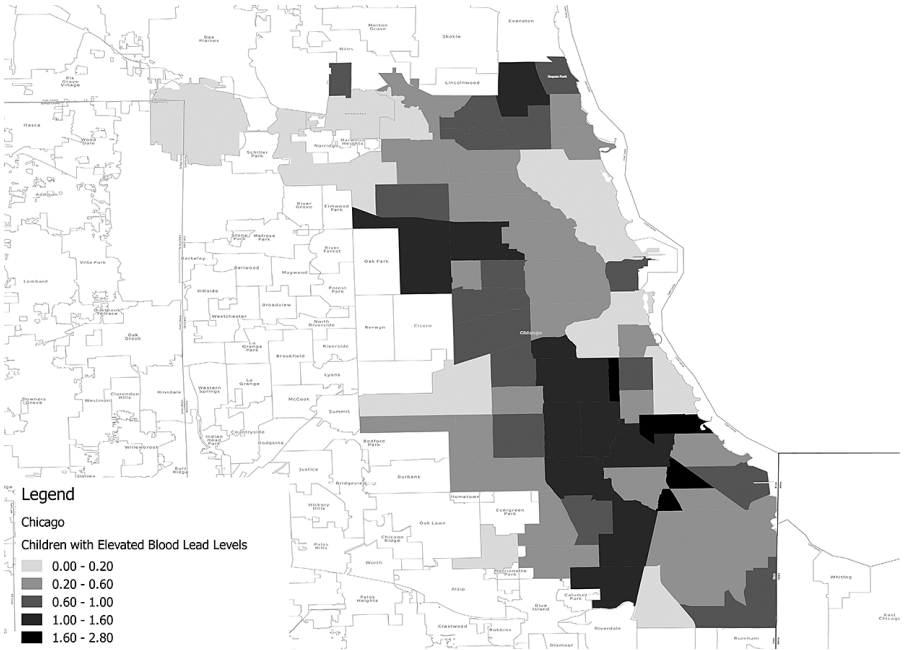
107. *Id.* at 2.

these families are segregated into regions designated as high risk for lead poisoning.



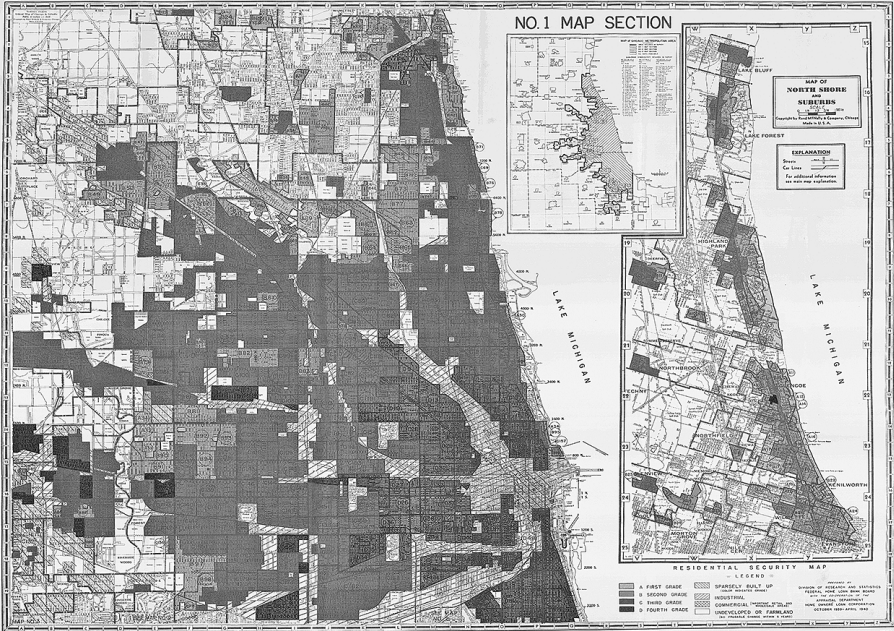
*Concentration of HCV Program Households in Chicago*¹⁰⁸

108. Map created by Sargent Shriver National Center on Poverty Law.



*Concentration of Children with Elevated Blood Lead Levels in Chicago*¹⁰⁹

109. Map created by Sargent Shriver National Center on Poverty Law.



HOLC "Residential Security Map" of Chicago (1939)¹¹⁰

110. Robert K. Nelson et al., *Mapping Inequality*, AMERICAN PANORAMA (2017), <https://dsl.richmond.edu/panorama/redlining>. Cf. generally Ta-Nehisi Coates, *The Case for Reparations*, ATLANTIC (June 2014), <https://perma.cc/TK3F-SU8Z>. In this map, the neighborhoods with the highest grade appear light gray, while the lowest graded neighborhoods are dark gray. The darkest gray neighborhoods were red in the colorized version of this map. Cf. JACKSON, *supra* note 80 and accompanying text.

Repeatedly, government actors have deepened racial isolation and increased poor health outcomes by confining minorities to low-income communities.¹¹¹ The extreme residential segregation experienced by Black residents in many areas increases their likelihood of living in a home with a lead hazard and results in higher lead poisoning rates among Black children.¹¹² The outcome “is that many children of color are growing up in neighborhoods where unemployment and crime are higher; schools are poorer; access to capital, fresh produce, transit and health care is more limited; exposure to environmental toxins is greater; and family supports and services are fewer.”¹¹³ Discriminatory decision-making and insufficient policy intervention on the part of government actors is responsible for the disproportionate rate of lead poisoning among low-income individuals and communities of color and further perpetuates the cycle of disability and despair.

II. LEGISLATIVE STRUCTURE ALLOWING THE LEAD POISONING OF LOW-INCOME MINORITY CHILDREN IN FEDERALLY ASSISTED HOUSING

Those who have watched a century of children sacrificed on the altar of lead poisoning are aghast that we, as a wealthy industrial society, would continue to knowingly allow future generations of children to be exposed to the presence of lead . . .

—David Rosner & Gerald Markowitz,
*Building a World that Kills Us*¹¹⁴

Attempts to eliminate lead poisoning over the last century have proved largely futile. As early as 1910, members of the U.S. House of Representatives introduced a bill to regulate the use of lead-based paint in homes. A witness

111. See Editorial, *Affordable Housing, Racial Isolation*, N.Y. TIMES (June 29, 2015), <https://perma.cc/3A78-P23N>.

112. Max Weintraub, *Racism and Lead Poisoning*, 87 AM. J. OF PUB. HEALTH 1871, 1871 (1997).

113. See THE ANNIE E. CASEY FOUND., RACE FOR RESULTS: BUILDING A PATH TO OPPORTUNITY FOR ALL CHILDREN 11 (2014). See also David R. Williams, *Discrimination and Health*, in ENCYCLOPEDIA OF HEALTH & BEHAVIOR 254–59 (Norman B. Anderson ed., 2004); Benfer, *supra* note 3, at 283 (citing Jason Silverstein, *How Racism Is Bad for Our Bodies: ‘Stop and Frisk’ Is a Threat to Public Health*, ATLANTIC (Mar. 12, 2013), <https://perma.cc/VK5C-5UVJ>) (“Discrimination in any form can raise the risk of emotional or physical problems, such as depression, hypertension, breast cancer, and early mortality.”). The concept of implicit bias in healthcare explains racial disparities in health through the biological effect of discrimination and is known as “embodying inequality.” See generally Clarence C. Gravlee, *How Race Becomes Biology: Embodiment of Social Inequality*, 139 AM. J. OF PHYSICAL ANTHROPOLOGY 47 (2009) (discussing how “the sociocultural reality of race and racism has biological consequences for racially defined groups”).

114. Rosner & Markowitz, *supra* note 23, at 340.

testifying at a Committee Hearing stated, “The most eminent scientists and doctors of Great Britain . . . reached the conclusion that white lead is a poison. I say it is a poison, it matters not in what form you approach it.”¹¹⁵ Needless to say, the measure was defeated. Despite this and later warnings, as discussed in Part I of this Article, lead remained a fixture in society and was—and in many cases, still is—an ingredient in paint, gasoline, consumer goods, and nearly every item within a child’s grasp.¹¹⁶ Several million metric tons of lead were distributed in the United States from the use of leaded gasoline and lead smelting plants, leaving a toxic footprint, contaminating soil across the country.¹¹⁷

Over the better part of the twentieth century, the lead industry successfully fought regulatory efforts and launched expansive marketing campaigns designed to increase the use and sale of lead.¹¹⁸ However, policymakers and society are equally responsible. According to historians Drs. David Rosner and Gerald Markowitz:

The broader problem was that the issue of remediation extended beyond resistance from the lead industry, to whether there was the political will in government at federal and state levels and in the society at large to deal seriously with the issue. Lead, ultimately, had to be contained or even removed from the child’s environment, but doing so was proving to be a political, economic, and technological nightmare.¹¹⁹

Without political will, lead poisoning prevention was piecemeal and came in fits and starts at best. Falling short of meaningful prevention, the limited lead poisoning laws failed to protect children, especially Black children. To this day, the overwhelming majority of lead poisoning prevention programs, civil rights initiatives, and social reform efforts that could prevent lead poisoning and address entrenched segregation and pervasive poverty among minorities place the responsibility of identifying lead hazards on children. With few exceptions, and most of them on the local level,¹²⁰ the law requires that children uncover the

115. CHRISTIAN WARRANT, *BRUSH WITH DEATH: A SOCIAL HISTORY OF LEAD POISONING* 44 (2001).

116. Rosner & Markowitz, *supra* note 23, at 326.

117. *See Ghost Factories*, *supra* note 12.

118. LEAD WARS, *supra* note 5, at 8, 40.

119. Rosner & Markowitz, *supra* note 23, at 331.

120. *See, e.g.*, DETROIT CITY CODE § 9-1-83 (requiring inspections every three years if abatement used on all identified hazards; no inspection required if fully abated or certified lead-free); *Lead Paint Disclosure and Certification Law*, CITY OF PHILA., <https://perma.cc/BT7M-Y9PR> (requiring lead-safe or lead-free certificate prior to rental to occupants with children under 6); BURLINGTON CODE OF ORDINANCES, ch. 18, art. III, div. 6 18-112 (2009), <https://www.codepublishing.com/vt/burlington> (requiring property owners in Burlington, VT to inspect “deteriorated painted surfaces”) D.C. MUN. REGS. TIT. 8, §§ 8-231.01 to 8-231.05 (Proactive inspection of rentals by code enforcement officials every four

location of lead hazards with the rising blood lead levels in their developing bodies.¹²¹ This means that children must be lead poisoned before the lead hazard is contained or removed from their environment. The cause for such incremental progress is apparent in the legislative history of lead poisoning prevention laws introduced over the last half century. The following examination of the legislative history and policy development is limited largely to policies regulating the greatest sources of lead poisoning, including lead in paint, dust, and soil, especially in federally assisted housing.¹²²

A. The 1970s: Avoiding Accountability and Dismissing the Science

Mr. Speaker, we can no longer allow our children to die or become permanently disabled from a disease that can be readily eliminated.

—Congressman Frank Horton¹²³

The first significant lead poisoning prevention law, the Lead-Based Paint Poisoning Prevention Act (“LPPPA”), passed on December 31, 1970 and was signed into law in January 1971.¹²⁴ Hearings on the legislation documented the cause of lead poisoning as the ingestion of chips of lead-based paint in old, dilapidated homes, largely occupied by low-income, minority families. Congressman William Ryan’s statement as a sponsor of the bill is still applicable today:

The legislation . . . offers hope to thousands of children—children mostly doomed to grow up in decaying slums where the lead-tainted paint and plaster chips, which are the carriers of the disease, befoul

years of all foster homes for children under six. In Washington, D.C., in order for landlords to obtain a license to rent, their properties must pass an inspection complying with housing and building codes. If there is a child in the home it requires a clearance report from a licensed professional that there is no lead hazard or deteriorated paint in any pre-1978 building.)

121. Rosner & Markowitz, *supra* note 23, at 329 (discussing the public health conflict around the definition of “prevention” and whether the appropriate point of intervention is before a child is poisoned or to abate homes occupied by children who have already been poisoned).
122. Additional federal laws, regulations, guidance, and executive orders regulate lead in consumer products, water, air, gasoline, and lead waste and cleanup. *See, e.g.*, Federal Hazardous Substances Act, 15 U.S.C. §§ 1261–1278 (2012); Safe Drinking Water Act, 42 U.S.C. §§ 300f–300j–27 (2012); Clean Water Act, 33 U.S.C. §§ 1251–1387 (2012); Toxic Substances Control Act, 15 U.S.C. §§ 2601–2697 (2012); Clean Air Act, 42 U.S.C. §§ 7401–7515 (2012); Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–6908a (2012); Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601–9675 (2012). *See generally Lead Laws and Regulations*, EPA (2016), <https://perma.cc/MFV2-6Z7Y>.
123. 116 CONG. REC. 34,846 (1970).
124. 42 U.S.C. §§ 4821, 4822, 4831, 4841–43, 4846 (2012).

their homes. It is the shame of America that these children do not yet have the opportunity to be born and raised in decent living conditions. It is the disgrace of America that we have done so little. But the lead poisoning legislation for which I, and so many dedicated individuals have been pleading, demanding, urging, and cajoling is on the verge of becoming law. It is only a small part of the enormous debt and obligation we owe all children who are deprived and disadvantaged, but it is an urgently essential and long, long overdue step.¹²⁵

Despite this reality, LPPPA was met with great resistance. Legislators questioned the parenting ability of parents of lead poisoned children and the responsibility of the federal government to intervene.¹²⁶ Representatives of the lead industry touted the usefulness of lead-based paint and successfully advocated to allow for the continued use of lead-based paint in areas “inaccessible” to children. As Mr. John M. Montgomery, General Counsel of the National Paint, Varnish and Lacquer Association testified at the Subcommittee on Health hearing:

Some lead-bearing coatings still are used today—in structural steel primers, where they have unique value as rust-inhibiting agents, and in other exterior coatings for special uses. It is our hope that these proper uses of certain products of our industry will not be denied to the construction industry and to the public by overly restrictive language.¹²⁷

The lead industry’s hope was realized and exceptions were carved out.

An earlier version of the bill envisioned that any funds would be tied to local lead poisoning prevention planning and accountability. It would have required local governments to submit to HUD “an effective plan for the elimination of the cause of lead-based paint poisoning as a condition for receiving any Federal funds for housing code enforcement and rehabilitation. It also required that the plans be enforced. Thus, it [would have] set up a mechanism by which the Federal Government could be sure that lead-based paint was really being removed from the interiors of housing structures.”¹²⁸ Significant concerns from local government resulted in an amendment that removed such requirements from LPPPA. Twenty years later, Congress would find that, “despite the enactment of laws in the early 1970’s requiring the Federal Government to eliminate as far as practicable lead-based paint hazards in federally owned, assisted, and

125. *Cf.* 116 CONG. REC. 44,303–04 (1970).

126. *See* 116 CONG. REC. 43,789 (1970) (PL91-695).

127. 116 CONG. REC. 42,117 (Dec. 17, 1970) (PL91-695).

128. 116 CONG. REC. 34,845 (1970) (statement of Congressman Ryan discussing HR11699).

insured housing, the Federal response to this national crisis remains severely limited.”¹²⁹

Nevertheless, LPPPA was the first major legislation to confront lead poisoning in the United States. It prohibited the use of lead-based paint in federally constructed housing; appropriated federal funding for lead abatement; created educational, screening, and treatment programs; and required research on the nature and extent of lead poisoning and the lead-based paint problem, as well as cost-effective techniques for eliminating lead hazards.¹³⁰ It also established a federal standard defining lead-based paint as having a 1% content of lead in paint used in federally assisted housing.¹³¹ If disturbed, paint with lower levels of lead content could still cause lead poisoning in children. Prior to the enactment of LPPPA, no federal authority existed to appropriate funding for lead poisoning prevention.¹³² Once enacted, the Nixon Administration and Congress refused to appropriate funds to implement lead abatement and prevention, essentially dismantling the law.¹³³

In 1973, Congress amended LPPPA, directing the Consumer Product Safety Commission (“CPSC”) to determine the safe content of lead in residential paint products. In 1978, the CPSC completely banned lead-based paint for residential purposes, including toys and furniture containing such paint, in order to “reduce the risk of lead poisoning in children who may ingest paint chips or peelings.”¹³⁴ The CPSC lowered the allowable level of lead in paint to .06% or 600 parts per million (“ppm”). In 2009, the allowable level was reduced again to .009% (90 ppm).¹³⁵ EPA and HUD have yet to follow suit and still define lead-based paint as exceeding .5% or 5,000 ppm, even though paint with lower levels could create a lead hazard and cause lead poisoning.¹³⁶

The 1973 amendments also directed HUD to eliminate lead-based paint hazards as far as practicable from housing owned or supported by the federal government and banned lead-based paint, at the time defined as having 0.5% lead, from federally assisted housing.¹³⁷ Despite the legislative mandate, it was

129. 42 U.S.C. § 4851(7).

130. See generally 42 U.S.C. §§ 4821, 4822, 4831, 4841–43, 4846 (2012).

131. Lead-Based Paint Poisoning Prevention Act, Pub. L. No. 91-695, § 501(3), 84 Stat. 2078, 2080 (1971) (current version at 42 U.S.C. § 4841).

132. However, minimal funding was available for screening and treatment under the Public Health Service Act and Title V of the Maternal and Child Health and Crippled Children’s Services of the Social Security Act, and technical assistance was made available from the Department of Health, Education, and Welfare. SUSAN BAILY, LEGISLATIVE HISTORY OF THE LEAD PAINT POISONING PREVENTION PROGRAM 43 (1982).

133. See Rosner & Markowitz, *supra* note 23, at 328–29.

134. Press Release, U.S. Consumer Prod. Safety Comm’n, *supra* note 7.

135. See 16 C.F.R. § 1303.2 (2017).

136. See 40 C.F.R. § 745.223 (2001); 24 C.F.R. § 35.86 (1999).

137. An Act to Amend the Lead-Based Poisoning Prevention Act, and for Other Purposes, Pub. L. No. 93-151, 87 Stat. 565, 566 (1973).

evident that little had been done to remove lead-based paint hazards in much of federally assisted housing.¹³⁸ HUD resisted developing the means for evaluating or addressing the problem of lead-based paint hazards in federally assisted housing.¹³⁹ The law required HUD to abate any federally owned properties prior to the sale when the use is intended for residential purposes. HUD interpreted the mandate as narrowly as possible and refused to strengthen regulations, citing cost factors. HUD regulations only applied to "immediate" hazards, defined as cracking, scaling, chipping, peeling, or loose paint, even though HUD's own lawyers determined that correcting solely defective paint was not in compliance with the mandate.¹⁴⁰ The regulations also gave local housing authorities an exemption from lead-based paint inspections if a small sample of units tested lead-free.¹⁴¹ It was an imprudent exemption since HUD did not collect data on the number of homes inspected or abated or when notice was given to tenants of a possible lead hazard.¹⁴² In fact, few local and federal housing authorities attempted to remediate the conditions that exposed children to deteriorated paint in public housing projects and neglected tenements.¹⁴³

The then-General Accounting Office, now known as the Government Accountability Office ("GAO"), found that "HUD-assisted dwelling units are not inspected regularly for lead-based paint; therefore, notification may be the tenants' only means of being alerted to the dangers of lead-based paint hazards."¹⁴⁴ The GAO Report indicated that HUD focused its energies largely on avoiding liability.¹⁴⁵ HUD was known to require buyers of federal housing to sign waivers, among other tactics, in order to avoid potential liability for expo-

138. See S. REP. NO. 102-332, at 108-110 (1992).

139. See Rosner & Markowitz, *supra* note 23, at 333. See also generally U.S. GEN. ACCOUNTING OFFICE, CED-81-31, HUD NOT FULFILLING RESPONSIBILITY TO ELIMINATE LEAD-BASED PAINT HAZARD IN FEDERAL HOUSING 5 (1980) (discussing the division of lead regulations between HUD, CDC, Food and Drug Administration, Consumer Product Safety Administration, EPA, and Occupational Safety and Health Administration) [hereinafter 1980 GAO REPORT].

140. 1980 GAO REPORT, *supra* note 139, at 20-21.

141. *Id.* at 22.

142. *Id.* at 32.

143. Compare Rosner & Markowitz, *supra* note 23, at 331, with 1980 GAO REPORT, *supra* note 139, at 27-39.

144. 1980 GAO REPORT, *supra* note 139, at iii.

145. *Id.* at 23 ("Also present has been the fear that potential lawsuits brought by poisoned victims residing in HUD-owned dwelling units might cause the courts to force HUD into implementing a stronger regulatory role and thus further affect its programs."). Instead of addressing the issue, which HUD felt would be too costly, housing authorities created a private insurance company (Housing Authority Risk Retention Group) to insure public and low-income housing. See Rosner & Markowitz, *supra* note 23, at 337.

sure to lead hazards in federally assisted housing.¹⁴⁶ HUD claimed that the evidence was unclear and “the extent and severity of the hazard is not well defined.”¹⁴⁷ According to HUD, “[t]he linkages between the existence of lead paint in homes, potential for ingestion by children, the elevation of blood lead, and the emergence of symptoms of lead poisoning are not well understood”¹⁴⁸ and “research on the nature of lead paint hazards . . . is still in its infancy.”¹⁴⁹

According to the Comptroller General, the “problems center on HUD researchers’ belief that lead paint is overstated as a primary cause of childhood lead poisoning—a belief not shared by many health officials.”¹⁵⁰ According to the GAO Report, HUD failed to fulfill its duty to protect children by “not fully complying with many of its own regulations and procedures directed at eliminating the hazards of lead-based paint. Its research program has had only limited success. A new research agenda, better procedures, and a stronger commitment to eliminating lead hazards in housing is needed to improve HUD’s efforts.”¹⁵¹

B. *The 1980s: Building the Research While Lowering Expectations*

How much more intelligent it would be . . . to spend our effort and substance on the *systemic* elimination of environmental lead exposure associated with old dwellings. Were this to be done, childhood lead poisoning could be largely eradicated in the United States.

—Julian Chisolm,

“Synopsis of Medical Aspects of Childhood Lead Poisoning”¹⁵²

By the 1980s, over sixteen federal agencies were tasked with collecting data and regulating the amount of lead in food, paint, gasoline, air, drinking water, and federal housing.¹⁵³ The agencies operated in paralyzing silos and their efforts lacked urgency and effectiveness. By 1988, the Agency for Toxic Substances and Disease Registry issued a report on “The Nature and Extent of Lead Poisoning in the United States: A Report to Congress,” authored by Drs. Paul Mushak and Annemarie F. Crocetti, finding that the number of lead-

146. S. REP. NO. 102-332, at 118 n.11 (1992) (citing to two such waivers, “Addendum to Sales Contract: Lead-Based Paint Health Hazard. Property Constructed Prior to 1978. Owner-Occupant Purchaser” and form HUD-9552, used in multifamily property disposition).

147. 1980 GAO REPORT, *supra* note 139, at 10.

148. *Id.*

149. *Id.*

150. *Id.* at ii.

151. *Id.* at i.

152. J. Julian Chisolm, “Synopsis of Medical Aspects of Childhood Lead Poisoning” (Conference on Lead Poisoning in Children, Rockefeller University, May 26, 1969, Lead Ind. Assoc. Papers N11870).

153. 1980 GAO REPORT, *supra* note 139, at 5; Rosner & Markowitz, *supra* note 23, at 332.

poisoned children had been underestimated and that, in fact, between three and four million children were exposed to lead hazards in the United States.¹⁵⁴

Lead poisoning prevention advocates and researchers recognized that the solution to the lead poisoning epidemic required, at a minimum, resolving the problem of lead hazards in housing.¹⁵⁵ However, without the federal funding or commitment to building new housing, children continued to live in toxic environments and develop lead poisoning.¹⁵⁶ In light of the “political and economic retrenchment” and growing skepticism of government ability to take action, advocates believed that “sights should be lowered: the best the field could do in many cases, they felt, was to ameliorate health problems by reducing the level of harm, rather than *eliminating* it.”¹⁵⁷ Thus, the approach fell short of prevention. At the same time, researchers began to identify dangerous amounts of lead dust in homes that had been abated. “Although lead could no longer be an ingredient in household paint starting in 1978, dust from old paint continued to haunt scientists and public health officials and destroy the lives of young children.”¹⁵⁸

In 1987, while HUD and EPA refused to take responsibility for developing a national strategy for lead poisoning prevention, the American Academy of Pediatrics (“AAP”) published a report condemning current lead poisoning prevention approaches as inadequate and harmful to children and demanding that “all hazardous [lead-based] paint (exterior and interior) be removed from all housing.”¹⁵⁹ The AAP urged “public agencies to develop safe and effective methods for the removal and proper disposal of all lead-based paint from public and private housing.”¹⁶⁰ The report set the goal as complete abatement but, in light of cost constraints, the CDC focused on alternatives to abatement measures.¹⁶¹

C. *The 1990s: Counting Dollars over Lives*

Despite the research supporting robust lead poisoning prevention strategies, the goal of the 1990s was to identify measures to address the problem with as little expenditure as possible. Essentially, the question became, “How little can we spend and still reduce the blood-lead levels in the short term?”¹⁶² The

154. NATURE & EXTENT OF LEAD POISONING, *supra* note 38, at 4.

155. Rosner & Markowitz, *supra* note 23, at 333.

156. *See id.* at 334.

157. *Id.* at 333.

158. *Id.* at 330.

159. *See* Comm. on Envtl. Hazards, *supra* note 1, at 463–64.

160. *Id.* at 464.

161. *See* Rosner & Markowitz, *supra* note 23, at 339 (citing *Current Trends Impact of the 1985 CDC Lead Statement—Savannah, Georgia*, 36 MORBIDITY & MORTALITY WKLY. REP. 649 (Oct. 9, 1987), <https://perma.cc/4EHT-MTUW>).

162. Rosner & Markowitz, *supra* note 23, at 340.

theme became reduction, and not elimination, of the hazard.¹⁶³ Ultimately, the compromises resulted in policies that failed to protect children and end the lead epidemic.

In 1990, HUD released a congressionally mandated report, "Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing," and the Senate Housing Subcommittee set out to provide the authority for enforceable regulations.¹⁶⁴ In 1991, the U.S. Department of Health and Human Services ("HHS") released a strategic plan for eliminating lead poisoning in twenty years. Between October 1991 and March 1992, the Senate Housing Subcommittee held a series of hearings and roundtables on lead-based paint and a distressed public housing stock. Individuals, homebuyers, researchers, resident groups, neighborhood associations, and public housing authorities testified.¹⁶⁵ The Senate acknowledged the long-term harmful effect of exposure to very small amounts of lead and identified lead dust as the leading source of lead poisoning.¹⁶⁶

Yet, even with overwhelming evidence of the nature and extent of lead poisoning and its causes, legislation offered incomplete solutions and called upon future Congresses to address the issue. When enacting the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of the Housing and Community Development Act) to amend LPPPA, the Senate clearly limited the scope of the Act to a transition bill:

This title is intended to provide a transition to support more effective strategies for eventually eliminating lead-based paint hazards in housing as a source of childhood lead poisoning. As a transition bill, Title X attempts to remove all major obstacles to progress, making important changes in approach and laying the foundation for more cost-effective and widespread activities for reducing lead-based paint hazards.¹⁶⁷

163. *Id.*

164. U.S. DEP'T OF HOUS. & URBAN DEV., COMPREHENSIVE AND WORKABLE PLAN FOR THE ABATEMENT OF LEAD-BASED PAINT IN PRIVATELY OWNED HOUSING (1990), <https://perma.cc/X3QB-ARSH>; S. REP. NO. 102-332, at 109 (1992).

165. *Id.*

166. *Id.* ("Lead-contaminated dust from deteriorating lead-based paint in housing has been determined to be the leading source of this exposure.")

167. *Id.* at 111 ("The Committee views progress in the following areas as critical; setting priorities and targeting resources where they are needed most; increasing resources devoted to correcting hazards; overcoming technical obstacles through research and evaluation; increasing awareness of hazard prevention through public education; building an effective private sector infrastructure; and reducing uncertainty over liability by signaling standards of care for landlords. . . . Lead paint is present in tens of millions of U.S. housing units, and some 2 to 3 million young children have levels of lead in their bodies sufficient to cause neurological damage.")

Title X was specifically and “rationally” targeted to lay the foundation for *future* efforts to control exposure to lead-based paint hazards¹⁶⁸ with the express purpose of creating a “cost-effective, workable system,” and not mandatory strategies for eliminating lead-based paint in all housing.¹⁶⁹ The Senate Report to Title X emphasizes that “[i]t should be made clear at the outset that Title X is not intended to ‘solve’ the vast problem of childhood exposure to hazardous amounts of lead from residential lead-based paint.”¹⁷⁰ Thus, in some areas, Title X relaxed standards and was “less stringent than current law.”¹⁷¹ For example, the Senate Report placed a \$5,000 floor on covered programs to exempt housing with only “minimal” ties to the federal government from its protections.¹⁷² The Act also exempted zero-bedroom dwelling units from protections and limited protections to homes with a child under the age of six residing, or expected to reside, on the premises.¹⁷³

In addition, the Senate Report accompanying the Act exempted tenant-based rental assistance programs. Although programs receiving “housing assistance payments” were covered under the statute, according to the Senate Report, “Housing receiving tenant based rental assistance would also be exempt from the LPPPA. Due to the tendency of this housing to pass in and [out] of federal assistance programs, the Committee considers it unworkable, and in some aspects inequitable, to impose greater burdens on owners of this housing than on private landlords.”¹⁷⁴ In effect, the Senate Report resulted in the withholding of lead poisoning prevention from millions of children in tenant-based rental programs, such as the HCV Program, which provides housing to 2.1 million households annually.¹⁷⁵

Title X also formalized HUD’s approach of targeting *actual* hazards, defining a lead-based paint hazard as “any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil or lead-contaminated

168. *Id.* See also 42 U.S.C. § 4851a (1), (3) (2012) (describing the purposes of Title X as “to develop a national strategy to build the infrastructure necessary to eliminate lead-based paint hazards” and “to encourage effective action . . . by establishing a workable framework”).

169. See S. REP. NO. 102-332, at 2.

170. *Id.* at 111.

171. *Id.* at 117.

172. *Id.*

173. 42 U.S.C. § 4851b(27).

174. S. REP. NO. 102-332, at 117. See also Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance, 64 Fed. Reg. 50,140, 50,146 (Sept. 15, 1999) (codified at 7 C.F.R. pt. 35) (describing HUD’s reliance on legislative history to limit lead poisoning prevention requirements in certain tenant-based rental assistance programs) [hereinafter Lead-Based Paint Poisoning Prevention Rules].

175. See NAT’L LOW INCOME HOUS. COAL. *supra* note 100. See Letter from Health Justice Project et al. to U.S. Dep’t of Hous. & Urban Dev., Comment on Proposed Lead Safe Housing Rule (Oct. 31, 2016).

paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects.¹⁷⁶ Thus, under this definition, intact lead-based paint on most surfaces is not considered a “hazard,” although HUD does allow for monitoring of the condition of the paint to ensure that it does not become deteriorated.¹⁷⁷ This was a diversion from LPPPA and *Ashton v. Pierce*,¹⁷⁸ in which the U.S. Court of Appeals for the District of Columbia Circuit defined a lead-based paint hazard to be the *presence* of intact or deteriorated lead-based paint and shifted the approach to primary prevention, requiring the removal of the accumulation of lead from children’s environments.¹⁷⁹ In addition, instead of full abatement or removal of lead, Title X authorized interim controls, which are designed to temporarily contain the hazard instead of eliminate it.¹⁸⁰

The law also included data collection and local efforts via amendments to the National Affordable Housing Act that require jurisdictions to develop a housing strategy in consultation with state or local health and child welfare agencies and to estimate the number of housing units occupied by low-income families that contain lead-based paint hazards.¹⁸¹ It directed the federal government to “take a leadership role in building the infrastructure . . . necessary to ensure that the national goal of eliminating lead-based paint hazards in housing can be achieved as expeditiously as possible.”¹⁸² This responsibility fell largely on HUD and, over the course of seven years, HUD worked with national experts and the federally mandated Task Force on Lead-Based Paint Hazard Reduction and Financing (“Task Force”) to design procedures for eliminating the hazards associated with lead poisoning in federally assisted housing.¹⁸³ In im-

176. 42 U.S.C. § 4851b (15).

177. Lead-Based Paint Poisoning Prevention Rules, 64 Fed. Reg. at 50,143. *See also* 42 U.S.C. § 4851b (13) (“The term ‘interim controls’ means a set of measures . . . including . . . monitoring of lead-based paint hazards or potential hazards . . .”).

178. 716 F.2d 56 (D.C. Cir. 1983), *amended*, 723 F.2d 70 (D.C. Cir. 1983).

179. *Id.* at 61–62.

180. S. REP. NO. 102-332, at 113 (1992).

181. 42 U.S.C. § 12705.

182. 42 U.S.C. § 4851(8).

183. *See* 42 U.S.C. § 4822(a)(1). It also requires the Secretary to conduct research to develop improved methods for evaluating, reducing, and measuring lead and lead paint hazards; establish performance standards for lead detection, reduction, and cleanup; and evaluate the effectiveness and efficiency of hazard identification and reduction activities. *See* 42 U.S.C. § 4854(a). *See also* Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,141–42. These procedures must address risk assessment, inspection, abatement, and hazard reduction of lead paint hazards. *Id.* The Act requires the Secretary of HUD, in consultation with the Administrator of EPA, the Secretary of Labor, and the Secretary of HHS (acting through the Director of the CDC), to issue “guidelines for the conduct of federally supported work involving risk assessments, inspections, interim controls, and abatement of lead-based paint hazards,” based on criteria that measure the condition of the housing and the presence of children. 42 U.S.C. § 4852(c).

plementing the requirements of the statute, HUD described Title X as representing “a new and sweeping approach to the problem of lead-based paint poisoning of children.”¹⁸⁴

At the same time, Title X mandated that EPA promulgate regulations for the disclosure of lead-based paint hazards before the sale or rental of a property and gave EPA subpoena power to enforce the disclosure rule.¹⁸⁵ Congress also amended the Toxic Substances Control Act (“TSCA”) to include Subchapter IV on Lead Exposure Reduction which required EPA to promulgate regulations on lead repair, renovation and painting, lead-based paint abatement activities, and lead-hazard standards.¹⁸⁶

In 1996, EPA promulgated the Lead Disclosure Rule¹⁸⁷ and Lead Abatement Rule.¹⁸⁸ EPA’s primary objective in promulgating the Lead Abatement Rule was “to ensure that individuals and firms conducting lead-based paint activities in target housing and child-occupied facilities will do so in a way that safeguards the environment and protects the health of building occupants, especially children aged six years and under.”¹⁸⁹ The Regulatory Impact Analysis of the Lead Abatement Rule estimated the benefits to be as much as \$54 billion over fifty years.¹⁹⁰

The Lead Disclosure Rule gives “prospective home purchasers and lessees access to information that might otherwise have been unavailable . . . or that they might have been able to acquire only through their own effort and at some cost.”¹⁹¹ In promulgating the rule, EPA stated that, “the information will generate health benefits by leading many purchasers and lessees to modify their behavior in a way that will reduce risks from lead-based paint.”¹⁹² As a result, the rule ensures that purchasers and renters of older housing make informed housing and maintenance decisions before they become obligated under purchase or lease contracts. It also serves to educate all participants in target housing sales and leasing transactions of their rights and obligations, as well as the dangers of

184. Lead-Based Paint Poisoning Prevention Rules, 64 Fed. Reg. at 50,142.

185. 42 U.S.C. § 4852d (2012); 15 U.S.C. § 2689 (2012).

186. 15 U.S.C. §§ 2681–2692 (2012).

187. Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards Upon Sale or Lease of Residential Property, 61 Fed. Reg. 9082 (Mar. 6, 1996) (codified at 24 C.F.R. pt. 35).

188. Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities, 61 Fed. Reg. 45,778 (Aug. 29, 1996) (codified at 40 C.F.R. pt. 745).

189. *Id.* at 45,779.

190. NICOLAAS BOUWES, EPA, TSCA TITLE IV, SECTIONS 402(A) AND 404: TARGET HOUSING AND CHILD-OCCUPIED FACILITIES FINAL RULE REGULATORY IMPACT ANALYSIS, at vii (1996), <https://perma.cc/CZ48-Z4Z8>.

191. Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing, 61 Fed. Reg. 9064, 9080 (Mar. 6, 1996) (codified at 40 C.F.R. pt. 745).

192. *Id.*

lead poisoning. However, the rule falls short of primary prevention because it does not require risk assessments and abatement of lead hazards in homes prior to the sale or rental of a property. This would have resulted in much greater protections, increased business for lead-hazard renovation firms and contractors, and, ultimately, the end of lead poisoning.

D. Turn of the Century: Ignoring the Science and Most of the Children

In 1999, pursuant to Title X, HUD promulgated the “Lead-Based Paint Poisoning Prevention in Certain Residential Structures” rules.¹⁹³ HUD’s stated goal in adopting the regulations was “to keep pace with changes in the scientific understanding of how childhood lead poisoning occurs, lead-based paint technology and in HUD services delivery.”¹⁹⁴ However, the new HUD regulations were not aligned with current science or the CDC standards and did not apply equally across programs. HUD regulations defined “environmental intervention blood lead level” as “a confirmed concentration of lead in whole blood equal to or greater than twenty $\mu\text{g}/\text{dL}$ [(200 ppb)] for a single test or fifteen to nineteen $\mu\text{g}/\text{dL}$ in two tests taken at least three months apart.”¹⁹⁵ This definition was twice the CDC’s definition of lead poisoning in effect at the time the regulations were promulgated and four times the CDC’s standard as adopted in 2012.¹⁹⁶ A public commenter argued that HUD regulations should be aligned with the CDC standards, because it is “illogical to take no action when we know a child is poisoned . . . but instead to wait until the child is more poisoned.”¹⁹⁷

193. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,142.

194. *Id.* at 50,142. In addition, HUD intended that the regulations better reflect “current knowledge of the causes of lead poisoning and current lead-based paint hazard evaluation and reduction technologies and practices,” and ensure consistency, accuracy, and improved response. *Id.*

195. 24 C.F.R. § 35.110 (2002). In the regulation, HUD stated that:

EPA noted that it is confusing to define the term ‘elevated blood lead level’ or ‘EBL’ differently than normal usage. The agency pointed out that CDC, in their 1997 screening guidelines, uses the term to refer to 10 $\mu\text{g}/\text{dL}$ or greater and that most public health agencies and others in the field of lead poisoning prevention do the same. HUD agrees that this is potentially confusing and has therefore substituted in the final rule the term ‘environmental intervention blood lead level’ to replace ‘elevated blood lead level’ or ‘EBL’ when the latter terms refer to the blood lead level requiring evaluation and hazard reduction of the child’s home.

Lead-Based Paint Poisoning Prevention Rules, 64 Fed. Reg. at 50,157.

196. See CTRS. FOR DISEASE CONTROL & PREVENTION, BLOOD LEAD LEVELS IN CHILDREN (2012), <https://perma.cc/49W6-MVE6>. In 1999, the CDC definition of blood lead level of concern was ten $\mu\text{g}/\text{dL}$ (100 ppb), and in 2012, it was five $\mu\text{g}/\text{dL}$ (50 ppb). *Id.*

197. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,156.

Title X gives HUD the authority to establish a lower definition of lead-based paint in target housing, and TSCA requires that EPA define lead dust, lead soil and lead paint to identify “threats to adverse health effects in pregnant women or young children.”¹⁹⁸ HUD and EPA dismissed the prevailing science and used a “feasibility”—as opposed to health-based—standard when setting the definitions of lead dust, lead soil, and lead-based paint.¹⁹⁹ Without protective standards, lead hazard inspection and clearance testing following interim control, renovation, or abatement is unreliable. HUD reaffirmed the statutory definition, defining lead-based paint as “paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 ppm by weight.”²⁰⁰ As previously discussed, this definition of lead-based paint is set well above the current CPSC definition.²⁰¹ Commenters also expressed concern that the permissible level of dust would not protect children, citing recent scientific studies available at the time.²⁰² HUD acknowledged that significant percentages of young children would develop lead poisoning at blood lead levels above ten $\mu\text{g}/\text{dl}$ or greater at the selected standards.²⁰³ Nevertheless, for reasons of feasibility, HUD set the allowable lead content at levels known to result in at least 5% of young children developing lead poisoning at levels of fifteen $\mu\text{g}/\text{dl}$ or greater.²⁰⁴

HUD formalized the use of ineffective, but low cost, “visual assessments” to identify lead hazards prior to occupancy in multiple programs, including multifamily properties receiving up to \$5,000 per unit, and single family

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198. See 15 U.S.C. § 2681(9) (2012) (“(A) in the case of paint or other surface coatings on target housing, such lower level as may be established by the Secretary of Housing and Urban Development, as defined in section 4822(c) of [the Lead-based Poisoning Prevention Act], or (B) in the case of any other paint or surface coatings, such other level as may be established by the Administrator.”).
199. See Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,180. The current lead-dust risk assessment standards are set at forty $\mu\text{g}/\text{ft}^2$ for floors, 250 $\mu\text{g}/\text{ft}^2$ for interior window sills, and no value is included for window troughs. 24 C.F.R. § 35.1320(b) (2004). The allowable lead-soil level was 400 parts per million (micrograms per gram). *Id.*
200. 24 C.F.R. § 35.110 (2002).
201. At the time of HUD’s regulations, CPSC banned the residential use of lead paint that contains greater than 0.06% or 600 ppm of lead. 16 C.F.R. § 1303.2(b)(2) (2002).
202. See Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,180. See also Bruce P. Lanphear et al., Lead-Contaminated House Dust and Urban Children’s Blood Lead Levels, 86 AM. J. PUB. HEALTH 1416, 1420 (1996); LEAD-BASED PAINT HAZARD REDUCTION & FINANCING TASK FORCE, PUTTING THE PIECES TOGETHER: CONTROLLING LEAD HAZARDS IN THE NATION’S HOUSING (1995).
203. See Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,181.
204. See *id.*; Bruce P. Lanphear et al., *The Effect of Soil Abatement on Blood Lead Levels in Children Living Near a Former Smelting and Milling Operation*, 118 PUB. HEALTH REPS. 83, 87 (2003); Bruce P. Lanphear et al., *The Contribution of Lead-Contaminated House Dust and Residential Soil to Children’s Blood Lead Levels: A Pooled Analysis of 12 Epidemiologic Studies*, 79 ENVTL. RES. 51, 51–68 (1998).

properties;²⁰⁵ programs receiving federal assistance for acquisition, leasing, supportive services, or operation;²⁰⁶ and tenant-based rental assistance programs, such as the HCV Program, among others.²⁰⁷ HUD adopted visual assessments as a method for identifying lead hazards, despite a 1994 GAO report determining that visual assessments are ineffective in identifying lead hazards.²⁰⁸ According to the GAO report, “visual inspections did *not* [identify] lead hazards in intact painted surfaces, such as floors, window sashes, and window sills.”²⁰⁹ The earlier Task Force found that the “only way to determine conclusively that a pre-1978 unit does not contain lead-based paint is to perform a lead-based paint inspection—and the only way to confirm that lead-based paint hazards do not exist is to perform a risk assessment.”²¹⁰ Numerous studies available at the time demonstrated that lead-contaminated house dust, which cannot be detected with visual assessment, is a significant source of lead exposure for children.²¹¹ Yet, according to HUD and without scientific evidence, in these programs, the strategy of combining visual assessment, paint stabilization, and clearance provides assurance that the housing is “lead safe.”²¹²

HUD relied on congressional intent, interpreted from the Senate Report, to justify the tiered approach to lead poisoning prevention, in which only some housing programs undergo scientifically supported lead hazard risk assessment and remediation. HUD explained, “Clearly, Congress did not intend for HUD to apply the new minimum procedures set out in section 1012(a) of Title X to tenant-based rental assistance.”²¹³ The GAO disagreed, noting, “[m]ost impor-

205. 24 C.F.R. § 35.720 (2012).

206. 24 C.F.R. § 35.1015.

207. 24 C.F.R. § 35.1215(a)(2) (2017). According to HUD’s 2012 Guidance, a visual assessment is “limited to identifying deteriorated paint, both interior and exterior, and paint chips on the ground. It is not necessary to identify friction surfaces, impact surfaces, or chewable surfaces, except that the risk assessor should attempt to identify chewable surfaces if the owner or resident indicates in the questionnaire that a young child tends to mouth or chew painted surfaces.” OFFICE OF HEALTHY HOMES & LEAD HAZARD CONTROL, U.S. DEP’T OF HOUS. & URBAN DEV., GUIDELINES FOR THE EVALUATION AND CONTROL OF LEAD-BASED PAINT HAZARDS IN HOUSING 5-60 to 5-61 (2012), <https://perma.cc/25KP-PYCM> [hereinafter HUD 2012 GUIDELINES].

208. See U.S. GEN. ACCOUNTING OFFICE, GAO/RCED-94-137, LEAD-BASED PAINT POISONING: CHILDREN IN SECTION 8 TENANT-BASED HOUSING ARE NOT ADEQUATELY PROTECTED 1–5 (1994) [hereinafter 1994 GAO REPORT] (“[T]hese and other public housing authorities may be overlooking significant hazards in these inspections, which require only visual evidence and do not include testing for lead-based paint hazards.”).

209. *Id.* at 2.

210. LEAD-BASED PAINT HAZARD REDUCTION & FINANCING TASK FORCE, *supra* note 202, at 62.

211. See, e.g., Lanphear et al., *supra* note 202, at 1420.

212. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174.

213. *Id.* at 50,146 (“Congress did not amend the first sentence of the Lead-Based Paint Poisoning Prevention Act, set out above, to delete or amend the phrase ‘housing assistance pay-

tantly, title X left untouched the wording in the act that previously encompassed section 8 tenant-based housing, namely, ‘any existing housing which may present [lead-based paint] hazards and which is covered by an application . . . for housing assistance payments under a program administered by the Secretary [of HUD].’²¹⁴ The GAO concluded, “Thus, both by its title and its substantive terms, the act still arguably encompasses section 8 tenant-based housing.”²¹⁵ Still, HUD exempted tenant-based rental assistance from pre-occupancy lead hazard risk assessments.²¹⁶

HUD applied the same ineffective inspection standards to projects receiving \$5,000 or less in federal assistance.²¹⁷ Similar to the HCV Program, children participating in these programs must develop lead poisoning before lead hazard risk assessments occur. Commenters protested the two-tiered approach for determining regulatory responsibility: “Letting our standards be set by appropriation levels is dreadful public policy when the health of children [is] at stake.”²¹⁸ Another commenter urged HUD to “retain high standards in the regulations and ‘let the legislative process deal with the fiscal responsibility [for] this community health issue.’”²¹⁹

In promulgating regulations, HUD stated that it “does not believe Congress intended that Federal funds be used to subsidize housing that can poison children.”²²⁰ Yet, in practice, children residing in these programs are not protected from the dangers of lead, and lead-hazard control occurs only after the child suffers permanent harm. In fact, since 2010, \$5.6 million in federal funds were used in the HCV Program to subsidize the rent in homes with a known and uncontrolled lead hazard in Chicago alone.²²¹ During the same time period, nearly 200 children in the Chicago-based HCV Program developed lead

ments.’ HUD has historically interpreted this general phrase to cover virtually all types of housing assistance, including tenant-based rental assistance The legislative history for Title X states, however, that housing receiving tenant-based rental assistance would be exempt from the Lead-Based Paint Poisoning Prevention Act, as amended by Title X.”) *See supra* notes 165–68.

214. 1994 GAO REPORT, *supra* note 208, at app.II, 25.

215. *Id.*

216. 24 C.F.R. § 35.1215 (2017) (requiring only visual assessment for tenant-based rental assistance).

217. 24 C.F.R. § 35.720.

218. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,146.

219. *Id.*

220. *Id.*

221. Michael Hawthorne & Jennifer Smith Richards, *Kids Poisoned by Lead in CHA Housing: Landlords Still Got Paid*, CHI. TRIB. (Apr. 8, 2017).

poisoning between six $\mu\text{g}/\text{dl}$ and nineteen $\mu\text{g}/\text{dl}$.²²² It is estimated that thousands of children were lead-poisoned at lower levels.²²³

E. The 21st Century: Renewing Efforts Towards Primary Prevention

We know there is no safe level of lead for children, yet too many families continue to live with the threat of lead exposure and its devastating consequences. We can and must do more to protect our children and give them a fair shot at realizing their full potential.

—Senator Richard Durbin²²⁴

The twenty-first century brought an advancement of science and technology related to lead poisoning, as well as an increase in lead poisoning prevention laws. A number of studies provided irrefutable evidence of the dangers of lead dust and additional impetus for updating EPA's and HUD's lead-hazard standards. Lead-dust levels much lower than the current floor standard "were associated with a considerable excess risk of children having blood lead levels [greater than or equal to] 10 $\mu\text{g}/\text{dl}$."²²⁵ In one study, the current residential floor standard of 40 $\mu\text{g}/\text{ft}^2$ "failed to identify 85% of housing units of children who had a blood lead concentration of 10 $\mu\text{g}/\text{dl}$."²²⁶ Research demonstrates that "children were at 3.5-fold greater risk for having a blood lead concentration [greater than or equal to] 10 $\mu\text{g}/\text{dl}$, if they were exposed to floor dust lead levels 5 $\mu\text{g}/\text{ft}^2$ to 10 $\mu\text{g}/\text{ft}^2$ compared with levels [less than] 2.5 $\mu\text{g}/\text{ft}^2$."²²⁷ In addition, children's blood lead concentrations decrease by 3.5 $\mu\text{g}/\text{dl}$ per 1000 ppm decrease in soil lead concentration.²²⁸

In 2008, EPA's Lead-Based Paint Renovation, Repair and Painting Rule ("RRP Rule") introduced protections against hazardous lead dust during renovation and required the use of lead-safe work practices, as well as EPA-certified contractors.²²⁹ The RRP Rule is based on EPA's scientific study finding that renovation and repair activities that disturb lead-based paint "have the highest

222. *Id.* See also Michael Hawthorne, *Federal Housing Policy Leaves Poor Kids at Risk of Lead Poisoning*, CHI. TRIB. (Dec. 31, 2015), <https://perma.cc/QYD6-R5V4>.

223. Telephone Interview with Anonymous City Official (Feb. 26, 2016).

224. Press Release, Senator Dick Durbin, Durbin, Menendez Praise Final HUD Lead Safe Housing Rule (Jan. 13, 2017), <https://perma.cc/TS2J-9W3H>.

225. Bruce Lanphear et al., *Screening Housing to Prevent Lead Toxicity in Children*, 120 PUB. HEALTH REP. 305, 308 (2005).

226. *Id.* at 307.

227. *Id.* at 308.

228. Lanphear, *The Effect of Soil Abatement*, *supra* note 204, at 87.

229. 40 C.F.R. § 745 (2016). See also *The Renovation, Repair and Painting Rule*, U.S. DEP'T OF HOUS. & URBAN DEV., <https://perma.cc/B47Z-YFFE>.

potential for generating lead exposure.”²³⁰ The RRP Rule applies to 37.8 million facilities, including 37.7 million target housing units.²³¹ It is estimated that annually the RRP Rule protects 1.3 million children under six years of age and between five and eleven million adults and children over six years of age from lead poisoning.²³²

At the same time, the lead in many of these homes was not abated and the lead hazard could return if not closely monitored and maintained. In fact, previously identified contamination has resulted in lead poisoning in future occupants below six years of age.²³³ In addition, the RRP Rule rests upon standards for lead dust and lead-based paint that are still founded on outdated science, compromising the accuracy of any risk assessment or clearance test.

In 2008, then-Senator Hillary Clinton and Representative Keith Ellison introduced companion bills to align HUD’s definition of lead poisoning with the CDC’s definition.²³⁴ In 2009, the National Center for Healthy Housing, Alliance for Healthy Homes, and Sierra Club petitioned EPA for rulemaking, under Section 21 of the TSCA and the Administrative Procedure Act,²³⁵ to update the definitions of lead dust, lead soil and lead-based paint.²³⁶ EPA agreed with the petitioners on the importance of revising the definitions based on science, but has yet to take the necessary actions.²³⁷ In 2016, Senators Durbin, Menendez, Collins, and Reed requested updates to the standards, and a number of advocacy groups sued EPA after unreasonable delay.²³⁸ In addition,

230. BATTELLE, LEAD EXPOSURE ASSOCIATED WITH RENOVATION AND REMODELING ACTIVITIES, at viii (1997), <https://perma.cc/5727-U768>.

231. EPA, ECONOMIC ANALYSIS FOR THE TSCA LEAD RENOVATION, REPAIR, AND PAINTING PROGRAM FINAL RULE FOR TARGET HOUSING AND CHILD-OCCUPIED FACILITIES 1 (2008), <https://perma.cc/7U5L-TPMQ>.

232. *Id.*

233. See Reyes et al., *Identifying Housing That Poisons: A Critical Step in Eliminating Childhood Lead Poisoning*, 12 J. PUB. HEALTH MGMT. & PRAC. 563 (2006).

234. S. 3609, 110th Cong. (2008); H.R. 6309, 110th Cong. (2008) Both bills died in committee.

235. 15 U.S.C. § 2620 (2012); 5 U.S.C. § 553(e).

236. Lead Dust Hazard Standards and Definition of Lead-Based Paint; TSCA Section 21 Petition; Notice of Receipt and Request for Comment, 74 Fed. Reg. 51,274 (Oct. 6, 2009).

237. Letter from Stephen A. Owens, Assistant Adm’r, EPA to Rebecca Morley, Nat’l Ctr. for Healthy Hous., Patrick MacRoy, All. for Healthy Homes & Tom Neltner, Sierra Club, Regarding Citizen Petition to EPA Regarding the Paint and Dust Lead Standards (Oct. 22, 2009), <https://perma.cc/YX6E-7P2U>.

238. See Press Release, Senator Dick Durbin, Senators Durbin, Menendez, Urge EPA to Toughen Lead Hazard Standards (July 7, 2016), <https://perma.cc/HY27-24VS> (noting legislative efforts by Senators Durbin, Menendez, Collins, and Reed as well as the request by Senators Durbin and Menendez that EPA update the lead-hazard standards). In addition, Earthjustice petitioned for mandamus to compel EPA to update protections from lead poisoning. Petition for Writ of Mandamus, In re a Community Voice v. EPA, No. 16-72816 (9th Cir. 2016), <https://perma.cc/QYG3-HH5H>. See also *Community Groups Across*

pursuant to the Consolidated Appropriations Act of 2017,²³⁹ EPA must, in consultation with the CDC and HUD, provide to Congress a report on the progress related to updating lead dust and soil standards. In response, EPA demonstrated a willingness to further reduce lead poisoning prevention activities and standards. It presented lead-hazard-reduction regulations for elimination or weakening in response to the regulatory reform agenda ordered by Executive Order 13,777,²⁴⁰ and proposed cutting over \$16 million in funding from its lead-based paint program, including the Lead Risk Reduction Program.²⁴¹ These actions, if approved, will reverse progress in lead poisoning prevention and hazard control, result in a significant increase in lead exposure to children and contractors, and perpetuate a completely preventable public health crisis.

In 2016, the Sargent Shriver National Center on Poverty Law, the Green & Healthy Homes Initiative, the author of this Article, and dozens of national nonprofits, public health experts, medical providers, and scientists filed a petition for rulemaking with HUD pursuant to the Administrative Procedure Act.²⁴² The petition urged critical amendments to Lead-Based Paint Poisoning Prevention in Certain Residential Structures regulations²⁴³ in order to:

- (1) conform the regulations to the most current lead poisoning prevention definition and guidance to prevent confusion and ensure early identification and immediate response to lead poisoning and lead

the Country Challenge EPA over Failure to Update Protections from Lead Poisoning, EARTHJUSTICE (Aug. 24, 2016), <https://perma.cc/N994-FFQM>.

239. Pub. L. No. 115-31 (2017).

240. *See* Evaluation of Existing Regulations, 82 Fed. Reg. 17,793 (Apr. 13, 2017).

241. *See* Yvette Cabrera, *EPA to Cut Programs That Keep Children Safe from Lead*, THINKPROGRESS (Apr. 6, 2017), <https://perma.cc/9A2W-LJBR>; Memorandum from David A. Bloom, Acting Chief Fin. Officer, EPA, to Acting Gen. Counsel et. al., EPA, at B-1, B-5 (Mar. 21, 2017), <https://perma.cc/BW74-PW8Q>.

242. 5 U.S.C. § 553(e) and 24 C.F.R. § 10.20 give individuals the right to petition government agencies for rulemaking. 24 C.F.R. §10.20 (2016). The petition was submitted by Change-Lab Solutions, Childhood Lead Action Project, Children's Defense Fund, Civitas ChildLaw Center, Coalition for Human Needs, ColorofChange.org, A Community Voice, Environmental Advocacy Center, Erie Family Health Center, Farmworker Justice, Green & Healthy Homes Initiative, Healthy Homes Collaborative, Health Justice Project, Improving Kids' Environment, Dr. Bruce Lanphear, Lawyers' Committee for Better Housing, Lawyers' Committee for Civil Rights Under Law, Louisiana Roundtable for the Environment, National Alliance of HUD Tenants, National Center for Medical-Legal Partnership, National Housing Law Project, National Low Income Housing Coalition, Dr. Howard W. Mickle, Poverty & Race Research Action Council, Professor Florence Wagman Roisman, Dr. David Rosner, Sargent Shriver National Center on Poverty Law, Southern United Neighborhoods, United Parents Against Lead, and Urban Justice Center. Letter from Emily A. Benfer, Dir., Health Justice Project et al. to Julian Castro, Sec'y, U.S. Dep't of Hous. and Urban Dev. (Feb. 11, 2016), <https://perma.cc/TZP2-DZ2N>.

243. 24 C.F.R. §§ 35.80–35.1355 (2017).

hazards; (2) adopt primary prevention measures to protect children in federally assisted housing from lead poisoning and the resulting severe and permanent health impairments; and (3) adopt robust hazard reduction protocols to prevent lead poisoning among current and future households and further harm to lead poisoned children.²⁴⁴

The petitioners argued that the requested amendments would better allow HUD to fulfill its mission “to create strong, sustainable, inclusive communities and quality affordable homes for all.”²⁴⁵

The petitioners emphasize that HUD has consistently acknowledged its duty to children living in federally assisted housing and its duty to respond to environmental and racial injustice.²⁴⁶ The petition also underscores HUD’s obligation “to ensure that its standards are up to date and based on the latest science.”²⁴⁷ HUD’s regulations and rules still lack primary prevention across all programs.

Shortly after the petition was filed, Senators Richard J. Durbin (D-IL) and Robert Menendez (D-NJ), and Representatives Keith Ellison (D-MN), Mike Quigley (D-IL), Brenda Lawrence (D-MI), and Daniel Kildee (D-MI) introduced companion bills entitled the Lead-Safe Housing for Kids Act.²⁴⁸ The bills expanded on the 2008 version²⁴⁹ by amending LPPPA’s definition of elevated blood lead level to mean “the lower of (A) 5 µg/dl . . . or (B) the most recent definition for elevated blood lead level or reference range level in children ages 1 through 5” set by the CDC, and directing EPA and HUD to promulgate regulations to update standards for lead dust and lead soil, in accordance with health-based standards.²⁵⁰ In addition, the bill removed the long-standing exemption for zero-bedroom dwelling units.²⁵¹ It required lead-hazard risk assessments prior to occupancy of a child under the age of six in all pre-1978 federally assisted housing.²⁵² The bill allowed for emergency relocation of families residing in a home with a lead hazard to lead-safe housing.²⁵³ Finally,

244. Petition for Rulemaking Under U.S. Dep’t of Hous. & Urban Dev. “Lead Based Paint Poisoning Prevention in Certain Residential Structures” Regulations to Prevent Lead Poisoning Among Program Participant Children 5 (2016), <https://perma.cc/TZP2-DZ2N>.

245. *Id.*

246. *Id.* at 12–14.

247. *Id.* at 13 (“In furtherance of these goals, HUD’s ‘lead-based paint regulations have been amended from time to time in response to changes in the law, court orders, and increased knowledge about the hazards and treatment of lead-based paint.’”).

248. *See* Lead-Safe Housing for Kids Act, H.R. 4694, 114th Cong. (2016). *See also* S. 2631, 114th Cong. (2016).

249. *See* Lead-Safe Housing for Kids Act of 2008, S. 3609, 110th Cong. (2008). *See also* H.R. 6309, 110th Cong. (2008).

250. H.R. 4694, 114th Cong. § 4(a)(2) (2016).

251. *See id.* at § 4(a)(3).

252. *See id.* at § 5(a)(ii)(I).

253. *See id.* at § 5(b).

the bill directed GAO to report on lead-hazard controls in federally assisted housing.²⁵⁴ The bill represented the only federal proposal rooted in principles of primary prevention that would apply to all federally assisted housing equally. Senators Susan Collins (R-ME) and Jack Reed (D-RI) worked to incorporate similar provisions in end-of-year Appropriations bills, including the Transportation, HUD, and Department of the Interior Appropriations bills and Committee Reports.²⁵⁵ None of these measures received the necessary support.

In June 2016, HUD issued a Lead-Safe Housing, Lead-Free Kids Toolkit that outlined its plan to address lead poisoning.²⁵⁶ The plan included steps to improve the process for identifying and controlling lead hazards, interagency collaboration, improving participants' access to existing resources, and the development of a research agenda.²⁵⁷ The majority of the toolkit steps rely on congressional action, philanthropic organizations, or programs that are already in existence. And none of the remediation activities or benefits are triggered until after a child is lead poisoned in tenant-based rental assistance programs.

In the same timeframe, HUD also issued a Notice of Demonstration to Test Proposed New Method of Assessing the Physical Conditions of Voucher-Assisted Housing.²⁵⁸ The Demonstration was in response to the Transportation, Housing and Urban Development Appropriations Act of FY2016 that mandated HUD to revise the outdated Housing Quality Standards ("HQS") inspection protocol to "reflect recent research on health and safety threats in the

254. *See id.* at § 6(b) (directing the GAO to: "(1) analyze whether existing Federal programs and Federal funding for lead hazard control activities in housing receiving Federal assistance meet the current and evolving needs, and if not, the merits of identifying and providing dedicated funds within new or existing Federal programs to conduct lead hazard control activities; (2) evaluate the financial and social cost of lead-based paint hazard prevention and lead hazard control activities, and provide recommendations on how to improve coordination and leveraging of public and private funds, including private investments and tax incentives, to reduce the cost associated with the identification and remediation of lead hazards and expedite home remediation; (3) identify existing partnerships with public housing agencies and public health agencies in addressing lead-based paint hazards, what gaps exist in compliance and enforcement, and whether the partnerships can be replicated and enhanced with dedicated funding and better data collection and dissemination among stakeholders; and (4) examine the appropriateness and efficacy of existing Department protocols on reducing or abating lead-based paint hazards and whether they are aligned with specific environmental health scenarios to ensure the best and appropriate health outcomes and reduce further exposure.").

255. Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, S. 2844, 114th Cong. (2016); Department of the Interior, Environment, and Related Agencies Appropriations Act, S. 3068, 114th Cong. (2016).

256. *See* U.S. DEP'T OF HOUS. & URBAN DEV., LEAD-SAFE HOMES, LEAD-FREE KIDS TOOLKIT (2016), <https://perma.cc/8EZN-TDPX>.

257. *See id.*

258. *See* Notice of Demonstration to Test Proposed New Method of Assessing the Physical Conditions of Voucher-Assisted Housing, 81 Fed. Reg. 26,759 (May 4, 2016) (to be codified at 24 C.F.R. pt. 982).

home.”²⁵⁹ According to the Senate Report, “modern health and safety standards” and a “universal list of life threatening/emergency deficiencies” were among the criteria absent from the HQS.²⁶⁰ The Universal Physical Condition Standards for Vouchers (“UPCS-V”) inspection protocol is designed to enable an inspector to more consistently identify and accurately describe those items that pose the most dangerous risk to tenant health and safety in the home.²⁶¹ Yet, the Demonstration does not allow for the identification of most lead hazards that result in lead poisoning in the HCV Program. The presence of peeling or cracking paint does not result in a “fail” outcome or trigger a lead hazard risk assessment. The only time a unit fails inspection for a lead hazard is when a “target unit” does not have a lead-free certificate and deteriorated lead-based paint is present.²⁶² This only captures a fraction of potential sources of lead hazards. In order to update the inspection protocol to reflect modern health standards and to achieve the goals of the HCV Program, it is paramount that HUD prioritize lead poisoning prevention in the HCV Program by including risk assessments in all inspection protocols.²⁶³

In response to the Petition for Rulemaking and at the urging of multiple members of Congress,²⁶⁴ HUD promulgated a rule²⁶⁵ that would “formally adopt in regulation the CDC’s 2012 definition of elevated blood lead level in children under the age of 6. Second, the proposed rule would establish more comprehensive testing and evaluation procedures for HUD and other Federally-assisted or -owned housing in which children with elevated blood lead levels reside.”²⁶⁶ The primary purpose of the rulemaking included “adopting the revised definition of [‘elevated blood lead level’] in children under the age of six

259. S. REP. NO. 114-075, at 105 (2016).

260. REAL ESTATE ASSESSMENT CTR., U.S. DEP’T OF HOUS. & URBAN DEV., FINAL UPDATE TO CONGRESS ON HCV INSPECTION OVERSIGHT PROJECT 8–9 (Jan. 20, 2016), <https://perma.cc/9X36-TKLV>.

261. *What Is UPCS-V?*, U.S. DEP’T OF HOUS. & URBAN DEV., <https://perma.cc/Q3A8-BQYB>.

262. See U.S. DEP’T OF HOUS. & URBAN DEV., UPCS-V DECISION TREE 19, <https://perma.cc/6GHJ-VAA7>; see also U.S. DEP’T OF HOUS. & URBAN DEV., UPCS-V DECISION TREE 68, <https://perma.cc/PH42-Q8PU>.

263. See generally Health Justice Project et al., *supra* note 175, at 7.

264. Press Release, Senator Dick Durbin, Durbin Presses HUD Secretary to Strengthen Lead Standards for Children (Mar. 8, 2016), <https://perma.cc/F5LD-BES5>; Press Release, Senator Dick Durbin, Durbin Calls on HUD to Strengthen Regulations Addressing Childhood Lead Exposure (Jan. 26, 2016), <https://perma.cc/27EN-D6LK>; Letter from Senator Susan Collins & Senator Jack Reed to Secretary Julian Castro, U.S. Dep’t of Hous. & Urban Dev. (Feb. 25, 2016), <https://perma.cc/K7BK-R4H4>.

265. Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels, 82 Fed. Reg. 4151, 4155 (Jan. 13, 2017) (to be codified at 24 C.F.R. pt. 35) [hereinafter Lead Safe Housing Rule].

266. Letter from Michelle Miller, Acting Dir., Office of Lead Hazard Control & Healthy Homes to Emily A. Benfer, Clinical Professor of Law at Loyola University School of Law,

(6), and strengthening designated parties' or owners' responses in cases where children with high blood lead levels reside in federally-assisted and federally-owned target housing."²⁶⁷ In the final rule, published on January 13, 2017, HUD adopts "the position of CDC and other federal agencies that no amount of lead in a child's blood can be considered safe, and that primary prevention is critical to protecting America's children."²⁶⁸

In addition to aligning the definition of lead poisoning with the CDC standard, once a child with an elevated blood lead level is identified, the responsible party must conduct an "environmental investigation," which includes both a risk assessment and an investigation of non-lead-paint sources of lead poisoning in the unit.²⁶⁹ HUD declined to require control of non-lead-paint sources of lead poisoning despite the duty to provide safe, decent housing.²⁷⁰ Thus, a child in federally assisted housing being lead-poisoned by another source, such as contaminated water, would not be protected from the lead hazard under HUD's regulations.²⁷¹

The rule also includes improved responses once a child with an elevated blood lead level is identified in federally assisted housing. At that point, responsible parties must conduct lead hazard risk assessments in all other federally assisted units in the building that are occupied or expected to be occupied by a child under the age of six.²⁷² Prior to this change, public commenters noted that "lead hazards do not discriminate among victims by type of subsidy" and more stringent risk assessments should be conducted in all units, even if they are not covered by the same subpart of the regulation.²⁷³ In response to public commenters, HUD extended risk assessments to all units once a child is poisoned in a federally assisted housing unit in the building, including units in the HCV

Dir., Health Justice Project & Ms. Kate Walz, Dir. of Housing Justice, Sargent Shriver National Center on Poverty Law (Mar. 10, 2016) (on file with author).

267. Lead Safe Housing Rule, 82 Fed. Reg. at 4155.

268. It should be noted that the rule is on hold pursuant to President Donald Trump's first official action. Memorandum from Reince Priebus, Assistant to the President & Chief of Staff, to the Heads of Executive Departments and Agencies (Jan. 20, 2017), <https://perma.cc/LHV7-HZ8Q>.

269. Lead Safe Housing Rule, 82 Fed. Reg. at 4157.

270. *Id.* at 4157. HUD had broad discretion to engage in policy decisions resulting in this outcome. See Barry Sullivan, *On the Borderlands of Chevron's Empire: An Essay on Title VII, Agency Procedures and Priorities, and the Power of Judicial Review*, 62 LA. L. REV. 317, 319 (2002) ("Administrators, then, do not simply 'enforce' the law; they also interpret law, make law, and decide on policy initiatives.").

271. Lead Safe Housing Rule, 82 Fed. Reg. at 4157 ("Requiring control of drinking water lead levels is outside the scope of this rule. Thus, HUD declines to specifically address the issue of lead-contaminated water in this rulemaking.").

272. *Id.* at 4158.

273. *Id.* For additional public comments, see Letter from Tom Neltner, Chems. Policy Dir., Env'tl. Def. Fund to U.S. Dep't of Hous. & Urban Dev., Comment on Lead Safe Housing Rule (Oct. 31, 2016), <https://perma.cc/4QZL-QNW2>.

Program and Project-based Section 8 that receive less than \$5,000.²⁷⁴ The equal treatment of different subsidies marked HUD's first attempt to dismantle the tiered system to lead poisoning prevention.

Despite these advances, the final rule falls short of true primary prevention. HUD declined to make updates to the lead dust, lead soil, and lead-based paint definitions, despite the authority to do so.²⁷⁵ HUD implied that EPA has the responsibility to consider any revisions to the standards.²⁷⁶ Over half of the commenters to the rule emphasized the importance of primary prevention and many urged HUD to conduct risk assessments, as opposed to ineffective visual assessments, before a family with a child occupies the unit. Four years earlier, the CDC Advisory Commission on Childhood Lead Poisoning Prevention determined that visual assessments and remediation "should now be considered unacceptable."²⁷⁷ As recently as July 2016, former HUD Secretary Julian Castro acknowledged that the current hazard identification protocol is insufficient to identify lead hazards in multiple programs.²⁷⁸ HUD declined to replace visual assessments with risk assessments that could identify a lead hazard before a child is lead-poisoned in tenant-based assistance programs. HUD explained that it "has always distinguished between pre-occupancy and post-occupancy activities in assisted housing" and noted that such a change would be outside the scope of the rulemaking.²⁷⁹ In maintaining visual assessments in tenant-based rental assistance programs, HUD ensured that the majority of lead hazards would be identified by a child's blood lead level, after the harm was done.

Within a month of finalizing the Lead Safe Housing Rule, HUD's Office of Lead Hazard Control and Healthy Housing ("OLHCHH") released guidance on lead dust, significantly lowering action levels for lead-based paint hazard control and reduction demonstration grantees for the first time since 1999.²⁸⁰ In addition, it published rules implementing the Housing Opportunity Through Modernization Act of 2016 that include defining deteriorated paint in

274. Lead Safe Housing Rule, 82 Fed. Reg. at 4158, 4161.

275. *Id.* at 4159.

276. *See id.* at 4153–54, 4159.

277. CDC 2012 ADVISORY REPORT, *supra* note 27, at 16.

278. Graham Vyse, *Castro: There's 'Not Nearly Enough' Being Done to Fight Lead Poisoning*, INSIDE SOURCES (July 24, 2016), <https://perma.cc/NG8S-TV4H>.

279. Lead Safe Housing Rule, 82 Fed. Reg. at 4158. Pre-occupancy activities and other true primary prevention strategies have been found to be effective in protecting children and not disruptive to local housing markets. *See* Katrina Smith Korfmacher et al., *Rochester's Lead Law: Evaluation of a Local Environmental Health Policy Innovation*, 120 ENVTL. HEALTH PERSP. 309, 314–15 (2011).

280. Shortly after the Lead Safe Housing Rule was finalized, HUD released guidance on lead dust, significantly lowering the action levels for all lead-paint-hazard control and lead-hazard-reduction demonstration grantees for the first time since 1999. U.S. DEP'T OF HOUS. & URBAN DEV., GUIDANCE NO. 2017-01, REVISED DUST-LEAD ACTION LEVELS FOR RISK

a unit built before 1978 occupied by a child less than six years of age as a life-threatening condition.²⁸¹ These measures indicate a renewed effort toward primary prevention, but additional and sweeping interventions are necessary.

As the legislative history of the last half-century reveals, federal lead poisoning prevention strategies failed to protect future generations, especially the most vulnerable and marginalized, from falling victim to the neurotoxin. According to HUD, a considerable number of children under age six currently reside in HUD-assisted housing units that contain lead-based paint.²⁸² Even more children reside in private housing with lead hazards or lead-based paint. One can predict that, as in the past, these children will function as “sensing devices” for lead hazards.²⁸³ The child will continue to be “the proverbial ‘canary in the coal mine.’”²⁸⁴ Children cannot escape the danger without greater interventions. Congressmen Ryan said in 1970 in support of LPPPA, “[W]e know that, unless the source of this disease is eliminated, children will continue to be poisoned.”²⁸⁵ Unless there is a commitment to primary prevention of lead poisoning for all children, regardless of socioeconomic status or race, generations of children will be destined to develop lead poisoning.²⁸⁶

III. LEAD POISONING AS THE DENIAL OF CIVIL RIGHTS

My fellow citizens, we have come now to a time of testing. We must not fail. Let us close the springs of racial poison. Let us pray for wise and understanding hearts. Let us lay aside irrelevant differences and make our Nation whole.

—President Lyndon B. Johnson²⁸⁷

As described throughout this Article, lead poisoning can result in severe and permanent disability and affects communities of color at a disproportionate

ASSESSMENT AND CLEARANCE; CLEARANCE OF PORCH FLOORS (2017), <https://perma.cc/KA2S-34LA> [hereinafter HUD GUIDANCE].

281. Housing Opportunity Through Modernization Act of 2016: Implementation of Various Section 8 Voucher Provisions, 82 Fed. Reg. 5458, 5460 (Jan. 18, 2017).

282. See, e.g., Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels, 81 Fed. Reg. 60,304 (Sept. 1, 2016).

283. CDC 2012 ADVISORY REPORT, *supra* note 27 at 15.

284. *Id.*

285. 116 CONG. REC. 34,845 (1970). See also generally Chinaro Kennedy et al., *Primary Prevention of Lead Poisoning in Children: A Cross-Sectional Study to Evaluate State Specific Lead-Based Paint Risk Reduction Laws in Preventing Lead Poisoning in Children*, 13:93 ENVTL. HEALTH 1 (2014).

286. CEH, *supra* note 2, at 4–5.

287. Lyndon B. Johnson, Remarks upon Signing the Civil Rights Bill (July 2, 1964), <https://perma.cc/KET3-KPKJ>.

rate.²⁸⁸ When individuals are lead poisoned in programs funded or administered by the federal government, it is necessary to evaluate whether the federal or local government has violated civil rights laws. It is widely understood that federal agencies have a legal duty to prevent and respond to environmental injustice and discrimination on the basis of race or disability. In addition, federal agencies are required to affirmatively further fair housing. The Fair Housing Act (“FHA”),²⁸⁹ the Affirmatively Furthering Fair Housing Rule (“AFFH”),²⁹⁰ Title VI of the Civil Rights Act,²⁹¹ Section 504 of the Rehabilitation Act,²⁹² and President Clinton’s Executive Order 12,898,²⁹³ require the elimination of lead poisoning in federally assisted housing. Program participants may have a cause of action under these laws, which are especially relevant when lead poisoning is caused by differences in housing and environmental conditions as a result of race or ethnicity, disability, familial status, or socioeconomic status.²⁹⁴ Ultimately, when children are lead poisoned in federally assisted housing, the federal government has failed to fulfill its duty under civil rights laws.

The FHA declares it “the policy of the United States to provide, within constitutional limitations, for fair housing throughout the United States.”²⁹⁵ The FHA serves as a recognition that “where a family lives, where it is allowed to live, is inextricably bound up with better education, better jobs, economic motivation, and good living conditions.”²⁹⁶ The FHA, as amended in 1988, prohibits discrimination on the basis of race, color, religion, sex, disability, familial status, or national origin.²⁹⁷ The FHA further requires that all agencies administering “housing and urban development programs and activities” do so in a manner that affirmatively furthers fair housing.²⁹⁸ In 2015, under the authority granted by the FHA, HUD promulgated the AFFH, directing program

288. *See supra* Part II.

289. 42 U.S.C. §§ 3604–3619 (2012).

290. 80 Fed. Reg. 42,272 (July 16, 2015).

291. Civil Rights Act of 1964, Title VI § 601, 42 U.S.C. § 2000d (2012).

292. 29 U.S.C. § 794 (2012).

293. Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

294. *See* Fair Housing Act § 80442, 42 U.S.C. § 3604 (2012); Affirmatively Furthering Fair Housing, 80 Fed. Reg. 42,272 (July 16, 2015); Civil Rights Act of 1964, Title VI § 601, 42 U.S.C. § 2000d (2012); 29 U.S.C. § 794 (2012).

295. 42 U.S.C. § 3601.

296. Affirmatively Furthering Fair Housing, 80 Fed. Reg. at 42,274 (citing 114 CONG. REC. S2276-2707 (1968) (quoting statement of Senator Hart)).

297. 42 U.S.C. § 360 (stating that discrimination includes “a refusal to permit, at the expense of the handicapped person, reasonable modifications of existing premises occupied or to be occupied by such person if such modifications may be necessary to afford such person full enjoyment of the premises . . .” and “a refusal to make reasonable accommodations in rules, policies, practices, or services, when such accommodations may be necessary to afford such person equal opportunity to use and enjoy a dwelling”).

298. 42 U.S.C. § 3608(d); Exec. Order No. 12,892, 59 Fed. Reg. 2939 (Jan. 20, 1994) (requiring that HUD “describe a method to identify impediments in programs or activities that restrict

participants to take “significant actions to overcome historic patterns of segregation”²⁹⁹ “This is not only a mandate to refrain from discrimination but a mandate to take the type of actions that undo historic patterns of segregation and other types of discrimination and afford access to opportunity that has long been denied.”³⁰⁰ In *Texas Department of Housing and Community Affairs v. Inclusive Communities Project*,³⁰¹ the Supreme Court described the government’s past support of actions to maintain segregation, including racially restrictive covenants and real-estate practices that resulted in the pervasive segregated housing patterns apparent today.³⁰² As one study demonstrates, racial segregation is so entrenched today, that “90 percent of black and Latino Americans would have needed to move to create truly racially balanced communities.”³⁰³ Even if the AFFH were repealed, HUD’s duty to correct segregation remains intact under the FHA.

With regard to the conditions of federally assisted housing, Section 3604(b) of the FHA prohibits discrimination “in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities in connection therewith.”³⁰⁴ Broadly construing the FHA, Section 3604(b) applies throughout the tenancy³⁰⁵ and prohibits discriminatory maintenance.³⁰⁶ For ex-

fair housing choice and implement incentives that will maximize the achievement of practices that affirmatively further fair housing”).

299. Affirmatively Furthering Fair Housing, 80 Fed. Reg. at 42,272.

300. *Id.* at 42,274.

301. 135 S. Ct. 2507 (2015) (upholding a broad interpretation of the Fair Housing Act of 1968, allowing plaintiffs to challenge discriminatory housing practices without proof of intentional discrimination).

302. *See id.* at 2515. As the Court explained:

De jure residential segregation by race was declared unconstitutional almost a century ago, *Buchanan v. Warley*, 245 U.S. 60 (1917), but its vestiges remain today, intertwined with the country’s economic and social life. Some segregated housing patterns can be traced to conditions that arose in the mid-20th century. Rapid urbanization, concomitant with the rise of suburban developments accessible by car, led many white families to leave the inner cities. This often left minority families concentrated in the center of the Nation’s cities. During this time, various practices were followed, sometimes with governmental support, to encourage and maintain the separation of the races: Racially restrictive covenants prevented the conveyance of property to minorities, *see Shelley v. Kraemer*, 334 U.S. 1 (1948); steering by real-estate agents led potential buyers to consider homes in racially homogenous areas; and discriminatory lending practices, often referred to as redlining, precluded minority families from purchasing homes in affluent areas.

Id. *See also supra* Part I.B.

303. Janell Ross, *A Rundown of Just How Badly the Fair Housing Act Has Failed*, WASH. POST (July 10, 2015), <https://perma.cc/7J9U-EUVF>.

304. 42 U.S.C. § 3604(b).

305. *See Gourlay v. Forest Lake Estates Civic Ass’n of Port Richey, Inc.*, 276 F. Supp. 2d 1222, 1230–31 n.11 (M.D. Fla. 2003), *order vacated*, 2003 WL 22149660 (M.D. Fla. 2003).

ample, substandard housing conditions, such as lead hazards, that deny tenants their right to safe, decent, and sanitary housing violate Section 3604(b). This is particularly relevant to lead poisoning caused by unmitigated lead hazards in federally assisted housing. The practice of offering HCV Program participants, who are predominantly minorities, pre-1978 units that have not undergone lead-hazard risk assessments and remediation could be equated with discriminatory maintenance and provision of services in violation of the FHA.³⁰⁷

The Court in *Texas Department of Housing and Community Affairs* held that discrimination under the FHA could be shown with proof of disparate impact.³⁰⁸ In the case of lead poisoning in federally assisted housing, both the lack of enforcement of the FHA and the failure to conduct lead hazards risk assessments in all pre-1978 federally assisted housing has led to significant adverse health outcomes for minority populations.³⁰⁹ HUD regulations require nothing more than a visual assessment for lead hazards in tenant-based rental assistance programs, an ineffective solution in tension with the obligations set forth under Section 3604(b). At the same time, recipients of tenant-based rental assistance programs are clustered into low-income, minority neighborhoods with high incidences of lead hazards and other environmental contaminants.³¹⁰ The issue is compounded when residents are relocated into highly segregated, high-poverty neighborhoods. For example, the East Chicago Housing Authority attempted to relocate West Calumet Housing Complex residents to segregated neighborhoods with environmental contaminants.³¹¹ As a result of inadequate federal regulations and program administration, minority children have suffered significant and permanent adverse health effects associated with residing in segregated neighborhoods at a disproportionate rate to their non-minority peers.³¹² Instead of promoting integration, federal funds are routinely invested in segregated communities and into substandard housing units, thereby preventing communities of color from accessing opportunities associ-

306. See *Durrett v. Hous. Auth. of Providence*, 896 F.2d 600 (1st Cir. 1990) (approving class action settlement in suit by tenants who complained that substandard conditions at their project denied them the right to decent, safe, and sanitary housing in violation of 42 U.S.C. § 3604(b) and other laws); *United States v. Matusoff Rental Co.*, 494 F. Supp. 2d 740, 748 n.11 (S.D. Ohio 2007) (finding that tenants were denied needed repairs because of their race in violation of the FHA).

307. 42 U.S.C. §§ 3602(i).

308. See *Tex. Dep't of Hous. & Cmty. Affairs v. Inclusive Cmty. Project*, 135 S. Ct. 2507, 2525 (2015).

309. See *supra* Parts I.A.–I.B.

310. See, e.g., *supra* notes 108–110 and accompanying text.

311. Preliminary Voluntary Compliance Agreement and Title VIII Conciliation Agreement Between U.S. Department of Housing and Urban Development and Calumet Lives Matter and East Chicago Housing Authority (Nov. 2, 2016), <https://perma.cc/VC9X-H4YN>.

312. Ross, *supra* note 303.

ated with a healthy environment, employment, and thriving schools.³¹³ This outcome hardly fulfills federal obligations under the FHA.

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.³¹⁴ When a public housing authority fails to prevent participant exposure to neurotoxins and other environmental hazards on federal property or in the administration of a federal grant, it is in violation of Title VI. In calling for its enactment, President John F. Kennedy said in 1963, “simple justice requires that public funds, to which all taxpayers of all races contribute, not be spent in any fashion which encourages, entrenches, subsidizes or results in racial discrimination.”³¹⁵ In a memorandum, President Clinton identified Title VI as one of several federal laws that can prevent minority and low-income communities from being subject to disproportionately high and adverse environmental effects.³¹⁶ The U.S. Civil Rights Commission³¹⁷ determined that EPA’s definition of environmental justice recognizes environmental justice as a civil right.³¹⁸ The Commission’s 2016 evaluation of EPA’s compliance with Title VI and Executive Order 12,898 made numerous findings, including: (1) racial minorities and low-income communities are disproportionately affected by environmental justice issues; (2) the intersection between race and poverty compounds the health impact of environmental hazards; (3) low-income communities demonstrate worse health outcomes than affluent communities; and (4) both historical and current housing segregation amplifies the burden of en-

313. See *supra* Parts I.B.1–2. See also Editorial, *Affordable Housing, Racial Isolation*, N.Y. TIMES (June 29, 2015), <https://perma.cc/ZLF8-X5XC>.

314. 42 U.S.C. § 2000d (2012) (“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”).

315. 109 CONG. REC. 11,161 (1963). See also *Overview of Title VI of the Civil Rights Act of 1964*, DEP’T OF JUSTICE (Jan. 22, 2016), <https://perma.cc/5LM6-NJCJ>.

316. Memorandum from President William J. Clinton to the Heads of all Departments and Agencies (Feb. 11, 1994), <https://perma.cc/X7EY-H27D>. See also Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

317. The U.S. Civil Rights Commission is charged with evaluating EPA’s civil rights and environmental justice compliance and enforcement.

318. U.S. COMM’N ON CIVIL RIGHTS, ENVIRONMENTAL JUSTICE: EXAMINING THE ENVIRONMENTAL PROTECTION AGENCY’S COMPLIANCE AND ENFORCEMENT OF TITLE VI AND EXECUTIVE ORDER 12,898, at 3 (2016), <https://perma.cc/FPA4-RZXL>. EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” *Id.* “EPA defines fair treatment to mean no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.” *Id.* at 89.

vironmental hazards in communities of color.³¹⁹ In addition, the Commission determined that, because existing laws and standards are not being enforced for everyone, civil rights actions are necessary.³²⁰ According to the Commission, “[i]f enforced vigorously, Title VI can be a powerful tool for EPA to address environmental justice and remediate discrimination.”³²¹

Title VI applies to recipients of federal financial assistance, including public housing authorities and the programs they administer with federal funds, including public housing, project-based housing and the HCV Program.³²² For example, in a Title VI complaint on behalf of West Calumet Housing Complex residents, the Sargent Shriver National Center on Poverty Law argued that the East Chicago Housing Authority was in violation of Title VI when it maintained public housing occupied predominately by minorities on a site contaminated with high levels of lead and arsenic.³²³ The complaint alleged that the housing authority further violated Title VI when it then moved residents into other poor, segregated communities with similar contaminants, failing to provide time or resources to allow families to make decisions in the best interest of their health and safety.³²⁴

Lead hazards in federally assisted housing also prevent persons with disabilities from participating in the program. Section 504 of the Rehabilitation Act states that no qualified individual with a disability in the United States shall be excluded the benefits of, or be subjected to discrimination under, any program or activity that receives federal financial assistance or is conducted by any federal agency.³²⁵ A disability under Section 504 and the Americans with Disabilities Act Amendments Act of 2008 (“ADA”) is defined as an impairment that substantially limits a major life activity or major bodily function.³²⁶ Lead poisoning substantially limits the neurological system, a major bodily

319. See generally *id.*

320. *Id.* at 89.

321. *Id.* at 4.

322. 42 U.S.C. § 2000d (2012). Federal financial assistance may be nonmonetary and may include the use of land or property, subsidies, training programs, or other arrangements with the intention of providing assistance. 28 C.F.R. § 42.102(c) (2016). While there is no private right of action to enforce Title VI disparate impact regulations, there is a private cause of action to enforce section 601 of Title VI. See *Alexander v. Sandoval*, 532 U.S. 275 (2001). The funding agency, however, has a right to enforce disparate impact regulations. *Cf. id.* at 289–90.

323. See Complaint at 1, 6, *O’Berry v. E. Chi. Hous. Auth.*, HUD No. 16-167 (Aug. 29, 2016). See also discussion, *supra* notes 90–99; Preliminary Voluntary Compliance Agreement, *supra* note 311, at 3–4.

324. See Complaint at 6, *O’Berry v. E. Chi. Hous. Auth.*, HUD No. 16-167 (Aug. 29, 2016). *Cf. supra* notes 85–89 and accompanying text. 42 U.S.C. § 3604(a); Preliminary Voluntary Compliance Agreement, *supra* note 311.

325. 29 U.S.C. § 794 (2012).

326. 42 U.S.C. § 12102(1)–(2).

function,³²⁷ and thus results in impairments that substantially limit multiple major bodily functions and major life activities. Therefore, a participant with, or history of, an elevated blood lead level is a qualified individual with a disability, as defined by the FHA,³²⁸ Title II of the ADA,³²⁹ and Section 504 of the Rehabilitation Act.³³⁰ If a child has an elevated blood lead level, a history of one, or another disability that could be exacerbated by exposure to a lead hazard,³³¹ that child will not have equal opportunity to access and participate in federally assisted housing when lead hazards exist. The presence of a lead hazard that could potentially aggravate or worsen their disabilities precludes the child from participation. In order to allow for equal access to federally assisted housing, these participants are entitled to a reasonable accommodation in the form of a pre-rental lead hazard risk assessment and housing that is made lead-safe or lead-free through interim controls or abatement to prevent further harm.³³² To ensure compliance with the ADA, FHA, and Rehabilitation Act, when a participant has an elevated blood lead level, or a history of one, or a disability that could be exacerbated by lead poisoning, it is imperative that their homes be made lead-safe or lead-free through the completion of a risk assessment and remediation prior to occupancy. The same is true for a child who is lead poisoned while residing in federally assisted housing. The child must be granted a reasonable accommodation in the form of expedited moving papers or alternative temporary housing while the home is made lead-safe or lead-free through interim controls or abatement.

Executive Order 12,898 mandates that each federal agency “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. . . .”³³³ The Order details the responsibility of federal agencies to reduce exposures to environmental hazards.³³⁴ HUD has recognized

327. *Id.*

328. See 42 U.S.C. § 3602 (2012) (defining “handicap”).

329. 42 U.S.C. § 12102; see also Emily A. Benfer, *The ADA Amendments Act: An Overview of Recent Changes to the Americans with Disabilities Act*, AM. CONSTITUTION SOC’Y ADVANCE 3 (2009) (describing the definition of disability as a generous standard, intended to be broadly construed to the maximum extent permissible), <https://perma.cc/R5U2-D8B9>.

330. 29 U.S.C. § 705(9).

331. For example, many children with disabilities that qualify for early intervention and special education programs are vulnerable to further harm due to lead poisoning and therefore qualify for a reasonable accommodation in the form of risk assessments prior to occupancy in a pre-1978 home.

332. See 42 U.S.C. § 3604(f)(3)(B); 29 U.S.C. § 794.

333. Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

334. *Id.* (requiring that data collection and analysis compare the differences in environmental and human health risks among groups identified by race, national origin, and income, that minority and low-income communities be able to participate in matters relating to human

its “duty to protect children living in a residential property that is owned or assisted by the Federal Government”³³⁵ and to implement the statutory requirements of LPPPA and Title X.³³⁶ At the same time, Executive Orders 12,866 and 13,563 state that the “regulatory system must protect public health, welfare, safety, and our environment. . . .”³³⁷ Regulations “shall be based, to the extent feasible and consistent with law, on the open exchange of information and perspectives among State, local, and tribal officials, experts in relevant disciplines, affected stakeholders in the private sector, and the public as a whole.”³³⁸ In violation of these Executive Orders, HUD and EPA have failed to correct the policies that result in exposure to lead hazards and adverse human health effects. For example, HUD does not require the identification and removal of lead paint or lead hazards in tenant-based rental assistance programs. HUD continues to use visual assessments as the primary lead-hazard identification tool in tenant-based rental assistance, despite overwhelming evidence that visual assessments are an ineffective tool for identifying lead hazards. In addition, both HUD and EPA continue to define elevated blood lead level, lead dust, lead soil, and lead-based paint with outdated standards that are contradictory to the prevailing science, expert opinion, and stakeholder perspective. Similarly, both HUD and EPA use a feasibility, as opposed to health-based, standard for interventions, even acknowledging the harm such a standard will inevitably cause occupants.³³⁹ Predictably, and in violation of the Executive Orders, these regulatory systems do not protect public health, welfare, or safety of participants as it pertains to lead hazards.

Finally, the Fifth and Fourteenth Amendments to the U.S. Constitution provide that no person shall be deprived of life, liberty, or property without due process of law.³⁴⁰ It is widely recognized that recipients of Housing Choice Vouchers and other forms of federal housing assistance have a property interest in the benefit, as well as a property right to continued participation in the pro-

health and the environment and to have access to public information, and that minority and low-income populations be able to submit recommendations to federal agencies for incorporating principles of environmental justice into agency programs or policies).

335. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,142.

336. Lead-Based Paint Poisoning Prevention Rules, *supra* note 174, at 50,145; *see also* Title X, 42 U.S.C. § 4851 (2012).

337. Exec. Order No. 13,563, 76 Fed. Reg. 3821 (Jan. 18, 2011). *See also* Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993).

338. Exec. Order No. 13,563 § (2)(a), 76 Fed. Reg. at 3821.

339. *See supra* Part II.D.

340. U.S. CONST. amend. V, XIV.

gram.³⁴¹ These recipients, who rely on subsidies to meet housing needs, are entitled to a due process hearing prior to the termination of housing.³⁴²

When lead hazards exist, and make the federally assisted housing unsafe for human occupancy, it has the effect of terminating the benefit without due process of law. Pursuant to federal law, the housing must be maintained in a way that is not “hazardous to life, health, or safety of the occupants.”³⁴³ The warranty of habitability that a unit is safe for occupancy is implied in every rental agreement and cannot be waived.³⁴⁴ Courts have determined that poor housing conditions, such as lead hazards, are a violation of the warranty of habitability.³⁴⁵ When a lead hazard goes unidentified or unmitigated, it violates the warranty of habitability. When a unit is unlivable due to the acts or omissions of the property owner, forcing the tenant to vacate the premises can amount to a constructive eviction.³⁴⁶ Similarly, when a lead hazard is present in federally assisted housing and no corrective actions are taken, the family can no longer safely continue to participate in the program.³⁴⁷ Thus, in the case of federally assisted housing, this is more than a lease violation; it is a termination without due process of law.

Under *Bivens v. Six Unknown Named Agents*,³⁴⁸ victims of lead poisoning in federally assisted housing may have a constitutional cause of action under the due process clause of the Fifth and Fourteenth Amendments against federal and local governments. *Bivens* also gives victims the right to recover damages from the federal government despite the absence of a statute conferring such a right. As the Court explained when first recognizing the *Bivens* cause of action to remedy violations of constitutional rights, “[t]he very essence of civil liberty certainly consists in the right of every individual to claim the protection of the

341. *Junior v. City of New York, Hous. Pres. & Dev. Corp.*, No. 12 Civ. 3846 (PAC), 2013 WL 646464, at *6 (S.D.N.Y. Jan. 18, 2013); *McCall v. Montgomery Hous. Auth.*, 809 F. Supp. 2d 1314, 1324 (M.D. Ala. 2011); *Swift v. McKeesport Hous. Auth.*, 726 F. Supp. 2d 559, 574 (W.D. Pa. 2010); *Chesir v. Hous. Auth. of Milwaukee*, 801 F. Supp. 244, 248 (E.D. Wis. 1992).

342. *See Basco v. Machin*, 514 F.3d 1177, 1182 (11th Cir. 2008). *See also Goldberg v. Kelly*, 397 U.S. 254 (1970) (holding that due process requires recipients of welfare benefits must be granted a hearing with procedural safeguards before termination of the benefit).

343. 24 C.F.R. 966.4(h) (2016).

344. The warranty of habitability is typically enshrined in case law in each state. *See, e.g., Green v. Super. Ct.*, 10 Cal. 3d 616 (Cal. 1974).

345. *See Hous. Auth. of E. Hartford v. Olesen*, 624 A.2d 920 (Conn. App. Ct. 1993) *superseded by statute*; *Haddad v. Gonzalez*, 576 N.E.2d 658 (Mass. 1991). *Cf. Javins v. First Nat'l Realty Corp.*, 428 F.2d 1071 (D.C. Cir. 1970); *Jack Spring, Inc. v. Little*, 280 N.E.2d 208 (Ill. 1972).

346. *See, e.g., Auto. Supply Co. v. Scene-in-Action Corp.*, 172 N.E. 35, 37–38 (Ill. 1930); *Home Rentals Corp. v. Curtis*, 602 N.E.2d 859, 862 (Ill. App. Ct. 1992).

347. *See, e.g., Reynolds, supra* note 105.

348. 403 U.S. 388 (1971). *See also Carlson v. Green*, 446 U.S. 14, 18 (1980).

laws, whenever he receives an injury.”³⁴⁹ The victims of lead poisoning in federally assisted housing are deprived of their property interest in the full enjoyment of their housing benefits, as well as their due process rights before its removal.

Federal agencies have a legal duty to prevent and respond to environmental and racial injustice, discrimination on the basis of disability, and to affirmatively further fair housing. By neglecting this duty, federal agencies are depriving victims of lead poisoning of their civil and constitutionally protected rights.

IV. ACHIEVING PRIMARY PREVENTION AND ENDING LEAD POISONING IN FEDERALLY ASSISTED HOUSING

The problem has been identified—its cause and cure are no longer a mystery and yet the elimination of lead poisoning has not yet been accomplished. . . . We must recognize that any further delay will result in the physical impairment, mental retardation, and death of children affected by the disease. . . . We have a responsibility to protect the health of America’s children by providing the safe, decent, and nontoxic surroundings that they deserve.

—Senator Ralph Yarborough³⁵⁰

As described throughout this Article, low-income children and communities of color are disproportionately affected by lead poisoning. The overwhelming evidence indicates an urgent and continuing need for robust measures to eliminate lead poisoning. It also demonstrates that a partial federal commitment to eliminating lead hazards, despite knowledge of reliable lead poisoning prevention strategies, does not protect children. Lead poisoning inhibits a child’s ability to access opportunity, reach her fullest potential, and exercise her

349. *Bivens v. Six Unknown Named Agents of Fed. Bureau of Narcotics*, 403 U.S. 388, 397 (1971) (quoting *Marbury v. Madison*, 5 U.S. 137, 163 (1803)). See also *id.* at 396 (quoting *Bell v. Hood*, 327 U.S. 678, 684 (1946) (“Of course, the Fourth Amendment does not in so many words provide for its enforcement by an award of money damages for the consequences of its violation. But ‘it is . . . well settled that where legal rights have been invaded, and a federal statute provides for a general right to sue for such invasion, federal courts may use any available remedy to make good the wrong done.”)). The Supreme Court has also held that the U.S. government has sovereign immunity, and unless it waives its immunity, it will not be held liable for damages for what federal employees do. Compare *Price v. United States*, 174 U.S. 373 (1899) (requiring a clear waiver of sovereign immunity within a statute before damages may be awarded), with *Brandon v. Holt*, 469 U.S. 464 (1985) (extending § 1983 governmental liability for actions of employees “in [their] official capacity”). Absolute and qualified immunities are applicable in the *Bivens* context as well as the § 1983 context, and courts apply the same jurisprudence. See Erwin Chemerinsky, *Against Sovereign Immunity*, 53 STAN. L. REV. 1201, 1221–22 (2001).

350. 116 CONG. REC. 42,116 (1970).

basic liberties. It also perpetuates poverty and reinforces segregation, thwarting the very purpose of federally assisted housing programs and civil rights policy.

Protecting principles of equity and justice requires policy interventions that address these underlying social determinants of health and the needs of low-income and minority children who remain at elevated risk of lead poisoning. Ultimately, the elimination of lead poisoning requires that the causes of lead poisoning, such as housing quality, poverty, and racial inequity, be acknowledged and addressed in the policy-making process. HUD and EPA must adopt a health justice approach to the implementation and enforcement of regulations, as well as the administration of federal housing programs.³⁵¹ It is critical that they coordinate with other agencies, local governments, and communities to fulfill their mandate. If lead poisoning prevention policies adhere to principles of health justice, they will achieve and deliver health equity and social justice, and ultimately, end the lead epidemic.

While increased public and congressional pressure in the last decade has greatly improved HUD's approach to lead poisoning prevention in federally assisted housing, the current approach does not reflect evidence-based strategies and does not apply to private housing. A child still must be lead poisoned and suffer permanent neurological damage before interventions are triggered in certain categories of federally assisted and private housing. Because no blood lead level is safe,³⁵² the only meaningful approach to ending the lead poisoning epidemic is primary prevention. To protect children from lead poisoning and the irreparable harm it causes, federal and local governments must: (1) mandate primary prevention practices that focus on identifying and abating lead hazards *before* a child is poisoned; (2) increase enforcement, oversight, and reporting requirements to ensure lead-safety of federally assisted housing and alert the public to the location of lead hazards; (3) require community-based and family-centered services to prevent retaliation, remove language and cultural barriers, and increase accessibility for individuals experiencing disabilities; (4) increase funding to prevent lead poisoning; (5) create affordable housing and healthy

351. See Benfer, *supra* note 3; see Maxim Gakh, *Law, the Health in All Policies Approach, and Cross-Sector Collaboration*, 130 PUB. HEALTH REP. 96, 96 (2015), <https://perma.cc/QX9S-435A>.

352. See CTRS. FOR DISEASE CONTROL & PREVENTION, EDUCATIONAL INTERVENTIONS FOR CHILDREN AFFECTED BY LEAD at viii (2015), <https://perma.cc/LT5X-EZUQ>; Bruce P. Lanphear, *The Conquest of Lead Poisoning: A Pyrrhic Victory*, 115 ENVTL. HEALTH PERSP. A484, A484 (2007) ("No evidence shows that there is a threshold for the adverse effects of lead exposure; indeed, compelling evidence indicates that lead-associated decrements in intellectual function are proportionately greater at a blood level < 10 µg/dl."); Lanphear, *Low-Level Environmental Lead Exposure*, *supra* note 36, at 894; Joel Schwartz, *Low-Level Lead Exposure and Children's IQ: A Meta-Analysis and Search for a Threshold*, 65 ENVTL. RES. 42, 53 (1994); Martha Téllez-Rojo et al., *Longitudinal Associations Between Blood Lead Concentrations Lower Than 10 µg/dl and Neurobehavioral Development in Environmentally Exposed Children in Mexico City*, 118 PEDIATRICS e323, e324 (2006).

communities; and (6) affirmatively further fair housing and fulfil civil rights mandates. These measures will support ending lead poisoning in federally assisted housing. In addition, they will demonstrate effective methods for increased primary prevention practices in private housing, which must be adopted swiftly by Congress. To be clear, these recommendations are not exhaustive.³⁵³

A. Mandate Primary Prevention Practices to Identify and Address Lead Hazards Before a Child Is Lead Poisoned

According to the CDC, “because no level of lead in a child’s blood can be specified as safe, primary prevention must serve as the foundation of the effort.”³⁵⁴ In addition, the CDC explains, “primary prevention is necessary because the effects of lead appear to be irreversible. . . . Screening children for elevated [blood lead levels] and dealing with their housing only when their [blood lead level] is already elevated should no longer be acceptable practice.”³⁵⁵ Thus, the focus must be on early identification and abatement of lead hazards prior to childhood exposure.³⁵⁶ This section recommends necessary changes in federal practices to achieve primary prevention of lead poisoning in federally assisted housing, which should also be adopted in private housing.

1. Assume the Presence of Lead-Based Paint and Require Lead Hazard Risk Assessments in All Unabated Pre-1978 Housing

The only scientifically proven way to prevent lead poisoning is to prevent exposure to lead hazards. Prevention can be accomplished through the requirement of a lead risk assessment and abatement of lead hazards before a child under six years of age occupies a unit built before 1978, even where disclosure indicated no knowledge of a hazard. Children’s developing bodies must not be used to detect lead hazards. Rather, lead-hazard risk assessments must be required in all pre-1978 federally assisted and private housing units, and any lead hazards must be abated.³⁵⁷ Visual assessments, alone, are an insufficient screening mechanism for identifying lead-based paint or lead hazards in the form of

353. See generally GREEN & HEALTHY HOMES INITIATIVE, STRATEGIC PLAN TO END CHILDHOOD LEAD POISONING: A BLUEPRINT FOR ACTION (2016), <https://perma.cc/7PGK-L3E3> (providing roadmap to marshal financial resources, policies, and practices in order to end lead poisoning). See also Health Justice Project et al., *supra* note 175.

354. CTRS. FOR DISEASE CONTROL & PREVENTION, PREVENTING LEAD POISONING IN YOUNG CHILDREN: A STATEMENT BY THE CENTERS FOR DISEASE CONTROL AND PREVENTION 1 (2005), <https://perma.cc/M8JR-5U54>.

355. CDC 2012 ADVISORY REPORT, *supra* note 27.

356. CEH, *supra* note 2, at 5.

357. See Neltner, *supra* note 273.

lead dust and lead soil, which are a major source of lead exposure.³⁵⁸ In fact, HUD has classified lead dust and lead soil in the residential environment as among “the most important preventable exposure sources for children.”³⁵⁹

To ensure that no family moves into a unit with a lead hazard, HUD and local public health departments must replace visual assessment with the more accurate and reliable evaluation tool of risk assessment in all pre-1978 housing. Risk assessment, which includes a visual assessment as well as the collection of dust, soil, water, and paint samples in the home, is proven to more accurately identify lead hazards than visual assessment alone.³⁶⁰ Congress recently clarified that HUD has the authority to require more stringent inspection standards. “HUD’s current visual lead inspections have proven insufficient, and more rigorous standards, such as requiring risk assessments prior to a family moving into a home, should be implemented to ensure that children living in federally assisted housing are protected from lead poisoning.”³⁶¹ Lead hazard inspections should be conducted in all housing units whether or not a child is expected to reside in them. This is an important preventative measure, because children are often regular visitors to relatives’ or neighbors’ homes that do not have a permanent child resident. To improve the Lead Disclosure Rule, EPA should require and Congress should fund risk assessments and the abatement of lead hazards in homes prior to the sale or rental of a property. This would result in increased protections for families, increased business for lead hazard renovation firms and contractors, and ultimately the elimination of lead hazards from communities.

Until lead-based paint is abated in federally assisted and private housing, periodic inspections, especially in communities at high risk of lead poisoning, are necessary to identify the emergence of a lead hazard and sufficiently protect occupants.³⁶² Interim controls “do not permanently eliminate” lead hazards and can only prevent lead poisoning with ongoing risk assessment, maintenance, and clearance activities.³⁶³ To end lead poisoning among federally assisted housing participants and private housing tenants, “all sources of lead exposure for

358. HUD 2012 GUIDELINES, *supra* note 207, at 1–7. See 1994 GAO REPORT, *supra* note 208, at 4; U.S. DEPT OF HOUS. & URBAN DEV., CONGRESSIONAL JUSTIFICATIONS 33-6 (2016), <https://perma.cc/D9MG-TVZQ>. HUD’s 2016 Fiscal Budget notes that “the most important preventable exposure sources for children are lead hazards in their residential environment: deteriorated lead paint, house dust, and lead-contaminated soil.” *Id.* See also Lanphear et al., *supra* note 202, at 1420.

359. CONGRESSIONAL JUSTIFICATIONS, *supra* note 358, at 33-6.

360. LEAD-BASED PAINT HAZARD REDUCTION & FINANCING TASK FORCE, *supra* note 202, at 47.

361. H.R. REP. NO. 114-606, at 94 (2016); see also, S. REP. NO. 114-243, at 98 (2016) (“The Committee believes that the Department has the statutory authority to collect and analyze data on lead-based paint hazards in housing choice voucher units . . .”).

362. See Petition for Rulemaking, *supra* note 244, at 24. See Health Justice Project et al., *supra* note 175.

363. See CDC 2012 ADVISORY REPORT, *supra* note 27, at 33.

children should be controlled or eliminated.”³⁶⁴ Only complete abatement of lead-based paint will protect children from the devastating, life-altering consequences of lead poisoning. Federal and local governments must appropriate funds and invest in the elimination of environmental hazards, such as lead hazard remediation and abatement that removes lead-based paint and lead-contaminated soil in residential communities and areas that children frequent.³⁶⁵ At a minimum and as an immediate first step, all federally assisted housing and private rental housing must undergo periodic inspection and obtain lead-safe or lead-free certification prior to occupancy by children. Many cities, including Detroit, Michigan, Philadelphia, Pennsylvania, and Washington, D.C., among others, already require proactive yearly inspections and lead clearance for all rental properties, including federally assisted housing, before any can be rented.³⁶⁶ These cities demonstrate the feasibility of periodic inspections and lead-safe or lead-free certification policies without causing a reduction in the local rental housing market.

2. *Update the Lead-Based Paint, Lead Dust, and Lead Soil Definition Using Health-Based Standards*

HUD’s and EPA’s current standards for the allowable lead content in paint, dust, and soil, which are based on pre-1995 research,³⁶⁷ are not scientifically supported and make lead hazard pre-occupancy risk assessments and post-remediation clearance testing unreliable.³⁶⁸ Homes that “pass” testing could still cause lead poisoning in children.³⁶⁹ Because the standards are not based on current science, children are at high risk of developing neurodevelopmental disor-

364. *Lead and Children’s Health: Hearing Before the Comm. on Env’t. & Pub. Works*, 110th Cong. (2007) (statement of the CDC in response to Senator Inhofe).

365. See generally LEAD WARS, *supra* note 5.

366. DETROIT CITY CODE § 9-1-83(a)–(c) (inspection occurs every one year if interim controls conducted; inspection occurs every 3 years if abatement used on all identified lead hazards; no inspection required if lead paint fully abated or certified lead free); *Lead Paint Disclosure and Certification Law*, CITY OF PHILA., <https://perma.cc/3MJ8-98X7> (requires lead-safe or lead-free certificate prior to rental and is good for twenty-four months (if the child is under six)); D.C. MUN. REGS. TIT. 14, § 200 (proactive inspection of rentals by code enforcement officials every four years of all foster homes for children under six. Rental properties must pass an inspection complying with housing and building codes. If there is a child in the home, it requires a clearance report from a licensed professional that there is no lead hazard or deteriorated paint in any pre-1979 building.).

367. Sherry Dixon et al., *Exposure of U.S. Children to Residential Dust Lead, 1999–2004: II: The Contribution of Lead-Contaminated Dust to Children’s Blood Lead Levels*, 117 ENVTL. HEALTH PERSP. 468, 472 (2009).

368. Lanphear et al., *supra* note 202, at 1420. See Health Justice Project et al., *supra* note 175, at 7. The only exception is the recent HUD Guidance to grantees on lead dust standards. See HUD GUIDANCE, *supra* note 280.

369. See Lanphear et al., *supra* note 225, at 308.

ders affecting the brain and nervous system.³⁷⁰ Without health-based standards, HUD is incapable of fulfilling its duty to provide safe, decent, and habitable housing. The success of all of EPA's lead exposure reduction regulations and the ability to identify a potential lead hazard hinge on the protectiveness of the lead hazard definitions. EPA must act immediately to align these standards with the irrefutable science in a manner that will truly protect the health of workers and occupants. EPA cannot, instead, go backwards by repealing or weakening regulations, which will inevitably reverse progress to date in reducing childhood lead poisoning in the United States.

While LPPPA gives EPA express authority to define lead dust and lead soil, HUD has the authority to set lower standards to prevent a "threat of adverse health effects in pregnant women or young children" and to identify lead "at or in excess of the levels determined to be hazardous to human health."³⁷¹ In fact, HUD defined lead dust, lead soil, and lead-based paint years in advance of EPA in promulgating the Lead Safe Housing Rule in 1999.³⁷² Given the significance of lead dust and lead soil as causes of lead poisoning and because no level of lead in the blood is safe, lead dust and soil inspection and clearance definitions should be set as low as possible and based on health—not feasibility—standards.³⁷³

LPPPA gives HUD express authority to update its standard for lead-based paint in housing constructed prior to 1978.³⁷⁴ Under LPPPA, HUD must periodically review its standards as the technology advances and the medical evidence warrants a lower level.³⁷⁵ The technology and science on lead-based paint have dramatically improved since the standards were developed and detecting paint with low content levels of lead is possible and cost-efficient today. The current technological and medical evidence require HUD to update the lead-based paint definition.

HUD has both the statutory authority and obligation to ensure that the standards reflect current science, and there is no rationale that could justify creating an "illusion of safety" and placing children in both private and federally assisted housing in grave danger.³⁷⁶

370. See Deborah Bennett et al., *Project TENDR: Targeting Environmental Neuro-Developmental Risks. The TENDR Consensus Statement*, 124 ENVTL. HEALTH PESP. A118, A119 (2016), <https://perma.cc/5KAG-CNEZ>.

371. 42 U.S.C. § 4851b (2012).

372. See Lead-Based Paint Poisoning Prevention Rules, *supra* note 174.

373. Dixon et al., *supra* note 367, at 472–73.

374. 42 U.S.C. § 4822(c).

375. *Id.*

376. See CEH, *supra* note 2, at 7.

3. *Locate and Remove Lead Water-Service Lines in Federally Assisted and Private Housing*

HUD must identify lead exposure caused by lead service lines and subsequent lead in drinking water as part of its environmental investigations and ensure that lead service lines are eliminated from federally assisted housing.³⁷⁷ “Lead service lines are the single largest source of lead in residential drinking water.”³⁷⁸ In fact, “[l]ead seldom occurs naturally in water supplies like rivers and lakes, and lead is rarely present in water coming from a treatment plant.”³⁷⁹ Rather, “the corrosion of older fixtures or from the solder that connects pipes” causes lead contamination of tap water.³⁸⁰ Since the service line and interior plumbing is the source of lead contamination, federal drinking water regulations do not limit the amount of lead coming out of an individual tap.³⁸¹ Despite documented concerns about sampling methods, it is permissible under federal law for up to 10% of homes to have unlimited amounts of lead in their water levels.³⁸²

Even when optimal treatment systems are in place, disturbances to the lead pipe can result in spikes of lead,³⁸³ and the unpredictable presence or absence of lead particulates from solder or pipe can make a single test misleading and the extent of the lead contamination difficult to quantify.³⁸⁴ EPA’s National Drinking Water Advisory Council and the American Water Works Association recognize that the only effective and lasting solution to lead

377. See Health Justice Project et al., *supra* note 175, at 15–17.

378. *Chicago Lead in Drinking Water Study*, EPA, <https://perma.cc/LKE4-LWPB>.

379. *Lead in Water*, DRINKTAP.ORG, <https://perma.cc/57W5-A6BR>.

380. *Water*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://perma.cc/3CFT-J7GA>.

381. Instead, EPA’s Lead and Copper Rule, requires local water systems to collect tap water samples from a limited number of homes in their jurisdiction. Requirements under the rule for addressing lead are then only triggered when more than 10% of the samples exceed the lead action level. See 40 C.F.R. § 141.80(c)(1) (2007); see also *Lead and Copper Rule*, EPA, <https://perma.cc/9MM7-LVAL>. The EPA Drinking Water Action Plan states that the agency is considering an update to the Lead and Copper Rule for supporting environmental justice and children’s health, and integrating drinking water initiatives with cross-media lead-reduction efforts. This plan currently focuses on lead service line replacement as a mechanism to achieve this purpose. EPA, DRINKING WATER ACTION PLAN 20–23 (2016), <https://perma.cc/Y4LP-WGEV>.

382. See Lead and Copper Rule, 40 C.F.R. § 141.80(c)(1). See generally Michael Hawthorne, *City Fails to Warn Chicagoans About Lead Risks in Tap Water*, CHI. TRIB. (Feb. 8, 2016), <https://perma.cc/6548-LEWB>.

383. Miguel A. Del Toral et al., *Detection and Evaluation of Elevated Lead Release from Service Lines: A Field Study*, 47 ENVTL. SCI. & TECH. 9300, 9304 (2013).

384. Brandi Clark et al., *Profile Sampling to Characterize Particulate Lead Risks in Potable Water*, 48 ENVTL. SCI. & TECH. 6836, 6837 (2014); see also Yanna Lambrinidou & Marc Edwards, *Five Myths About Lead in Water*, WASH. POST (Feb. 26, 2016), <https://perma.cc/RX5N-CHVT>.

contamination in water is the removal of lead pipes.³⁸⁵ Lead pipes, fixtures, and solder broadly, and lead service lines especially, create a “housing hazard,” and HUD should use its existing authority to address them as a threat to safe and decent housing when the owner receives federal assistance. Given the ongoing risk of contamination, HUD should require designated parties to determine the presence or absence of a lead service line and develop a firm timeframe for immediately replacing it.³⁸⁶

4. *Allow Families the Right to Terminate a Lease or Housing Assistance Payment Contract and Permanently Relocate from a Home with an Identified Lead Hazard Without Penalty*

Lead hazards must be treated in the same manner as other life-threatening hazards or violations of basic habitability standards.³⁸⁷ However, under current regulations, households are not entitled to continued housing assistance if the household elects to move from a unit with a lead hazard, without also meeting other stringent requirements.³⁸⁸ As a result, families who seek to move or terminate their leases due to lead hazards may be subject to termination of assistance for violation of family obligations under the program.³⁸⁹ In the private rental market, tenants may be held accountable for any rent under the remainder of the lease term. As a result, families are forced to choose between lead poisoning and the brain damage it causes or the loss of their rental assistance and homelessness.³⁹⁰ Families should be allowed to determine whether it is in the best interests of the health and safety of their children to relocate. When a lead hazard is identified in either federally assisted housing and private rental housing, it should constitute a breach of the Housing Assistance Payment contract and give the resident the right to relocate on an emergency basis with continued

385. Press Release, Am. Water Works Ass'n, AWWA Board Supports Recommendation for Complete Removal of Lead Service Lines (Mar. 8, 2016), <https://perma.cc/QY67-N5DS>. See also Letter from Jill D. Jonas, Chair, Nat'l Drinking Water Advisory Council, to Gina McCarthy, Adm'r, EPA (Dec. 15, 2015), <https://perma.cc/KA9N-HP8C>.

386. In most communities, private owners have total or partial ownership and responsibility for the lead service line. Press Release, Am. Water Works Ass'n, Water Leaders Explore Lead Line Replacement Strategies (May 3, 2016), <https://perma.cc/S6G8-756M>.

387. For an overview of minimum habitability standards, see Benfer & Gold, *supra* note 4.

388. Under the regulations, a household is permitted to move if the Housing Assistance Payment contract is terminated by the public housing authority, the landlord terminates the lease, or the tenant has the right to terminate the lease. 24 C.F.R. § 982.354 (2016). See also Hawthorne, *supra* note 222.

389. See 24 C.F.R. § 982.552.

390. See, e.g., Reynolds, *supra* note 105.

assistance.³⁹¹ In federally assisted housing, treating lead hazards as a life threatening condition would be consistent with requirements of civil rights laws, such as the ADA, that entitle families to a reasonable accommodation in the form of relocation once a child has been lead poisoned or a lead hazard identified in the unit.³⁹² In private rental housing, lead hazards are a public health nuisance and a breach of the warranty of habitability implied in every lease.³⁹³

Allowing families to terminate their lease before the end of the lease term without penalty due to persistent lead hazards would comply with the contract-based provisions of the Revised Uniform Residential Landlord Tenant Act and protect children from further harm.³⁹⁴ In both federally assisted housing and private rental housing, the unit should not be eligible for release until the unit passes a clearance exam.

B. Increase Enforcement, Oversight, and Reporting Requirements

1. Expand Data Collection and Public Reporting

HUD and local public health departments should increase data collection requirements and require designated parties to report the details of any environmental investigations, risk assessments, remediation, or abatement activities undertaken in federally assisted housing or private housing.³⁹⁵ This critical information should be de-identified to protect individual identity and personal health information and then made available to the public.³⁹⁶ The data will allow participants and private market tenants to identify lead-safe and lead-free housing, as well as homes with repeated violations, which will incentivize property owners to comply with inspection and remediation requirements. The comprehensive reporting structure will also create a mechanism for continual self-assessment of property owners and designated party activities and compliance with local and federal regulations.³⁹⁷ In addition, researchers and advocates could examine the data to better assess the effectiveness of lead-hazard control

391. For detailed recommendations related to relocation of federally assisted housing recipients in both the HCV Program and site-based program to prevent lead poisoning, see Health Justice Project et al., *supra* note 175, at 15.

392. See *supra* Part III (discussing lead accommodations under the ADA).

393. See Benfer & Gold, *supra* note 4.

394. REVISED UNIF. RESIDENTIAL LANDLORD & TENANT ACT § 302(a)(7) (NAT'L CONFERENCE OF COMM'RS OF UNIF. STATE LAWS 2015) (requiring landlords to "have reasonable measures in place to control the presence of rodents, bedbugs, and other vermin and to prevent exposure to unsafe levels of radon, lead paint, asbestos, toxic mold, and other hazardous substances").

395. See Health Justice Project, *supra* note 175, at 20–21.

396. *Id.*

397. *Id.*

activities and inform policy discussions.³⁹⁸ Data reporting also simplifies HUD's and OLHCHH's monitoring and enforcement obligations by making much of the data needed to investigate compliance readily available.³⁹⁹

2. *Add Meaningful Penalties to Ensure Compliance with Lead Poisoning Prevention Laws*

HUD, EPA, and local public health departments must coordinate to identify and inform the public about the location of lead hazards and to ensure vigilant enforcement of local public health and lead poisoning prevention laws.⁴⁰⁰ Under the assumption that “sets of preschool children are likely to move into the same housing unit,” the number of children affected by a single lead hazardous unit is compounded by as much as ten times over a thirty- to fifty-year period.⁴⁰¹ Enforcement of lead hazard identification and reduction standards prior to subsequent tenancies are critical to protecting children.

HUD should include clear and specific penalties for the failure to adhere to the requirements of the Lead Safe Housing Rule and other lead poisoning prevention requirements in all grant and contract agreements.⁴⁰² When the designated party is noncompliant, or cannot produce evidence demonstrating compliance, with requirements of the Lead Safe Housing Rule or LPPPA, HUD should be required to intervene and conduct the inspection and remediation activities required under the regulations. HUD can recover any expenses from grants and contracts previously issued to the designated party.⁴⁰³

At the same time, the EPA must increase enforcement of the RRP Rule, Abatement Rule and Lead Disclosure Rule. The majority of States do not have the personnel, revenue, or capacity to enforce the rules locally and rely upon EPA to ensure renovation and abatement activities do not result in the creation of lead hazards. Additionally, only EPA has subpoena power under Title X.⁴⁰⁴ To educate the public on the risks of, and prevent childhood exposure to, lead hazards, it is critical that EPA increase enforcement activities and personnel.

398. See Cem Akkus & Esra Ozdenerol, *Exploring Childhood Lead Exposure Through GIS: A Review of the Recent Literature*, 11 INT'L J. ENVTL. RESEARCH & PUB. HEALTH 6314, 6314 (2014).

399. See Health Justice Project et al., *supra* note 175, at 20–21.

400. *Id.* at 11.

401. NATURE & EXTENT OF LEAD POISONING, *supra* note 38, at 16.

402. See Health Justice Project et al., *supra* note 175, at 21 (Monetary holds and “HAP contract default[s] should be included, but only as a last resort to preserve affordable housing properties.”).

403. *Id.*

404. 42 U.S.C. § 4852d(b)(5); 15 U.S.C. § 2689.

C. *Require Community-Based and Client-Centered Services and Strategies*

The elimination of lead poisoning is dependent upon community engagement in both surfacing the problem and identifying solutions. Especially in the case of lead poisoning among low-income people and communities of color who have no way of preventing lead hazards in their environment, “[p]articipating in and sharing control of important events affecting their lives might be especially key for socially disadvantaged individuals, who have few opportunities to weigh in on such matters.”⁴⁰⁵ HUD, EPA and local governments should take a community-based participatory approach to ending the lead epidemic. This requires involving community members in the development of strategies, based on their unique experience of the issues.⁴⁰⁶ Ultimately, community engagement that includes resources necessary for full participation leads to individual empowerment and increased engagement.⁴⁰⁷

Equally important, client-centered services that consider individual circumstances and unique needs of a family allow for greater participation in lead poisoning prevention activities. In the context of federally assisted housing, HUD should remove any language or cultural barriers, ensure accessibility for individuals with disabilities, and protect public health information.⁴⁰⁸ For example, once a child is lead poisoned in federally assisted housing, the designated party is required to conduct an environmental investigation that includes a family interview and examination of the family’s personal belongings, activities, and healthcare practices, including folk remedies.⁴⁰⁹ To ensure this interview is client-centered, HUD should provide advance written notice that describes the purpose, structure, and record keeping practices, as well as the individual’s right to request a reasonable accommodation where necessary.⁴¹⁰ One-fifth (21%) of households in public housing and over a quarter (28%) of voucher households include at least one person who experiences a disability.⁴¹¹ The high rate of participation by people with disabilities warrants participant

405. Wilhelmine Miller et al., *Healthy Homes and Communities: Putting the Pieces Together*, 40 AM. J. PREVENTATIVE MED. 48, 49.

406. See Barbara A. Israel et al., *Review of Community-Based Research: Assessing Partnership Approaches to Improve Public Health*, 19 ANN. REV. PUB. HEALTH 173, 178-80 (1998).

407. Benfer, *supra* note 3, at 176.

408. Health Justice Project et al., *supra* note 175, at 22.

409. Lead Safe Housing Rule, 82 Fed. Reg. 4151 (Jan. 13, 2017).

410. Health Justice Project et al., *supra* note 175, at 22 (Written notice should be “in a language and format they can understand and that includes the topic of the interview, where the interview will take place, . . . who will be conducting the interview . . . how the information will be used, where it will be retained, and verification of the interviewer’s training under privacy laws and Health Insurance Portability and Accountability Act [“HIPAA”] requirements.”).

411. NAT’L LOW INCOME HOUS. COAL., *supra* note 100, at 2. Moreover, 5% of households using federal rental assistance include adults with disabilities living with children. See CTR.

notification that they may request a reasonable accommodation for any impairments that affect the individual's ability to participate in the interview and the designated party's immediate provision of the accommodation.⁴¹² The interview must be conducted in the family's primary language, and by an individual trained in culturally appropriate interview techniques.⁴¹³ This is especially important due to the required investigation into folk remedies or traditional medicine. Minorities frequently encounter discrimination in connection with their housing, especially when their ethnicity is more readily identifiable.⁴¹⁴ Further, many families participating in federally assisted housing are members of groups that may utilize cultural healthcare practices.⁴¹⁵

To advance client-centered approaches, HUD should incorporate protective measures to ensure proper collection and safeguarding of public health information. This requires training personnel to comply with privacy and HIPAA requirements⁴¹⁶ and adopt the required administrative, physical, and technical safeguards defined in the HIPAA Security Rule.⁴¹⁷ In addition, HUD must prevent retaliation against program participants and "clarify that any in-

ON BUDGET & POL'Y PRIORITIES UNITED STATES FACT SHEET: FEDERAL RENTAL ASSISTANCE 1 (2015), <https://perma.cc/JWP2-BHD8>.

412. The ADA and the FHA both require housing providers to make reasonable accommodations and modifications to policies, practices, and procedures to avoid discrimination that would restrict the full enjoyment of housing and related facilities by a person who experiences a disability. *See Disability Rights in Housing*, U.S. DEP'T OF HOUS. & URBAN DEV., <https://perma.cc/4L8Z-D2QS>. *See also* Fair Housing Amendments Act of 1988, Pub. L. No. 100-430, § 6, 102 Stat. 1619, 1620–21 (1988) (codified in scattered sections of 42 U.S.C. §§ 3600–3619); Americans with Disabilities Act of 1990, Pub. L. No. 101-336, §§ 301–303, 104 Stat. 327, 353–59 (1990) (codified in scattered sections of 42 U.S.C. §§ 12101–12183).
413. *See Limited English Proficiency Implementation Plan Providing Federally-Conducted Activities to Persons with Limited English Proficiency*, U.S. DEP'T OF HOUS. & URBAN DEV., <https://perma.cc/LY99-8JS4>. Exec. Order No. 13,166, 65 Fed. Reg. 50,121, 50,125 (Aug. 11, 2000).
414. U.S. DEP'T OF HOUS. & URBAN DEV., HOUSING DISCRIMINATION AGAINST RACIAL AND ETHNIC MINORITIES 2012 xviii (2013), <https://perma.cc/76MT-PJVM>.
415. *See, e.g.*, ETHNOMED.ORG, <https://perma.cc/V3D3-95P8> (describing the organization's provision of clinical support and cultural context to clinicians caring for refugees since 1994); *See also* U.S. DEP'T OF HOUS. & URBAN DEV., HOUSING CHOICE VOUCHER PROGRAM GUIDEBOOK 5-9 to 5-10 tbl.5-1, <https://perma.cc/DTD7-8S2C>.
416. *See, e.g.*, U.S. DEP'T OF HOUS. & URBAN DEV., GUIDANCE ON THE HIPAA PRIVACY RULE FOR HUD OFFICE OF HEALTHY HOMES AND LEAD HAZARD CONTROL GRANTEES, <https://perma.cc/R2TJ-DVK3>.
417. 45 C.F.R. § 164.304 (2015). If Internal Review Board certification is necessary for the activity, HUD must comply with the privacy requirements of the Common Rule. *See generally* 45 C.F.R. § 46; *See also* Security and Awareness Training, 45 C.F.R. § 164.308(a)(5) (2013); U.S. DEP'T OF HOUS. & URBAN DEV., GUIDANCE ON THE IRB PROCESS FOR HUD OFFICE OF HEALTHY HOMES AND LEAD HAZARD CONTROL GRANTEES, <https://perma.cc/E5QS-KCGT>.

formation obtained during the environmental investigation, whether or not related to the [elevated blood lead level], cannot be used against the tenant or result in a lease violation or termination of assistance.”⁴¹⁸ Finally, HUD must allow participants to refuse to participate in the environmental investigation interview, especially as it relates to cultural practices related to health, without reprisal in the form of loss of benefits, lease violations, termination of assistance, or reporting to a child-welfare agency.

D. Dedicate Funding to Eliminate Lead Poisoning and Increase Housing Stability

Ending the lead epidemic will require federal, state, and local funding to support lead poisoning prevention activities, such as lead-hazard identification, remediation, and abatement.⁴¹⁹ Yet, in 2012 the CDC’s funding for lead poisoning prevention activities was cut by 93%, from \$29.2 million to \$2 million, and was never fully restored.⁴²⁰ HUD’s OLHCHH is underfunded to meet the need. EPA currently plans to cut the majority of its lead poisoning prevention programs.⁴²¹ Environmental and healthy housing programs, including the National Housing Trust Fund, HOME, and Community Development Block Grant have suffered billions of dollars in funding cuts and many of these programs may be eliminated entirely under a recently proposed White House fiscal year 2018 budget.⁴²² While it is appropriate for state or local governments to share in the costs, low-income communities will need help from the federal government in order to address environmental health problems, including lead poisoning.

The national goal of ending lead poisoning among all children requires action and adequate funding across many federal agencies, including EPA, HUD, and the departments of Agriculture, Veterans Affairs, Treasury, Labor, Health and Human Services, and Education, among others. In addition, Medicaid funds must be available for the removal of lead hazards in units where children live.⁴²³ Lead poisoning prevention and control activities must also be

418. See Health Justice Project et al., *supra* note 175, at 25.

419. See generally GREEN & HEALTHY HOMES INITIATIVE, *supra* note 353.

420. Lynne Peeples, *Lead Poisoning Prevention Funding Slashed, Costly Consequences for Children’s Health*, HUFFINGTON POST (Mar. 16, 2012), <https://perma.cc/JJ75-QYWH>.

421. See Cabrera, *supra* note 241.

422. See Glenn Thrush & Coral Davenport, *Donald Trump Budget Slashes Funds for EPA and State Department*, N.Y. TIMES (Mar. 15, 2017), <https://perma.cc/GB9G-HX7N>. See also Press Release, Nat’l Low Income Hous. Coal., THUD House Appropriations Bill Deeply Underfunds Housing Programs, Defunds National Housing Trust Fund (Apr. 28, 2015), <https://perma.cc/94TF-XJ35>.

423. Under Section 1115 of the Social Security Act, the Secretary of HHS has the authority to approve experimental pilot or demonstration projects that promote the objectives of the Medicaid and the Children’s Health Insurance Program (“CHIP”). Social Security Act

counted as a community benefit that would meet Internal Revenue Service standards for nonprofit hospitals providing charitable services, increasing the incentive to support and carry out these activities.⁴²⁴

E. Create Affordable Housing and Healthy Communities and Enforce Civil Rights

As described herein, low-income, minority families often live in highly segregated and impoverished communities, in homes with lead-based paint. Even with rental assistance, most housing subsidies or programs are used in deeply segregated communities. Constraints on the housing market and federally assisted housing must be removed to provide low-income and minority families realistic options. The AFFH Rule must be upheld and enforced to correct the entrenched segregation engineered over decades. It is imperative to “overcoming historic patterns of segregation”⁴²⁵ and provides a framework for cross-agency collaboration and planning to examine and eliminate environmental hazards, such as lead hazards.⁴²⁶ In addition, housing subsidies must be increased as an anti-poverty measure. HUD data demonstrates that rental assistance leads to a reduction in homelessness, family separation, psychological distress, domestic violence, drug and alcohol problems, inconsistent school attendance, behavioral problems, and food insecurity.⁴²⁷ At the same time, HUD must partner with other sectors, including community development and health-

§1115, 42 U.S.C. § 1315 (2012). States may apply for Section 1115 waivers to use Medicaid and CHIP dollars to eliminate lead hazards in federally assisted and private housing. *See The Flint Water Crisis: Impacts and Lessons Learned: Hearing Before Subcomm. on Health and Subcomm. on the Env't. of the H. Comm. on Energy and Commerce, 114th Cong.* (2016) (testimony of Joan Alker, Exec. Dir., Ctr. for Children and Families), <https://perma.cc/DB4L-H2FG>. Data from the Health and Nutrition Examination Survey indicate that children on Medicaid are more likely to have elevated blood lead levels than children not on Medicaid. Jaime Raymond, Will Wheeler, & Mary Jean Brown, *Lead Screening and Prevalence of Blood Lead Levels in Children Aged 1–2 Years—Child Blood Lead Surveillance System, United States, 2002–2010 and National Health and Nutrition Survey, United States 1999–2010*, 63 MORBIDITY & MORTALITY WKLY. REP. 36 (Sept. 12, 2014), <https://perma.cc/2YN2-595E>.

424. 26 C.F.R. § 1.501(c)(3)–(1) (2014). For a discussion of hospitals as a partner in creating healthy communities, see Benfer & Gold, *supra* note 4.

425. Affirmatively Further Fair Housing, Final Rule, 80 Fed. Reg. 42,272, 42,273 (July 16, 2015).

426. Letter from Megan Haberle, Poverty and Race Research Action Council, et al. to Charles Lee, Deputy Assoc. Assistant Adm'r for Env'tl. Justice, EPA (July 28, 2016), <https://perma.cc/DEG2-LUSA>; *see also* 24 CFR 5.150–5.168 (2017).

427. U.S. DEP'T OF HOUS. & URBAN DEV., FAMILY OPTIONS STUDY: SHORT-TERM IMPACTS OF HOUSING AND SERVICES INTERVENTIONS FOR HOMELESS FAMILIES, at iv, xxv (2015), <https://perma.cc/Y6DQ-4PUH>.

care, to address the environmental hazards and threats to health in the community.⁴²⁸

It is critical that the federal government enforce and abide by civil rights laws in federally assisted housing. The FHA, the AFFH Rule, Title VI of the Civil Rights Act, Section 504 of the Rehabilitation Act, and Executive Order 12,898 describe the federal government's commitment to prevent and respond to environmental and racial injustice, discrimination on the basis of disability, and to affirmatively further fair housing. The statutes and regulations prohibiting discrimination and ensuring healthy and safe living conditions must be enforced to uphold civil rights and promote equality of opportunity among federally assisted housing program participants. Where the government fails to comply with civil rights provisions and eliminate lead poisoning in federally assisted housing, participants may have numerous causes of action.

CONCLUSION

[M]ankind owes to the child the best it has to offer.

—Geneva Declaration of the Rights of the Child⁴²⁹

As early as 2000 BC, leading figures espoused the dangers of lead to civilization. In 1786, Benjamin Franklin warned about the lack of action in response to lead hazards, writing:

This, my dear friend, is all I can at present recollect on the Subject. You will see by it, that the Opinion of this mischievous Effect from Lead, is at least above Sixty Years old; and you will observe with Concern how long a useful Truth may be known, and exist, before it is generally receiv'd and practis'd on.⁴³⁰

As he predicted, resistance on the part of the federal government and industries, among other stakeholders—evident in endless compromises, funding cuts, and piecemeal approaches—allowed for the lead poisoning of millions of children. Over 230 years later, the scourge of lead poisoning continues, especially in low-income areas and communities of color. Today, “it is clear that over the past century, many millions of children had their lives altered for the worse by exposure to lead.”⁴³¹

Despite the efforts of advocates and policymakers, laws governing lead poisoning prevention in federally assisted housing and private housing are inad-

428. For a detailed discussion on the intersection between affordable housing, community development and health, see Benfer & Gold, *supra* note 4.

429. League of Nations, Geneva Declaration of the Rights of the Child, Sept. 26, 1924.

430. Letter from Benjamin Franklin to Benjamin Vaughan (July 31, 1786), <https://perma.cc/QUX4-D4PN>.

431. Rosner & Markowitz, *supra* note 23, at 324.

equate and have failed to prevent lead poisoning and the racial disparities, socioeconomic inequality, and poor health it causes. These antiquated policies require irreparable harm to children before any interventions occur. In conflict with principles of health justice, they provide only partial solutions and ignore well-established knowledge of the causes and remedies to lead poisoning. Without swift and uncompromising policy changes, the federal government will continue to promote deep poverty, residential segregation, and corollary poor health outcomes. The private housing market will reflect these harmful patterns, as well.

Under current law, too many children, largely low-income and minority, fall victim to lead poisoning and suffer permanent brain damage before lead hazards are identified and abated. Ultimately, protecting future generations of children requires a steadfast commitment to permanently remove the toxic metal from every home and community, especially communities of color that have been overlooked for far too long. Any other course of action will guarantee the continuous and unforgiveable contamination of childhood and the erosion of children's ability to flourish, access opportunity, and reach their fullest potential. Children require the best humanity has to offer. Our best must include protecting all of our children from lead poisoning. They are counting on us.

