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Toward Eradication: How Law and Public Health Practices Can Be Used To Prevent Childhood Lead Poisoning

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I. INTRODUCTION

Lead is one of society’s oldest known and most thoroughly studied environmental hazards.¹ Because of high lead content and other safety hazards, about twenty-five million toys were recalled in 2007 alone.² This historic string of recalls has reignited the public’s interest in how the government protects American consumers from hazardous imported items. The recalls have also sparked a renewed focus on the continuing public health hazard posed by children’s exposure to lead.

The 2007 recalls are just one aspect of the latest efforts by the U.S. government to prevent childhood exposure to lead. Newly proposed product safety legislation would increase the Consumer Product Safety Commission’s power to inspect and recall products and mandate

1. Jack Lewis, *Lead Poisoning: A Historical Perspective*, EPA J. (1985), <http://www.epa.gov/history/topics/perspect/lead.htm>.

2. The Early Show: Consumer Product Safety Commission Working To Prevent Recalled Items from Hitting Store Shelves (CBS television broadcast Mar. 5, 2008). Many of these recalls have involved lead-tainted toys manufactured in, and imported from, China. Christopher Cooper & Nicholas Casey, *Democrats Zero in on Chinese Toys*, WALL ST. J., Dec. 21, 2007, at B2.

additional testing for children's products.³ State governments have also begun to legislate in this area, looking to bolster the efforts of the federal government.⁴ At least one state has considered drafting legislation to punish businesses caught selling recalled products and tightens recall standards for manufacturers, distributors, and retailers.⁵ Some states have been even more proactive, filing suit against companies in the United States and China who manufacture and sell toys with "unlawful quantities of lead."⁶

While these actions address one source of contamination, the primary source of harmful environmental lead exposure in the United States is not from the ingestion of paint from toys or other imported products. Children are exposed to lead principally through hand-to-mouth contact with lead-contaminated dust,⁷ but lead may also be inhaled.⁸ Unsurprisingly, then, the major source of exposure among children continues to be lead-contaminated household dust in deteriorating buildings.⁹ These hazardous buildings were constructed prior to 1978, the year lead-based paint was prohibited for use in residential housing, and a substantial number have *yet* to be cleared of lead hazards.¹⁰ Consequently, an estimated twenty-four million housing units nationwide, in which approximately four million children reside, still contain deteriorated lead paint and lead-contaminated dust particles.¹¹

3. News Release, Energy and Commerce Leaders Announce Comprehensive Consumer Protection Reform Bill (Nov. 1, 2007), *available at* http://energycommerce.house.gov/Press_110/110nr119.shtml.

4. BETHANY FLEISHMAN ET AL., STATE LEGISLATION ADDRESSING PREVENTION OF CHILDHOOD LEAD POISONING: A POLICY REPORT FOR THE GREATER MANCHESTER (NH) PARTNERS AGAINST LEAD POISONING 27 (Nov. 2004), *available at* <http://www.dartmouth.edu/~toxmetal/Legislative%20Report-GMPALP.pdf>.

5. Press Release, Gov. Spitzer Announces New Statewide Recall of Unsafe Toys (Dec. 10, 2007), *available at* <http://www.ny.gov/governor/press/1210072.html>.

6. Associated Press, *California Attorney General Sues Mattel, Others over Toys Containing Lead*, USA TODAY, Nov. 19, 2007, http://www.usatoday.com/money/industries/retail/2007-11-19-toy-lawsuit-lead_N.htm.

7. LEAD-BASED PAINT HAZARD REDUCTION & FIN. TASK FORCE, U.S. DEP'T OF HOUS. & URBAN DEV., PUTTING THE PIECES TOGETHER: CONTROLLING LEAD HAZARDS IN THE NATION'S HOUSING 34 (1995) (Report No. HUD-1547-LBP), <http://www.hud.gov/offices/lead/library/hhi/fedleadstrategy2000.pdf>.

8. Janet J. McCabe, Improving Kids' Environment, Inc., Lead-Based Paint: The Law in Indiana (July 2006), <http://www.ikecoalition.org/lead/>.

9. Nat'l Ctr. for Env'tl. Health, Centers for Disease Control and Prevention, General Lead Information: Questions and Answers, <http://www.cdc.gov/nceh/lead/faq/about.htm> (last visited Mar. 11, 2008).

10. 16 C.F.R. § 1303 (2007). The Consumer Product Safety Commission banned the use of paint containing more than 0.06% lead in residential homes.

11. See Nat'l Ctr. for Env'tl. Health, *supra* note 9.

Before federal legislation restricted its use in certain products, lead was present in residential paint, gasoline, water pipes, and other products.¹² Today, in addition to imported toys, childhood lead poisoning is known or suspected to be associated with exposure to lead-contaminated drinking water,¹³ folk remedies (including litargirio),¹⁴ imported tamarind candies,¹⁵ and certain imported spices.¹⁶ In addition, certain industrial workers, particularly those working in the automobile and building industries, may potentially expose family members by inadvertently carrying lead into their homes on their clothes, skin, hair, tools, and vehicle upholstery.¹⁷

Despite a steady and dramatic decline in the prevalence of elevated blood-lead-level cases—due in significant part to law-based interventions—there are still an estimated 240,000 children aged one to five years with dangerously elevated blood-lead levels in the United States today.¹⁸ One significant reason for this is that developing nervous systems and rapid metabolism of children aged six years and under make them particularly vulnerable to lead absorption.¹⁹ In response to the high number of elevated blood-lead levels among children in the United States, the Centers for Disease Control and Prevention (CDC) funds research and education programs at the federal level and provides funding to state and local health departments for childhood lead

12. AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, U.S. DEP'T OF HEALTH & HUMAN SERVS., TOXICOLOGICAL PROFILE FOR LEAD 19 (Aug. 2007), available at <http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>.

13. EPA, Mid-Atlantic Region: Lead in Washington D.C. Drinking Water, <http://www.epa.gov/dclead/faq.htm> (last visited Mar. 11, 2008).

14. CDC, *Childhood Lead Poisoning Associated with Tamarind Candy and Folk Remedies—California, 1999-2000*, 51 MORBIDITY & MORTALITY WKLY. REP. 685 (2002), available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5131a3.htm>.

15. *Id.*

16. Alan D. Woolf & Nicholas T. Woolf, *Childhood Lead Poisoning in 2 Families Associated with Spices Used in Food Preparation*, 116 PEDIATRICS 314, 318 (2005), available at <http://pediatrics.aappublications.org/cgi/content/full/116/2/e314>.

17. Nat'l Inst. for Occupational Safety & Health, CDC, NIOSH Safety and Health Topic: Lead, <http://www.cdc.gov/niosh/topics/lead> (last visited Mar. 11, 2008).

18. EPA, Measure B1: Lead in the Blood of Children, http://www.epa.gov/envirohealth/children/body_burdens/b1-graph.htm (last visited Apr. 1, 2008).

19. See Nat'l Ctr. for Env'tl. Health, *supra* note 9. The CDC defines elevated blood-lead level (EBL) as the level at which public health actions should be initiated, and recommends that children aged one to five maintain blood-lead levels at less than 10 micrograms per deciliter of blood (ten µg/dL), an amount considered "lead poisoning." *Id.* The CDC recognizes that adverse effects can occur at blood-lead levels less than ten µg/dL, but has chosen not to lower the recommended level at this time. See CDC, *Why Not Change the Blood Lead Level of Concern at This Time?*, <http://www.cdc.gov/nceh/lead/faq/changeBLL.htm> (last visited Mar. 11, 2008).

poisoning prevention programs to further its “Healthy People 2010” goal of eliminating child lead poisoning.²⁰

This Article examines how lead poisoning has traditionally been addressed from a legal perspective. In order to aid the reader in a more complete understanding of the role of law in addressing the issue of lead exposure, Part II of this Article will introduce a hypothetical case study. The case study will give the reader a concrete example of the public health and social issues associated with lead exposure, possible lead poisoning, the effect of childhood lead poisoning on families, and the important role that law plays in preventing, detecting, and remediating lead hazards in the home environment. Part III frames the public health issue and briefly examines the health and social costs related to lead exposure. Part IV provides a description of federal and state lead poisoning prevention laws and regulations, highlighting legislation and other lead poisoning prevention efforts in five selected states: Massachusetts, Maine, Michigan, Rhode Island, and Indiana. Part V offers a review of relevant lead poisoning-related case law and a discussion of potential legal remedies for families affected by lead poisoning. The Article concludes by revisiting the hypothetical case study to examine the potential public health response to a child with an elevated blood-lead level and to discuss emerging trends in law intended to facilitate compliance with lead poisoning prevention laws.

II. HYPOTHETICAL CASE STUDY: THE STORY OF KARLA S.

Karla S., aged four, is being seen by a primary care physician at the local public health department’s clinic as part of a preschool physical that is required in order for her to attend daycare. Karla lives with her mother and siblings. They are an African-American family, living in substandard rental housing in a densely populated urban neighborhood. Karla is Medicaid-eligible, but because her family does not have a primary-care physician, she is seen at the local public health department’s clinic for certain primary care needs. During the visit with the physician, Karla’s mother tells the physician that her daughter sometimes complains of stomach aches and constipation. Over-the-counter medicines seem to work for these problems, and other than what she considers normal hyperactivity, Karla’s mother tells the physician that she is confident her daughter is healthy.

The physician notes that Karla is very active and her attention span is noticeably short. Karla’s vision and hearing are normal, and despite a

20. See Nat’l Ctr. for Env’tl. Health, *supra* note 9.

lack of continuous healthcare coverage, her immunizations are up to date. The physician further notes that while Karla seems to have reached some of the most important developmental milestones for a child her age, she appears to have slightly delayed language and social skills. Considering the totality of Karla's circumstances, the physician is concerned about possible lead poisoning. Because the physician has no indication that Karla was previously screened for lead exposure, the physician has her tested. Karla has a blood-lead level of twenty-three micrograms per deciliter ($\mu\text{g}/\text{dL}$)—well above the CDC-recommended blood level of ten $\mu\text{g}/\text{dL}$ or less. When informed of Karla's condition, her mother asks the physician what might be done to improve her health, as well as that of her other children.

III. BACKGROUND: THE HEALTH EFFECTS AND SOCIAL DETERMINANTS OF LEAD EXPOSURE

Children experience more harmful effects of lead poisoning at lower blood-lead levels than adults because of inherent differences in absorption, body mass, and growth rates.²¹ The devastating effects of lead exposure may include serious damage to the central nervous system and red blood cells.²² Extremely elevated blood-lead levels could result in convulsions, coma, organ failure, and ultimately death.²³ Neurological consequences of lead poisoning with respect to children include encephalopathy, decrease in intelligence quotient (IQ), attention deficit hyperactivity disorder, hearing impairment, deficits in peripheral nerve function, and even violent tendencies.²⁴ Studies indicate that neurological defects in lead-exposed children may persist into adulthood.²⁵ In addition, lead toxicity is shown to have deleterious renal effects, including chronic nephropathy, renal disease, and saturnine gout.²⁶ Acute, high-level lead exposure is associated with certain types of anemia and deficits in vitamin-D levels, both of which have a negative impact on children's cell growth and bone development.²⁷ Moreover, prenatal lead exposure has been associated with congenital defects,

21. ATSDR, HHS, Case Studies in Environmental Medicine, http://www.atsdr.cdc.gov/csem/lead/pbphysiologic_effects2.html (last visited Mar. 11, 2008).

22. *Id.*

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. *Id.*

premature births, low birth weights, and early childhood growth and neurological impediments.²⁸

Despite the recent, dramatic decline in the prevalence of elevated blood-lead level cases among children, the burden of environmental lead exposure is disproportionately borne by children similarly situated to Karla S.—racial and ethnic minority children who are members of impoverished households and who live in older, substandard housing.²⁹ Nationally, children in low-income households are eight times more likely to have elevated blood-lead levels than children in higher income households, and black children are four times as likely as white children to be diagnosed with lead poisoning.³⁰ Impoverished, minority families are more likely than their higher-income, nonminority counterparts to suffer from a variety of health disparities, possibly reflecting a lack of continuous healthcare insurance coverage, insufficient access to appropriate healthcare providers, lower parental education regarding children's health, substandard housing, and poor nutrition.³¹ Health disparities contribute to higher levels of morbidity, lower life expectancy, decreased quality of life, loss of economic opportunities, and perceptions of injustice.³²

IV. U.S. LEAD POISONING LAW: AN OVERVIEW

A. Federal Regulation

As early as 1971, the U.S. government began to recognize the serious health threat posed by the presence of lead in the environment and began to enact laws to mitigate lead hazards.³³ Federal agencies,

28. *Id.* A recent study indicates that early childhood exposure to lead may also be associated with higher rates of arrests in early adulthood. See John Paul Wright et al., *Association of Pre-Natal and Childhood Lead Concentrations with Criminal Arrest in Early Adulthood*, 5 PUB. LIBR. OF SCI. MED. 5 (2008), available at <http://medicine.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pmed.0050101&ct=1>.

29. Kara Daghljan, *Lead Based Paint: The Crisis Still Facing Our Nation's Poor and Minority Children*, 9 DICK. J. ENVTL. L. & POL'Y 535, 536 (2001); Mary Jean Brown, *Costs and Benefits of Enforcing Housing Policies To Prevent Childhood Lead Poisoning*, 22 MED. DECISION MAKING 482, 484 (2002); see T. Howard Stone, Heather H. Horton, Robert M. Pestronk & Montrece M. Ransom, *Consideration for Special Populations*, in *LAW IN PUBLIC HEALTH* 301-06 (Richard A. Goodman et al. eds., 2d ed. 2007).

30. Daghljan, *supra* note 29; see also *Blood Lead Levels—United States, 1999-2002*, 54 MORBIDITY & MORTALITY WKLY. REP. 513 (2005).

31. Anne Case & Christina Paxson, *Parental Behavior and Child Health*, 21 HEALTH AFFAIRS 164, 165 (2002), available at <http://content.healthaffairs.org/cgi/reprint/21/2/164.pdf>.

32. CDC, *Health Disparities Experienced by Racial/Ethnic Minority Populations*, 53 MORBIDITY & MORTALITY WKLY. REP. 755 (2004), available at <http://www.cdc.gov/mmwr/PDF/wk/mm5333.pdf>.

33. See 42 U.S.C. § 4822 (2000); 70 ALR Fed. 358 (1997).

including the Consumer Product Safety Commission (CPSC), the Environmental Protection Agency (EPA), the Department of Housing and Urban Development (HUD), and the Department of Health and Human Services (HHS) are authorized by Congress to undertake certain childhood lead poisoning prevention activities. For example, the Lead-Based Paint Poisoning Prevention Act of 1971 included a call for research into the extent of lead-related hazards and for the development of local lead poisoning prevention programs.³⁴ In 1988, Congress amended the Safe Drinking Water Act to include the Lead Contamination Control Act, which established programs intended to reduce lead contamination in drinking water.³⁵

The Residential Lead-Based Paint Hazard Reduction Act of 1992 (also known as Title X of the Housing and Community Development Act of 1992) establishes grants for reducing lead hazards in target housing,³⁶ contains provisions protecting occupational workers from lead exposure,³⁷ and addresses lead paint mitigation for federally funded housing.³⁸ One of Title X's most important provisions is a requirement that known lead hazards be disclosed to prospective home buyers or tenants at the time of the sale or lease of a home that was built before 1978.³⁹ Under Title X, the EPA and HUD are jointly required to promulgate regulations addressing disclosure of lead paint in residential housing built prior to 1978.⁴⁰ The regulations promulgated by the EPA and HUD require those selling and leasing property to provide purchasers and lessees with: EPA-approved lead hazard information pamphlets,⁴¹ available reports and records detailing any lead hazards,⁴² disclosures of any known lead hazards,⁴³ the opportunity to conduct a risk assessment or inspection for the presence of lead paint,⁴⁴ and a Lead Warning Statement.⁴⁵

34. 42 U.S.C. § 4822; 70 ALR Fed. 358.

35. *See* Safe Water Drinking Act, 42 U.S.C. § 300(j)(21)-(26) (2000).

36. *Id.* § 4852.

37. *Id.* § 4853.

38. *Id.* § 4855.

39. *Id.* § 4852.

40. *Id.*

41. 24 C.F.R. § 35.88 (2007); 40 C.F.R. § 745.107 (2007).

42. 24 C.F.R. § 35.88.

43. *Id.*

44. *Id.* § 35.90; 40 C.F.R. § 745.110.

45. 24 C.F.R. § 35.92; 40 C.F.R. § 745.113. The Lead Warning Statement must contain the following language:

Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead

The Lead-Based Paint Exposure Reduction Act of 1992 (also known as Title IV of the Toxic Substances Control Act) addresses lead poisoning prevention for residential properties, as well as training and certification related to lead risk assessment, abatement, inspection, and accreditation of training programs.⁴⁶ Title IV charged the EPA with the following:

In order to reduce the risk of exposure to lead in connection with renovation and remodeling of target housing, public buildings constructed before 1978, and commercial buildings, the Administrator shall, within 18 months after October 28, 1992 [the enactment of this section], promulgate guidelines for the conduct of such renovation and remodeling activities which may create a risk of exposure to dangerous levels of lead.⁴⁷

The EPA proposed Title IV rules on January 10, 2006, aimed at regulating renovation and remodeling work performed on residential properties built prior to 1978, but excluding public and commercial buildings.⁴⁸ If contractors alter more than the de minimus two square feet of paint in a residential structure, they must follow standardized work practices and perform a “white glove” test.⁴⁹ The white glove test requires contractors to wipe each windowsill and a forty-square-foot area of flooring with a damp, white cloth.⁵⁰ The color of the white cloth is then compared to a white card produced by the EPA, and the housing structure is sufficiently lead-safe if the cloth is the same color as the

poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on lead-based paint hazards from risk assessments or inspections in the seller’s possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to purchase.

24 C.F.R. § 35.92.

46. 15 U.S.C. § 2681 (2000).

47. *Id.* § 2682(c)(1).

48. 71 Fed. Reg. 1588 (Jan. 10, 2006) (to be codified at 40 C.F.R. pt. 745). On March 31, 2008, EPA issued the final rule which takes effect in April 2010. Under the new rule, contractors whose repair or renovation work disturbs lead-based paint in homes, child care facilities, and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination. EPA, Renovation, Repair and Painting, <http://www.epa.gov/lead/pubs/renovation.htm> (last visited June 30, 2008).

49. 71 Fed. Reg. 1588, 1614-15 (Jan. 10, 2006) (to be codified at 40 C.F.R. pt. 948).

50. *Id.* at 1630.

card.⁵¹ Significantly, the EPA issued a supplemental proposal on June 5, 2007, to include the renovation and remodeling of child care facilities.⁵²

The Resource Conservation and Recovery Act of 1976⁵³ (RCRA) is a comprehensive federal program enacted “to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated.”⁵⁴ RCRA regulates lead paint waste if it meets the definition of a solid waste:

[A]ny garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities⁵⁵

Any material qualifying as a solid waste and presenting an imminent and substantial danger to health or the environment arising from its past or present handling, storage, treatment, or disposal is subject to RCRA’s statutory solid waste management scheme.⁵⁶ This means that building owners may be held liable for contributing to the handling, storage, treatment, or disposal of lead dust by failing to perform lead-abatement procedures.⁵⁷ Significantly, then, an RCRA filing has the potential to protect children from the effects of lead exposure, rather than only providing legal remedies after lead poisoning has already occurred.

The Consumer Product Safety Act of 1972 created the CPSC and outlined its legal authority.⁵⁸ The CPSC is an independent federal regulatory agency that is legally authorized to develop both voluntary and mandatory standards for industry, ban dangerous products, announce and obtain recalled products, perform research on product safety, engage in consumer and industry awareness, and respond to inquiries from consumers.⁵⁹ The CPSC has used its legal authority to ban dangerous products by prohibiting the residential use of lead paint at any time after 1978, including products directly sold to consumers and even those used

51. *Id.*

52. EPA, Lead in Paint, Dust, and Soil, Lead-Safe Work Requirements To Protect Children During Renovation, Repair and Painting Activities, <http://www.epa.gov/lead/pubs/renovation.htm> (last visited Mar. 14, 2008).

53. 42 U.S.C. §§ 6901-6992k (2000).

54. *Meghrig v. KFC W., Inc.*, 516 U.S. 479, 483 (1996).

55. 42 U.S.C. § 6903(27).

56. Group I Management and M275, LLC of Fall River, Massachusetts, EPA Docket No. RCRA 01-2001-0072, at 7 (2001).

57. *Id.*

58. 15 U.S.C. § 2051 (2000).

59. *Id.*

in schools, homes, parks, playgrounds, or hospitals.⁶⁰ Additionally, the CPSC announces voluntary product recalls when there is a significant risk to consumers either because the product may be defective or it violates a mandatory standard issued by CPSC.⁶¹ As discussed in Part I, in recent months, the CPSC has used its authority to issue recalls on children's toys posing lead poisoning hazards.

B. State Regulation

The National Conference of State Legislatures provides a comprehensive database of state statutes that regulate lead.⁶² State governments may prescribe various lead poisoning prevention methods and tools, including: screening requirements, property maintenance standards, funding mechanisms, training of key enforcement personnel and staff, creation of specified lead hazard prevention programs, preventing landlords from renting contaminated units, mandated safe abatement of lead-contaminated housing, licensure and certification requirements for professionals engaged in lead-based paint removal activities, and prevention of retaliatory eviction and discrimination.⁶³

As the case study illustrates, the crucial issue with respect to the prevention of lead poisoning through local, state, and federal legislation and policy is enforcement. Many laws merely contain procedural tools, omitting necessary enforcement provisions.⁶⁴ The following discussion presents salient examples of innovative models for state action in preventing lead poisoning in children, expanding on many of the prevention methods and tools discussed above.⁶⁵ The six states reviewed were selected because, taken together, they offer a comprehensive illustration of the diversity of law-based tools, approaches, and public health practices that have been used to address this problem.

1. Massachusetts

Massachusetts enacted the Lead Poisoning Prevention and Control Act in 1971 (Massachusetts Act),⁶⁶ becoming the first state to adopt a

60. See 16 C.F.R. § 1303 (2007).

61. *Id.*

62. Nat'l Conference of State Legislatures, *State Lead Poisoning Prevention Statutes* (Nov. 15, 2007), available at <http://www.cdc.gov/nceh/lead/Legislation%20&%20Policy/StateLeadStatutes2007.pdf>.

63. *Id.*

64. See Daghlian, *supra* note 29, at 541.

65. See *infra* Table 1.

66. MASS. GEN. LAWS ch. 111, § 190 (2003).

comprehensive childhood lead poisoning prevention law.⁶⁷ Massachusetts law requires permanent lead hazard abatement of properties where a child under the age of six years resides, regardless of his/her blood-lead level.⁶⁸ Residential property owners must either safely abate all lead hazards and receive a Letter of Full Compliance or remove only urgent lead hazards and provide interim control measures for the remaining lead hazards for up to two years, during which time a Letter of Interim Control is issued.⁶⁹ Receipt of either the Letter of Full Compliance or the Letter of Interim Control is significant, because strict liability claims for exposure to dangerous levels of lead may not be brought against owners if such a letter is issued, although owners remain subject to damages for failure to exercise reasonable care.⁷⁰ In addition, Massachusetts restricts lead-abatement work to licensed contractors, and building owners may only perform lead-abatement procedures if they do so in accordance with regulations promulgated by the lead poisoning control director.⁷¹ Penalties for a violation of these provisions may include compensatory damages for a lead-poisoned child,⁷² punitive damages, penalties under the state sanitary code,⁷³ and/or restricting the occupancy of lead-contaminated premises.⁷⁴

The Massachusetts Act also established the Childhood Lead Poisoning Prevention Program (CLPPP), directing the Massachusetts Department of Public Health to develop “a statewide program for the prevention, screening, diagnosis and treatment of lead poisoning, including elimination of the sources of such poisoning, through such research, educational, epidemiologic and clinical activities as may be necessary.”⁷⁵ CLPPP’s activities include providing primary and secondary preventive care services and nursing case management for children in Massachusetts, forming partnerships with pediatric professionals and organizations, and educating the public on ways in which child lead poisoning can be prevented.⁷⁶ On a local level, the Boston Public Health Commission’s CLPPP provides services to families

67. FLEISHMAN ET AL., *supra* note 4, at 27.

68. MASS. GEN. LAWS ch. 111, § 197.

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.* ch. 111, § 199.

73. *Id.* ch. 111, § 198.

74. *Id.* ch. 111, § 197.

75. *Id.* ch. 111, § 190.

76. Mass. Office of Health & Human Servs., Childhood Lead Poisoning Prevention Program, <http://www.mass.gov> (follow “Childhood Lead Poisoning Prevention Program” hyperlink) (last visited Mar. 12, 2008).

in Boston, including free lead inspections and moderate risk lead removal training to property owners, comprehensive case management for lead-poisoned children, targeted screening and education in high-risk areas, a lead surveillance system, and health education.⁷⁷

2. Maine

In 1973, Maine enacted the Lead Poisoning Control Act (1973 Act), implementing numerous provisions designed to prevent childhood lead poisoning, such as screening, licensure, testing, abatement requirements, and educational initiatives.⁷⁸ Screening provisions require all children covered by Maine's Medicaid program to undergo blood-lead level testing at one and two years of age.⁷⁹ All other children aged one and two years must be tested unless the child's primary care physician determines, based in part on responses to a risk assessment tool, that there is no risk of elevated blood-lead levels or the child's parent objects to testing.⁸⁰ Maine's abatement regulations require annual screening for potential lead hazards in child care centers, nursery schools, and home day care; funding and certification for such facilities are dependent upon compliance with annual screening.⁸¹ Further, any authorized representative of the state health department may inspect a residential dwelling or child care facility when there is reasonable suspicion of lead hazards or simply where there are reported cases of lead poisoning "upon the request of either the owner or the occupant with whom children reside."⁸² Finally, the state health commissioner is legally authorized to develop interagency agreements with any relevant local, state, or federal agency; the statute cites public housing authorities, energy efficiency programs, and home maintenance and improvement programs as examples of such agreements.⁸³ Violators of any provision of the 1973 Act face fines for each violation, imprisonment for up to six months, or both.⁸⁴

In 2005, Maine passed legislation creating the Lead Poisoning Prevention Fund, which is partially financed by paint manufacturers at the rate of twenty-five cents per gallon of paint sold in the state during

77. Boston Pub. Health Comm'n, Childhood Lead Poisoning Prevention Program, <http://www.bphc.org/programs/initiative.asp?b=2&d=0&p=83&i=17> (last visited Mar. 12, 2008).

78. ME. REV. STAT. ANN. tit. 22, § 1314 (2007).

79. *Id.* tit. 22, § 1317-D.

80. *Id.*

81. *Id.* tit. 22, § 1319-C.

82. *Id.* tit. 22, § 1320.

83. *Id.* tit. 22, § 1315-A.

84. *Id.* tit. 22, § 1325.

the prior year.⁸⁵ The fund aims to prevent childhood lead poisoning through

targeted educational mailings to families with children that occupy dwellings built prior to 1978 with culturally appropriate information on the health hazards of lead, the identification of lead sources, actions to take to prevent lead exposure and the importance of screening children for lead poisoning.⁸⁶

Public education about the dangers of lead hazards is particularly important to prevent childhood lead poisoning, because approximately eighty percent of Maine's housing was built prior to 1978,⁸⁷ the year when lead paint was prohibited for use in residential housing.⁸⁸

3. Michigan

In July 2003, Michigan Governor Jennifer Granholm released a report entitled "Childhood Lead Poisoning Prevention: A Call to Action" (Call to Action Report) in response to high numbers of lead-poisoned children in the state.⁸⁹ In 2002, a mere eleven percent of Michigan's children under age six years were tested for lead, and test results for 4083 (4.4%) indicated elevated blood-lead levels.⁹⁰ In addition to creating the Task Force To Eliminate Childhood Lead Poisoning, the Call to Action Report also engendered the enactment of five bills addressing childhood lead poisoning.⁹¹ First, all clinical laboratories in the state are required to report electronically blood lead analyses to the Michigan Department of Community Health.⁹² A second bill mandated blood-lead level screening for all Medicaid-enrolled children in order to ensure substantial compliance with the federally mandated eighty percent testing rate by October 1, 2007.⁹³ The Michigan Department of Community Health may use Medicaid funds to contract with appropriate community agencies to increase the blood lead testing rate if it falls below eighty percent.⁹⁴

85. *Id.* tit. 22, § 1317-E.

86. *Id.*

87. Me. Indoor Air Quality Council, About Lead, <http://www.miaqc.org/About%20Lead.htm> (last visited Mar. 12, 2008).

88. 16 C.F.R. § 1303 (2007).

89. State of Mich., Childhood Lead Poisoning Prevention: A Call to Action (July 2003), available at http://www.michigan.gov/documents/ChildLeadPoisoning2_71150_7.pdf.

90. State of Mich., Childhood Lead Poisoning Data Facts—All Michigan Counties (2002), http://www.michigan.gov/documents/1129_2003_11_30_91624_7.pdf.

91. STATE OF MICH., FINAL REPORT OF THE TASK FORCE TO ELIMINATE CHILDHOOD LEAD POISONING (June 2004), available at http://www.michigan.gov/documents/lead_108767_7.pdf.

92. MICH. COMP. LAWS § 333.20531 (2008).

93. *Id.* § 400.111k.

94. *Id.*

The Childhood Lead Poisoning Prevention and Control Commission (Commission), established by a third bill, was created to collaborate with multiple agencies, organizations, and citizens in addressing childhood lead poisoning prevention measures.⁹⁵ The Commission's mission is threefold:

- [1] Maximize the effectiveness of Michigan's public infrastructure
- [2] Mobilize and enable the private sector infrastructure, and
- [3] Integrate the capacity and effects of public and private sector strategies to prevent and control childhood lead poisoning through public awareness, testing and treatment of lead poisoned children, and prevention and remediation of lead hazards.⁹⁶

The fourth piece of legislation established a lead-safe housing registry.⁹⁷ The registry provides citizens with access to a comprehensive listing of all residential, multifamily dwellings, and child-occupied facilities that either are subject to interim lead controls or for which lead contamination or risks have been abated.⁹⁸ The final bill implemented penalties for property managers, housing commissions, and landlords who knowingly rent or continue to rent residential property with possible lead contaminants to families with young children.⁹⁹ Violations under this statute can lead to a misdemeanor conviction, punishable by fines or imprisonment, if the following three elements are satisfied:

- (a) The property manager, housing commission, or owner of the rental unit has prior actual knowledge that the rental unit contains a lead-based paint hazard.
- (b) At least ninety days have passed since the property manager, housing commission, or owner of the rental unit had actual knowledge of the lead paint hazard.
- (c) The property manager, housing commission, or owner of the rental unit has not acted in good faith to reduce the lead paint hazards through interim controls or abatement or a combination of interim controls and abatement.¹⁰⁰

The law authorizing the lead-safe housing registry works in tandem with preexisting Michigan laws, such as those addressing residential maintenance practices,¹⁰¹ accreditation of lead paint training programs,¹⁰²

95. *Id.* § 333.5474a. This statute was repealed by its own provisions on July 1, 2007.

96. MICH. CHILDHOOD LEAD POISONING PREVENTION & CONTROL COMM'N, STATE OF MICH., ANNUAL REPORT TO THE LEGISLATURE (Mar. 2004), http://www.michigan.gov/documents/mdch/2007_Annual_Report_195048_7.pdf.

97. MICH. COMP. LAWS § 333.5474b.

98. *Id.*

99. *Id.* § 333.5475a. Significantly, the statute defines lead poisoning as blood-lead levels equal to or in excess of 10 micrograms per deciliter. *Id.*

100. *Id.*

101. *Id.* § 333.5473a(4).

102. *Id.* § 333.5461a.

and certification requirements.¹⁰³ Child blood-lead level testing rates increased to fifteen percent in 2006 and the number of children with elevated blood-lead levels decreased to 2525 (over 1500 fewer lead-poisoned children than in 2002),¹⁰⁴ arguably as a result of the combination of legislation both prior and subsequent to the Call to Action report.

4. Rhode Island

In 1991, the Rhode Island Legislature enacted the Lead Poisoning Prevention Act, with a goal of protecting the public's health through the establishment of an Environmental Lead Program (ELP) designed to prevent childhood lead poisoning.¹⁰⁵ The ELP must provide for "lead poisoning prevention, including screening and detection, education, lead hazard reduction, and enforcement," and must promulgate regulations for safe lead levels in buildings wherein children under age six years reside.¹⁰⁶

The Rhode Island Childhood Lead Poisoning Prevention Program, created in 1976, incorporated the statutory requirements of the ELP and other relevant sections of the Lead Poisoning Prevention Act.¹⁰⁷ A key requirement is universal screening: every state-licensed child care provider is mandated to obtain evidence of a lead poisoning screening for every child under the age of six years and other high-risk groups, unless a parent objects on the basis of religion.¹⁰⁸ Families are assisted by statute-mandated health insurance coverage for screening costs and diagnostic services, and the Rhode Island Department of Health will pay for the same services in the case of uninsured children, as well as those children eligible for state medical assistance.¹⁰⁹

In addition, all child-occupied facilities serving children under age six years must pass a state lead hazard inspection prior to the issuance of a state license to operate the facility.¹¹⁰ Tenants can take steps to protect themselves and their children from lead poisoning by filing a complaint compelling an inspection of the premises, the results of which must be

103. *Id.* § 333.5468.

104. STATE OF MICH., LEGISLATIVE REPORT, CHILDHOOD LEAD POISONING PREVENTION PROGRAM (Feb. 2006), *available at* http://www.michigan.gov/documents/1129_02_01_06_150440_7.pdf.

105. R.I. GEN. LAWS § 23-24.6-3 (2007).

106. *Id.* § 23-24.6-5.

107. R.I. Dep't of Health, RI Childhood Lead Poisoning Prevention Program, <http://www.health.ri.gov/lead/responsibilities.php> (last visited Mar. 12, 2008).

108. R.I. GEN. LAWS § 23-24.6-7.

109. *Id.* § 23-24.6-9.

110. *Id.* § 23-24.6-14.

shown to the tenant.¹¹¹ The Rhode Island Legislature ensured a source of funding for the safe removal of lead-based paint from housing structures¹¹² and imposed licensure and certification requirements for lead inspectors, contractors, supervisors, and workers.¹¹³ In addition, the Rhode Island Department of Health is charged with establishing a “comprehensive integrated enforcement program” that is consistent and effective, targets areas with high rates of childhood lead poisoning, and appropriately focuses on properties with multiple instances of childhood lead poisoning.¹¹⁴ Penalties for violations of the Lead Poisoning Prevention Act’s provisions include revocation of licenses or certifications,¹¹⁵ fines, lost rental income resulting from property being declared a public nuisance, and imprisonment.¹¹⁶ Between 2000 and 2007, the number of Rhode Island children with elevated blood-lead levels decreased by nearly seventy percent, demonstrating the efficacy of its statutory regime to prevent childhood lead poisoning.¹¹⁷

5. Indiana

One of Indiana’s most important legal tools in combating child lead poisoning is its Lead-Based Paint Activities Chapter (Chapter), added to the Indiana Code through the enactment of House Enrolled Act Number 1181 in 1997.¹¹⁸ Under this Chapter, Indiana law establishes licensure procedures,¹¹⁹ training requirements,¹²⁰ and restrictions on high-risk lead-paint removal techniques for target housing and childcare facilities built prior to 1960.¹²¹ The Indiana Legislature provided a monetary source in the lead trust fund to carry out the provisions in the Chapter and to cover expenses related to EPA’s lead paint activities regulations.¹²² Persons violating Indiana lead paint laws are subject to civil fines for each day of violation or for other infractions.¹²³ In addition to lead paint provisions

111. *Id.* § 23-24.6-15.

112. *Id.* § 42-55-27.

113. *Id.* § 23-24.6-20.

114. *Id.* § 23-24.6-23.

115. *Id.* § 23-24.6-20(e)(4).

116. *Id.* § 23-24.6-23.

117. R.I. Dep’t of Health, *Prevalence of Elevated Blood Lead Levels Among RI Children by City & Town 1998-2007* (2008), <http://www.health.state.ri.us/lead/data/Prevalence10byCityandTown1998-2007.pdf>.

118. IND. CODE § 13-17-14-1 to -12 (2008).

119. *Id.* § 13-17-14-3.

120. *Id.* § 13-17-14-4.

121. *Id.* § 13-17-14-12.

122. *Id.* § 13-17-14-6.

123. *Id.*

contained in the Chapter, the statute establishes a system to evaluate Medicaid managed care providers' screening rates for children under age six years, providing an incentive for such providers to comply with the Medicaid blood-lead testing requirements.¹²⁴ Finally, the Indiana State Department of Health is legally required to adopt rules for the case management of lead-poisoned children and to report mandatory blood-lead level testing results to the Indiana Legislature.¹²⁵

Improving Kids' Environment, Inc. (IKE) is an Indiana nonprofit organization active in numerous initiatives to prevent child lead poisoning and which recently published "Lead-Based Paint, The Law in Indiana: A Manual for Judges, Lawyers, Advocates, State and Local Officials, Landlords, Tenants, and Contractors."¹²⁶ The manual is a compilation of Indiana state laws and includes chapters addressing landlord-tenant law, rights and responsibilities of buyers and sellers, the role of government, and finding and treating the lead-poisoned child.¹²⁷ The landlord-tenant chapter provides guidance for renting families, detailing the legal rights of tenants and legal mechanisms by which tenants can seek enforcement of state and federal lead paint laws and regulations.¹²⁸ Appendices document and describe federal and state laws and regulations associated with the use of lead paint, provide sample pleadings and other documents, and list additional resources and contact information for other potentially helpful organizations.¹²⁹

V. LEGAL OBLIGATIONS AND REMEDIES

Persons who believe that they have been harmed as a result of exposure to lead hazards have filed lawsuits against their landlords, property and business owners, property managers, and insurers. Such lawsuits have claimed that landlords, owners, managers, or insurers have breached their contracts, warranties of habitability, or duties of reasonable care; or that consumer protection laws or lead paint poisoning prevention acts have been violated.¹³⁰ Individuals and governments have also sued lead paint and pigment manufacturers, but often encounter problems ascertaining which manufacturer produced the paint causing

124. *Id.* § 12-15-12-20.

125. *Id.* § 16-41-39.4.

126. *See* McCabe, *supra* note 8.

127. *Id.*

128. *Id.*

129. *Id.*

130. *See, e.g.,* Sonja Larson, *Landlord's Liability for Injury or Death of Tenant's Child from Lead Paint Poisoning*, 19 A.L.R. 5th 405 (2005).

the claimed lead poisoning.¹³¹ However, the landmark Wisconsin Supreme Court decision, *Thomas v. Mallet*, suggests that some courts may not require such a clear causal connection between actual lead poisoning and any one specific paint manufacturer.¹³² In *Mallet*, the court noted that lead paint manufacturers continued to produce and market lead paint pigment despite the fact that the industry was aware of hazards as early as 1904.¹³³ On this basis, the court ruled that the plaintiff could apply an expansive theory of liability, using either a negligence or strict liability claim, to include the seven defendant paint manufacturers and allowed the lawsuit against these manufacturers to proceed.¹³⁴

Similarly, Rhode Island became the first state to secure a favorable verdict against paint manufacturers based upon a public nuisance theory in *Rhode Island v. Lead Industries Ass'n*.¹³⁵ Originally filed in 1999, the first phase of the lawsuit resulted in a hung jury as to the issue of whether the presence of lead paint in the interior or exterior of public and private buildings constituted a public nuisance.¹³⁶ During the second phase of litigation, the Rhode Island Superior Court determined that a successful public nuisance claim must establish “the existence of a condition in Rhode Island that cause[d] an unreasonable harm or threat to the public and . . . that the defendants’ conduct created, maintained or contributed to the creation of maintenance of the condition alleged to be

131. See, e.g., *Santiago v. Sherwin-Williams Co.*, 794 F. Supp. 29, 31 (D. Mass. 1993) (rejecting the application of the concert of action and enterprise liability tort recovery theories to an action filed against several lead-based paint manufacturers because the plaintiff could not identify the manufacturer which produced the paint that caused his injury).

132. *Thomas ex rel. Grambling v. Mallet*, 701 N.W.2d 523 (Wis. 2005).

133. *Id.* at 537.

134. *Id.* at 563-65. Under a risk contribution theory applied to a negligence claim, the plaintiff can still collect damages if he/she can prove the lead paint pigment was ingested by the plaintiff, the lead paint pigment caused injuries to the plaintiff, the paint manufacturers produced paint with the type of lead paint pigment ingested by the plaintiff, and the manufacturer of the lead paint pigment breached a legal duty owed to the plaintiff. *Id.* at 564. Applying the risk contribution theory to a strict liability claim, the plaintiff must prove the following elements: (1) the lead paint pigment was defective when it left the control or possession of the manufacturers, (2) the lead paint pigment was unreasonably dangerous to the user or consumer, (3) the defect caused the plaintiff’s injuries, (4) the lead paint pigment manufacturer is engaged in the business of producing or marketing the lead paint pigment, and (5) the manufacturer expected the product to reach the consumer without substantial changes in the condition between the time it left the manufacturer and the time it was sold to the consumer. *Id.*

135. Raja Mishra, *Rhode Island Wins Lead Paint Suit*, BOSTON GLOBE, Feb. 23, 2006, available at http://www.boston.com/business/articles/2006/02/23/rhode_island_wins_lead_paint_suit/?rss_id=Boston+Globe+Business+News.

136. *Id.*

the public nuisance.”¹³⁷ Further, the court found that under the public nuisance theory, liability should be determined as to the cumulative effect of lead-contaminated properties, as opposed to an evaluation of individual properties.¹³⁸

On February 22, 2006, the jury held the defendant paint manufacturers liable to the state of Rhode Island, finding that the cumulative effect of lead paint present within and on buildings throughout the state constituted a public nuisance.¹³⁹ The defendant paint manufacturers filed motions for summary judgment, arguing that an insufficient nexus existed between any particular defendant and the presence of lead paint in Rhode Island.¹⁴⁰ The court upheld the 2006 jury verdict, ruling that the defendants’ activities were a proximate cause of the public nuisance and were not a superseding, intervening cause.¹⁴¹ Rather than requesting damages as a public nuisance remedy, Rhode Island “argued that the companies found guilty should bear the financial responsibility of preventing the poisoning of future generations by underwriting the costs of abating these homes of deadly lead (about \$15,500 per home).”¹⁴² The Rhode Island Attorney General’s office announced a \$2.4 billion abatement plan in September 2007, aimed at the prevention of lead poisoning and specifically providing for lead abatement in nearly one-half million homes.¹⁴³ Attorneys for the paint manufacturers filed motions challenging the abatement plan and appealed to the Rhode Island Supreme Court the Rhode Island Superior Court decision that upheld the 2006 jury verdict.¹⁴⁴

On July 6, 2008, the Rhode Island Supreme Court issued a decision overturning the 2006 jury verdict, concluding:

[T]he state has not and cannot allege any set of facts to support its public nuisance claim that would establish that defendants interfered with a public

137. See Motion To Dismiss Pursuant to 12(b)(6) at 1-2, *Rhode Island v. Lead Indus. Ass’n*, No. 99-5226 (R.I. Super. June 3, 2005), <http://www.courts.state.ri.us/superior/pdf/99-5226-6-3-05.pdf>.

138. See *id.*

139. See Mishra, *supra* note 135.

140. *Rhode Island v. Lead Indus. Ass’n*, No. 99-5226, at 1 (R.I. Super. Mar. 19, 2007), <http://www.courts.state.ri.us/superior/pdf/99-5226-3-19-07.pdf>.

141. *Id.* at 2-5.

142. Howard Markel, *Getting the Lead Out: The Rhode Island Lead Paint Trials and Their Impact on Children’s Health*, 297 J. AM. MED. ASS’N 2773, 2775 (2007).

143. Press Release, R.I. Attorney General’s Office, Lynch: Lead Paint Abatement Plan Is “Comprehensive, Cost-Effective, and Permanent Solution” (Sept. 14, 2007), <http://www.ri.gov/press/view.php?id=4950>.

144. *Legal Battles Continue in Rhode Island Lead Paint Case*, PROVIDENCE J., Jan. 6, 2008, http://www.projo.com/news/content/environmental_journal6_01-06-08_068GC9T_v11.174f4e4.html.

right or that defendants were in control of the lead pigment they, or their predecessors, manufactured *at the time* it caused harm to Rhode Island children.¹⁴⁵

A. *Enforcement Actions and Citizen Suits*

Government enforcement of existing local, state, and federal laws pertaining to lead poisoning prevention is vital to the success of those laws. At times it may be necessary for government agencies to work together to jointly enforce a law. For example, federal agencies such as the EPA, HUD, and the Department of Justice (DOJ) have successfully collaborated in investigating reports of Title X noncompliance and in enforcing the Title X requirement that known lead hazards be disclosed. In addition to receiving tips and complaints from the public, EPA and HUD officials regularly conduct on-site inspections of locations such as property management firms and rental offices for the purpose of reviewing sales contracts and leases involving housing that may pose lead hazards.¹⁴⁶ Violations of Title X may result in fines up to \$11,000 per violation and criminal sanctions.¹⁴⁷ One example of a Title X enforcement action is *United States v. Meldahl*, brought by the United States Attorney's Office for the District of Minnesota on behalf of HUD and EPA.¹⁴⁸ In *Meldahl*, the defendant landlord violated disclosure requirements under section 1018 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, and a consent decree was secured, imposing a civil penalty of \$5000.¹⁴⁹ Under terms of the decree, the defendant was required to certify that he would comply with disclosure requirements under Title X, develop and implement a Lead Hazard Reduction Plan, safely abate lead hazards in the residential properties, and submit annual reports detailing lead-abatement activities.¹⁵⁰

In addition, as discussed in Part IV.A, the EPA is authorized under section 7003 of Resource Conservation and Recovery Act (RCRA) to protect the public from solid or hazardous wastes that have the potential

145. Rhode Island v. Lead Indus. Ass'n, No. 07-121, at 3-4 (R.I. July 6, 2008), <http://www.courts.ri.gov/supreme/pdf-files/04-63amended3.pdf> (emphasis added).

146. Claude E. Walter, *The Lead Based Paint Real Estate Notification and Disclosure Rule*, 8 BUFF ENVTL. L.J. 65, 86-90 (2000); see also HUD, Compliance Assistance and Enforcement, <http://www.hud.gov/offices/lead/enforcement/index.cfm> (last visited Mar. 12, 2008) (setting forth HUD compliance rules and enforcement procedures).

147. EPA, SECTION 1018—DISCLOSURE RULE ENFORCEMENT RESPONSE POLICY app. B-4 (Dec. 1999), available at <http://www.epa.gov/compliance/resources/policies/civil/tsca/lead.pdf>.

148. Notice of Lodging of Consent Decree Under the Lead-Based Paint Hazard Act, 71 Fed. Reg. 49,475, 49,476 (Aug. 23, 2006).

149. *Id.*

150. *Id.*

to “present an imminent and substantial endangerment to health or the environment.”¹⁵¹ *In re 17th Street Revocable Trust* is one case in which the EPA mandated lead-dust abatement of a multifamily residential building in Washington, D.C., after inspections of the building revealed lead levels in extreme excess of HUD and District of Columbia standards; in some instances the lead dust and paint levels were more than 100 times greater than HUD standards.¹⁵² The EPA determined that the lead dust was a solid waste within the meaning of RCRA, posing an “imminent and substantial endangerment to residents,” and reasoned that the actions required by its unilateral order were “necessary to protect human health and the environment.”¹⁵³ Similarly, in *Group I Management & M275, LLC of Fall River, Massachusetts*, a building owner hired a contractor to perform sandblasting on his aged building, which housed a dance studio used by children, and tenants detected dust coming up through the floors and out of the windows.¹⁵⁴ EPA test results confirmed levels of lead in excess of applicable standards.¹⁵⁵ Defining the lead dust as a solid waste, the EPA found that Group I Management contributed to its past or present handling, storage, or disposal, and determined that the lead’s presence may pose an imminent and substantial endangerment to health and the environment.¹⁵⁶ Citing RCRA as legal authority, the EPA ordered the building owner to safely abate the lead paint and cleanse the building of the lead-contaminated dust.¹⁵⁷

Congress authorized citizen suits under RCRA through passage of the Hazardous and Solid Waste Amendments of 1984.¹⁵⁸ Citizens may institute a civil action against

any person, including the United States and any other governmental instrumentality or agency, to the extent permitted by the eleventh

151. Resource Conservation and Recovery Act of 1976 § 7003(a), 42 U.S.C. § 6973(a) (2000).

152. *In re 17th Street Revocable Trust*, U.S. EPA Docket No. RCRA-3-2000-0001TH, at 2 (2000); see also Alliance for Healthy Homes, Protecting Children from Lead and Other Environmental Health Hazards, Using the Resource Conservation and Recovery Act To Control Lead Hazards in Housing 1-2 http://www.afhh.org/res/res_pubs/disclosure_RCRA.pdf (last visited Mar. 12, 2008) (explaining the effects of *In re 17th Street Revocable Trust*); Thomas G. Neltner, *Lead Dust as Solid Waste: A New Legal Strategy for Achieving Lead Safety*, 39 CLEARINGHOUSE REV.: J. OF POVERTY L. & POL’Y 665, 667 (2006) (discussing the utilization of the RCRA for the protection of children from lead hazards).

153. Neltner, *supra* note 152, at 667.

154. *Group I Management and M275, LLC of Fall River, Massachusetts*, EPA Docket No. RCRA 01-2001-0072, at 7 (2001).

155. *Id.* at 2.

156. *Id.*

157. *Id.* at 3.

158. Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221.

amendment to the Constitution, and including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.¹⁵⁹

Additionally, any person claiming an interest may intervene as a matter of right if the outcome of the suit may negatively affect that interest, unless a court finds existing parties adequately represent the would-be intervener.¹⁶⁰ Suits must be brought in the district court where the alleged violation occurred or the alleged endangerment may occur, and the district court is authorized to compel the defendant(s) to act.¹⁶¹

One recent example of a RCRA citizen suit is that brought by the Sierra Club and IKE against the EPA and CPSC. In April 2006, the Sierra Club and IKE petitioned both the EPA and CPSC to take action in preventing child lead poisoning through lead in consumer products.¹⁶² While the EPA largely rejected the petition,¹⁶³ the CPSC agreed to take steps in classifying toy jewelry containing lead as a prohibited hazardous substance under the Federal Hazardous Substance Act rather than solely continue to issue recalls.¹⁶⁴ Consistent with RCRA's citizen suit provisions, the Sierra Club and IKE filed suit in the Northern District of California, and the parties reached a settlement agreement on April 13, 2007. Pursuant to the settlement agreement, the EPA agreed to take the following actions:

- Initiate a rulemaking to obtain existing health and safety studies on lead in children's products.
- Notify a number of companies of their obligation to inform EPA if they obtain information that products they manufacture or import present a lead-poisoning risk to children.

159. 42 U.S.C. § 6972(a)(1)(B) (2000).

160. *Id.* § 6972(b)(2)(E).

161. *Id.* § 6972(a).

162. See Letter from Janet McCabe, IKE, to Steve Johnson, Administrator, EPA, and Hall Stratton, Commissioner, Consumer Prods. Safety Comm'n (Apr. 20, 2006), available at http://www.ikeycoalition.org/lead/Toy_Jewelry_Petition_to_CPSL_and_EPA_4-20-00.pdf.

163. The EPA rejected two of four requested actions and declared the remaining two unpetitionable under the Toxic Substances Control Act. See Letter from James B. Guilliford, EPA, to Ed Hopkins, Sierra Club (July 20, 2006), available at http://www.ikeycoalition.org/lead/Toy_Jewelry_EPA_Denial_7-27-06.pdf.

164. See Settlement Agreement, *Sierra Club v. Johnson*, No. C 06-5641 PJH, at 1 (N.D. Cal. Apr. 13, 2001), available at <http://www.epa.gov/lead/pubs/finalsettlement.pdf>.

- Inform CPSC of concerns regarding corporate quality-control measures.¹⁶⁵

The success of this action against the EPA and CPSC is encouraging because citizen suit provisions such as those under RCRA allow citizens to seek proactive enforcement of lead regulations, safe abatement of lead-contaminated homes, and prohibition of lead toys, rather than solely relying upon government agencies to act.

B. Screening Mandates

In addition to the legal remedies discussed above, health care providers, parents, social workers, and interest groups must be aware of screening and other tools and requirements to prevent childhood lead poisoning. At least eighty-three percent of children with higher blood-lead levels are Medicaid-eligible, and under Medicaid's early and periodic screening, diagnostic and treatment services program, participating states are required to provide for the screening of all Medicaid-eligible children and to educate children and their families about the potential hazards of lead exposure.¹⁶⁶ As discussed in Part IV, various state governments have passed their own, sometimes more stringent, laws related to lead poisoning screening.¹⁶⁷ For example, under New Jersey law, physicians, nurse practitioners, and health facilities are required to conduct lead exposure screening for *all* of their patients under the age of six years (not just Medicaid-eligible children).¹⁶⁸ Massachusetts law requires that infants between the ages of nine and thirteen months be screened for lead exposure, with subsequent screening at ages two and three years.¹⁶⁹ Massachusetts children in households living in what are considered to be high-risk communities—those with significant numbers of older homes—must also be tested at age four years¹⁷⁰ and may be subject to more than one screening per

165. EPA, Lead in Toy Jewelry: Recent Actions, <http://www.epa.gov/lead/pubs/toyjewelry.htm> (last visited Mar. 12, 2008).

166. 42 U.S.C. § 1396(d)(r)(1) (2000); U.S. GEN. ACCOUNTING OFFICE, REPORT TO THE RANKING MINORITY MEMBER, COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT, HOUSE OF REPRESENTATIVES, MEDICAID: ELEVATED BLOOD LEAD LEVELS IN CHILDREN 3-4 (1998), available at <http://www.gao.gov/archive/1998/he98078.pdf>.

167. See Nat'l Conference of State Legislatures, *supra* note 62.

168. N.J. ADMIN. CODE § 8:51-2.1 (2007) (certification required).

169. 105 MASS. CODE REGS. 460.050 (C)(1) (2008); see also MASS. GEN. LAWS ch. 111, § 193 (2007) (requiring the director to establish a program to screen all children under age six, and others at high risk, for lead poisoning).

170. MASS. CODE REGS. § 460.050(C)(2).

year.¹⁷¹ At least one state requires blood lead screening as a requirement for school or daycare entry.¹⁷²

Despite such federal and state screening laws, lead screening rates among children continue to be low. The United States General Accounting Office (now the Government Accountability Office) has reported that while Medicaid-eligible children account for approximately seventy-five percent of all children with lead poisoning, the CDC survey results from 1991 to 1994 show that nearly two-thirds of Medicaid-eligible children did not receive lead poisoning screening.¹⁷³ Several factors may account for low rates of screening, including: a lack of federal oversight to ensure that screening policies are fully implemented, low levels of compliance with screening laws or requirements among healthcare providers, and general difficulties in providing services to Medicaid-eligible persons.¹⁷⁴

The failure to adhere to Medicaid regulations on blood-lead level screening was the subject of the 2004 case of *Memisovski v. Maram*, in which the United States District Court for the Northern District of Illinois ruled that state officials violated the rights of Medicaid-eligible children in Illinois by failing to provide for their lead poisoning screening, as was required under Medicaid regulations.¹⁷⁵ Although all Medicaid-eligible infants in Illinois who were between the ages of eleven and twenty-three months should have received at least one blood lead screening, nearly eighty percent were not screened at all.¹⁷⁶ In its decision, the court observed that while the state's participation in the federal Medicaid program may be voluntary, once the state chose to participate, it must comply fully with federal Medicaid regulations.¹⁷⁷ This case may represent the broadest challenge to date against any state for its administration of the federal Medicaid program.¹⁷⁸ As such, further

171. *Id.* § 460.050(D).

172. *See* N.Y. [PUBLIC HEALTH] LAW § 1370-d (Consol. 2007).

173. U.S. GEN. ACCOUNTING OFFICE, REPORT TO THE RANKING MINORITY MEMBER, COMM. ON GOV'T REFORM, HOUSE OF REPS., LEAD POISONING: FEDERAL HEALTHCARE PROGRAMS ARE NOT EFFECTIVELY REACHING AT-RISK CHILDREN 4 (Jan. 1999), *available at* <http://www.gao.gov/archive/1999/he99018.pdf>; *see also* CARRIE FARMER, LEAD SCREENING FOR CHILDREN ENROLLED IN MEDICAID: STATE APPROACHES 5 (2001), *available at* <http://www.ncsi.org/programs/health/forum/leadscreening.pdf> (expressing a concern over lack of screening for Medicare-eligible children).

174. U.S. GEN. ACCOUNTING OFFICE, *supra* note 173, at 4.

175. *Memisovski v. Maram*, 2004 U.S. Dist. Lexis 16772, (N.D. Ill. Aug. 23, 2004).

176. *Id.* at *81.

177. *Id.* at *5.

178. *Id.*

empirical research is needed to determine whether the case results in an increase of lead screening rates in Illinois and other states.

VI. THE CASE STUDY APPLIED

Despite awareness of lead hazards—including the enactment of related laws at the local, state, and federal levels—the response to the preceding hypothetical case study is not straightforward. Karla’s mother might be able to have her other children screened for their blood-lead levels, assuming that they are also Medicaid-eligible and that, absent a primary care physician, the local public health department is able to provide such screening. Because the health department already has provided screening for Karla, blood-lead level screening of her siblings is likely available. Of course, in the event treatment is required for Karla or her siblings, Karla’s mother may still need a referral to a healthcare provider for appropriate services.

Even though screening and detection are important, the CDC considers the best intervention for lead poisoning is to prevent lead exposure in the first place.¹⁷⁹ If Karla’s home is suspected to be the source of lead exposure, depending on the law in the state, then her mother may decide that she must move her family out of the home. Given her circumstances, however, she may not be able to secure more suitable housing. Whether the family remains or leaves, the source of lead exposure in the home will need to be abated. Because of the known association between older and substandard housing and the increased risk of lead exposure, public health departments need to work with housing and property code inspectors to identify the source of lead hazards in Karla’s home and secure the professional abatement services that are necessary to remove or mitigate the lead hazard. For example, in Manchester, Connecticut, the property maintenance code requires that the interior and exterior lead-based paint be “maintained in a condition free from peeling, chipping, and flaking” or such paint must “be removed or covered in an appropriate manner.”¹⁸⁰ If a child under the age of six years resides in a home with such conditions, the ordinance requires code officials to collect dust wipe samples and refer the test results along with a report of conditions.¹⁸¹ Should the “sample test results exceed safe conditions as determined by the Director of Health based upon state and

179. Brown, *supra* note 29, at 483.

180. TOWN OF MANCHESTER, CT., PROPERTY MAINTENANCE CODE § 242-18 (1999).

181. *Id.* § 7-305.4.2.

federal standards,” the health department will pursue compliance with federal and state regulations.¹⁸²

A. *The Public Health Response*

A public health agency’s response to a child in Karla’s circumstances may vary depending upon the state or locality. When a child’s blood-lead level is elevated but does not rise to the level of lead poisoning (e.g., from ten to nineteen $\mu\text{g}/\text{dL}$), public health regulations typically call for dietary counseling aimed at reducing the child’s absorption of lead.¹⁸³ Other suggested measures include frequent cleaning using moist cloths and hand washing to help reduce lead dust, and follow-up testing for blood-lead levels. With a blood-lead level twenty $\mu\text{g}/\text{dL}$ or higher, the primary public health response in nineteen of the thirty-five CDC-funded states will include a home inspection.¹⁸⁴ In a small number of states, this inspection is required when levels as low as ten $\mu\text{g}/\text{dL}$ are reported.¹⁸⁵ During an inspection, inspectors may take paint samples from various places in the home, particularly in areas with paint chipping or peeling or in which paint chips might be considered chewable by children; samples may also be taken from “friction surfaces,” where one painted surface rubs against another and creates dust.¹⁸⁶ If hazardous levels of lead paint are found, the health department may be authorized by law to order the landlord or property owner to abate the property within a set period of time (for example, thirty days for nonimminent hazards).¹⁸⁷ Lead-based paint usually is abated by: (1) stripping the lead paint from painted surface, (2) removing the

182. *Id.*

183. CDC, MANAGING BLOOD LEAD LEVELS AMONG YOUNG CHILDREN: RECOMMENDATIONS FROM THE ADVISORY COMMITTEE ON CHILDHOOD LEAD POISONING PREVENTION ch. 3, tbl.3.1 (1991), http://www.cdc.gov/nceh/lead/CaseManagement/caseManage_chap3.htm#Table%203.1.

184. *Id.* ch. 2, tbl.2.1.

185. *Id.* ch. 3, tbl.3.1. Depending on the level of lead in the blood, a child may also need to undergo chelation therapy to bind the lead and reduce its toxicity. Am. Acad. of Pediatrics Comm. on Drugs, *Treatment Guidelines for Lead Exposure in Children*, 96 PEDIATRICS 155, 159 (1995). In more severe cases, seventy $\mu\text{g}/\text{dL}$ or higher, hospitalization may be required. *Id.*

186. CDC, *supra* note 183.

187. *See, e.g.*, N.C. GEN. STAT. § 130(A)-131.9 (2007). Under North Carolina law, twenty $\mu\text{g}/\text{dL}$ constitutes lead poisoning. *Id.* § 130(A)-131.7. Levels between ten and nineteen $\mu\text{g}/\text{dL}$ are considered dangerous and health officials can inspect at these levels, but only with the consent of the landlord or tenant. *Id.*; *see also* Elyse Ashburn, *Laws Limit Action on Lead Cases*, GREENSBORO NEWS & REC., Jan. 30, 2005, at A1 (reporting that under North Carolina law, twenty $\mu\text{g}/\text{dL}$ constitutes lead poisoning. Levels between ten and nineteen $\mu\text{g}/\text{dL}$ are considered dangerous and health officials can inspect at these levels, but only with the consent of the landlord or tenant).

surface containing lead paint, or (3) covering the paint covered area.¹⁸⁸ Because of the environmental dangers associated with disturbing and/or removing lead-based paint, states often require training and certification of persons who perform lead abatement.¹⁸⁹

Other public health responses to cases such as Karla's include interim measures such as securing or making referrals for house dust control by professional cleaners, and relocating a lead-poisoned child (and the child's family) to reduce ongoing lead exposure. In cases where housing agency responses or interim measures are not effective, public health officials may need to work with their legal counsel or the local housing agency's counsel to consider whether to pursue legal action in local courts, including administrative enforcement proceedings, contempt judgments, and civil penalties. Among other reasons, such recourse may be necessary if the landlord or property owner refuses to comply with an abatement order. Some states have passed laws making it a misdemeanor to fail to abate a lead hazard as required in an abatement order in a home in which a minor resides.¹⁹⁰

B. Facilitating Compliance with Lead Poisoning Laws: Emerging Trends

To facilitate property owners' compliance with lead-abatement laws, some jurisdictions provide owners with financial incentives and other assistance. For example, in Milwaukee, certain property owners may be eligible for assistance in removing lead hazards created by lead dust in window troughs and dust created from the opening and closing of windows.¹⁹¹ Milwaukee works with licensed contractors who repair such windows to lead-safe conditions at minimal costs.¹⁹² Property owners who delay removing such lead hazards and wait until a child is poisoned lose eligibility for city assistance on that particular housing unit.¹⁹³ In Massachusetts and New Jersey, certain property owners may be eligible to apply for financial assistance—including grants, lower-interest loans and tax credits—if they are not financially able to perform essential lead

188. See, e.g., WIS. STAT. § 709.02 (2007).

189. CITY OF ST. LOUIS DEP'T OF HEALTH, CHILDHOOD LEAD POISONING ANNUAL REPORT (1999), <http://stlouis.missouri.org/citygov/health/lead99.pdf>.

190. MICH. COMP. LAWS § 333.5461 (2007); N.J. ADMIN. CODE § 5:17-2.1 (2007).

191. City of Milwaukee, Facts About Childhood Lead Poisoning, <http://www.ci.mil.wi.us/LeadPoisoningfacts> (last visited Oct. 2, 2008).

192. Nat'l Ctr. for Healthy Homes, Milwaukee Pilot Project Lead Ordinance, http://www.centerforhealthhousing.org/nhtml/milwaukee_law.htm (last visited Oct. 3, 2008).

193. *Id.*

abatement.¹⁹⁴ In cases where property owners refuse to abate lead hazards, the local health department may be able to arrange for abatement and charge the property owner for the costs; the health department may secure a lien on a property for which abatement services were provided if the property owner fails to reimburse the department for costs of abatement.¹⁹⁵

In addition to a treatment response, either Karla's mother or the health department should consider contacting the local housing agency to determine whether a lead hazard inspection and abatement services (when appropriate) are available to remove lead hazards in Karla's home. Depending upon the jurisdiction and circumstances, the physician or other clinic staff might be able to facilitate such a referral by providing a report to the local housing agency that, in turn, may perform an inspection or abatement of Karla's home. Because local authority to address lead hazards may be spread among several agencies, public agencies should develop agreements to coordinate their lead hazard programs with other local authorities, such as housing or property agencies and housing courts, to ensure continuity between lead screening programs for children and effective lead abatement in homes where lead-poisoned children reside.¹⁹⁶

VII. CONCLUSION

Law continues to play an important role in mitigating the harmful effects of lead hazards in the home. While traditional public health interventions have been used to address environmental health hazards, an effective public health response to childhood lead poisoning will require models of innovative laws and policies with solid enforcement provisions. Legal interventions at federal, state, and local levels can contribute significantly to the "Healthy People 2010" goal of eliminating childhood lead poisoning by 2010. States such as Massachusetts, Maine, Michigan, Rhode Island, and Indiana have begun crafting novel legal mechanisms that can serve to support existing lead poisoning prevention programs. Public health strategies and policies that incorporate these types of archetypal prevention efforts have the potential to help decrease

194. Nat'l Ctr. for Healthy Housing, *Some Laws on Lead*, SYNTHESIS/REGENERATION, Fall 2006, available at www.greens.org/s-r/41/41-09.html; State of N.J. Dep't of Cmty. Affairs, The Lead Safe NJ Program, <http://www.state.nj.us/dca/leadsafe/incafaq.html> (last visited Oct. 3, 2008).

195. Alliance for Healthy Homes, Ten Effective Strategies for Preventing Childhood Lead Poisoning Through Code Enforcement 12 (Apr. 2002), available at http://www.afhh.org/res/res_pubs/strategies.doc.

196. See CDC, *supra* note 183, ch. 5, tbl.3.1.

the magnitude and burden of childhood lead poisoning in the United States.

Table 1: Selected States:
Laws Addressing Lead Poisoning Prevention

State	Citation	Selected Provisions
MASSACHUSETTS	MASS. ANN. LAWS ch. 111, § 190 et seq. (LexisNexis 2007)	The Lead Poisoning Prevention and Control Act was enacted in 1971
	MASS. ANN. LAWS ch. 111, § 197 (LexisNexis 2007)	Requires permanent lead hazard abatement of properties where children under six years old reside
	MASS. ANN. LAWS ch. 111, § 198 (LexisNexis 2007)	[Enforcement mechanism provision]—outlines penalties under the state sanitary code
	MASS. ANN. LAWS ch. 111, § 199 (LexisNexis 2007)	[Enforcement mechanism provision]—actual damages to a lead poisoned child
MAINE	ME. REV. STAT. ANN. tit. 22, §1314 et seq. (2007)	The Lead Poisoning Control Act was enacted in 1973
	ME. REV. STAT. ANN. tit. 22, §1315-A (2007)	Legal Authority for the state Health Department to develop interagency agreements with any relevant local, state or Federal Agency
	ME. REV. STAT. ANN. tit. 22, §1317-E (2007)	The Lead Poisoning Prevention Fund was passed in 2005
	ME. REV. STAT. ANN. tit. 22, §1319-C (2007)	The Act contains provisions designed to prevent childhood lead poisoning such as screening, licensure, testing and abatement requirements, educational initiatives and enforcement mechanisms
	ME. REV. STAT. ANN. tit. 22, §1320 (2007)	The Act authorizes representatives of the state health department to inspect a residential dwelling or child care facility when there is reasonable suspicion of lead hazards, “upon the request of either the owner or the occupant with whom children reside,” or where there are reported cases of lead poisoning

State	Citation	Selected Provisions
	ME. REV. STAT. ANN. tit. 22, §1325 (2007)	Violators of the Lead Poisoning Control Act of 1973 face monetary fines for each violation, imprisonment for up to six months or both
MICHIGAN	MICH. COMP. LAWS SERV. § 333.5461a (LexisNexis 2007)	Michigan accreditation of lead paint training program
	MICH. COMP. LAWS SERV. § 333.5468 (LexisNexis 2007)	Michigan lead certification requirements
	MICH. COMP. LAWS SERV. § 333.5473a(4) (LexisNexis 2007)	Residential maintenance practices
	MICH. COMP. LAWS SERV. § 333.5474a (LexisNexis 2007)	Senate Bill 757 implements penalties for property managers, housing commissions, and landlords who knowingly rent or continue to rent residential property, with possible lead contaminants, to families with young children
	MICH. COMP. LAWS SERV. § 333.5474b (LexisNexis 2007)	House Bill 5116, signed into law in 2004, establishes a lead safe housing registry
	MICH. COMP. LAWS SERV. § 333.20531 (LexisNexis 2007)	House Bill 5117, signed into law in 2004, requires all clinical laboratories in the state to electronically report blood lead analyses to the Michigan Department of Community Health
	MICH. COMP. LAWS SERV. § 400.111k (LexisNexis 2007)	House Bill 5119 was signed into law in 2004
RHODE ISLAND	R.I. GEN. LAWS §23-24.6-9 (2007)	Statutory Requirement that families are covered by health insurance for screening costs and diagnostic services. The Rhode Island Department of Health pays for the same services for uninsured children or those eligible for state medical assistance

State	Citation	Selected Provisions
	R.I. GEN. LAWS §23-24.6-14 (2007)	Statutory requirement that all child-occupied facilities serving children under age six must pass a state lead hazard inspection prior to issuance of a state license to operate the facility
	R.I. GEN. LAWS §23-24.6-15 (2007)	Provides mechanism for tenants to protect themselves and their children from lead poisoning by filing a complaint compelling inspection of the premises, the results of which must be shown to the tenant
	R.I. GEN. LAWS §23-24.6-20 (2007)	Provides licensure and certification requirement for lead inspectors, contractors, supervisors, and workers
	R.I. GEN. LAWS §23-24.6-23 (2007)	Rhode Island Department of Health's Comprehensive Integrated Enforcement Program
	R.I. GEN. LAWS §42-55-7 (2007)	Establishes the revolving funding source to provide monetary support for the safe removal of lead-based paint from housing structures
INDIANA	IND. CODE ANN. § 12-15-12-20 (LexisNexis 2007).	Statutory establishment of a system to evaluate Medicaid managed care providers' screening rates for children under age six
	IND. CODE ANN. § 13-17-14-1 et seq. (LexisNexis 2007).	The Lead-Based Paint Activities Chapter was added to the Indiana Code in 1997
	IND. CODE ANN. § 13-17-14-3 (LexisNexis 2007)	The Lead Based Paint Activities Chapter establishes licensure activities
	IND. CODE ANN. § 13-17-14-4 (LexisNexis 2007)	The Lead Based Paint Activities Chapter establishes training requirements
	IND. CODE ANN. § 13-17-14-6 (LexisNexis 2007)	The Lead Based Paint Activities Chapter provides a funding source to carry out
	IND. CODE ANN. § 13-17-14-12 (LexisNexis 2007)	The Lead Based Paint Activities Chapter outlines restrictions on high risk lead paint removal

State	Citation	Selected Provisions
	IND. CODE ANN. § 16-41-39.4 (LexisNexis 2007)	Legal Requirement of the Indiana State Department of Health to adopt rules for case management of lead-poisoned children and to report mandatory blood-lead level testing results to the Indiana Legislature