Investor Response to Lead-Based Paint Abatement Laws Legal and Economic Considerations

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The buyer making real property investment decisions considers many factors, such as income potential, both operating and future improvement costs, as inflation, property values, and tax effects.[1] For those buyers investing in urban rental housing the presence of lead-based paint is another factor Lead-based paint, especially if badly maintained, is a source of childhood lead poisoning.[2] To stop the disease, abatement laws which require covering or re-

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1. C. WURTZEBACH & M. MILES, MODERN REAL ESTATE 429-440 (1980).

2. Chisolm, *Lead Poisoning*, 224 SCI. AM. 15-16, 21 (Feb. 1971).

> A chip of paint about the size of an adult' thumbnail can contain between 50 and 100 milligrams of lead, and so child eating a few small chips day easily ingests 100 or more times the tolerable adult intake of the metal.

Id. at 21. C. KEMPE, H. SILBER, & D. O'BRIEN, CURRENT PEDIATRIC DIAGNOSIS AND TREATMENT 883 (7th ed. 1982); W NELSON, TEXTBOOK OF PEDIATRICS 1800 (R. Behrman & V Vaughan 12th ed. 1983); PEDIATRICS 739-40 (A. Rudolph & J. Hoffman 17th ed. 1982).

The Department of Housing and Urban Development (HUD) seeks to minimize the causal connection between lead-based paint and childhood lead poisoning:

> When the LPPPA [Lead-Based Paint Poisoning Prevention Act] was enacted and rules promulgated lead-based paint was seen as the principal source of body lead found in children. This view is no longer widely held. Recent studies point to sources other than lead paint—namely food, gasoline, household dust and garden soil, and dust and fumes produced as result of renovation or demolition of other buildings. While in specific instances lead-based paint may pose significant health problems, particularly for children with pica, the ubiquitous contribution ascribed to lead-based paint in the early mid-1970' appears to have been overestimated.

Advance notice of proposed rule-making, Lead-Based Paint Hazard Elimination in Certain Residential Structures, 49 Fed. Reg. 19,210, 19,217 (1984) [hereinafter Advance notice]. However, in recent review of the literature, the primary role of lead-based paint in

moval of the paint have been enacted.[3] Thus, the owner of a property containing lead-based paint faces the additional expense of removing or covering it.

These abatement laws are primarily state and local.[4] The laws all recognize the serious public health problem represented by childhood lead poisoning.[5] This disease can lead to death and

the toxic levels of childhood lead poisoning was reaffirmed. Farfel, *Reducing Lead Exposure in Children*, 6 ANN. REV. PUBLIC HEALTH 333, 336-38 (1985).

The dispute is not really over sources of lead in children blood, but is over the method of removing lead from the children environment. If the contribution of lead-based paint to childhood lead poisoning is minimized, then the need to remove lead-based paint from children housing can be minimized. HUD is under court order in Ashton v. Pierce, 716 F.2d 56 (D.C. Cir. 1983), to revise their existing regulations on removal of lead-based paint from housing; HUD seeks to build case for less aggressive standard for removal of lead-based paint. The federal government has done similar marshalling of scientific data to support an economic position in the lead standard under the Clean Air Act. *See* D. Schoenbrod, *Why Regulation of Lead has Failed* in LOW LEVEL LEAD EXPOSURE: THE CLINICAL IMPLICATIONS OF CURRENT RESEARCH 259 (H. Needleman ed. 1980) [hereinafter LOW LEVEL LEAD].

3. The highest single dose source of lead is lead-based paint and its abatement is essential to successful treatment of childhood lead poisoning. Graef, *Management of Low Level Lead Exposure*, in LOW LEVEL LEAD, *supra* note 2, at 121 [hereinafter Graef]; Chadzynski, *Finding the Source of Lead*, in LOW LEVEL LEAD, *supra* note 2, at 240 [hereinafter Chadzynski].

Those owning property containing lead-based paint dispute their responsibility to prevent this public health problem. *Lead-Based Paint Poisoning: Hearings on S. 3216 and H.R. 19172 Before the Subcomm. on Health of the Senate Comm. on Labor and Public Welfare*, 91st Cong., 2d Sess. 20 (1970) [hereinafter *1970 Hearings*] (statement of Edward Kennedy, Senator from the State of Massachusetts); *Id.* at 230-31 (1970) (statement of John Montgomery, General Council, National Paint, Varnish and Lacquer Association); *Lead-Based Paint Poisoning Prevention Act of 1975: Hearings on S. 1664 Before the Subcomm. on Health of the Senate Comm. on Labor and Public Welfare*, 94th Cong., 1st Sess. 40, 56 (1975) (statement of Claude Barfield, Deputy Assistant Secretary, Office of Research and Demonstration, Division of Policy Development and Research, Department of Housing and Urban Development); *Id.* at 221 (statement of Dr. Robert Klein, Director, Massachusetts Childhood Lead Poisoning Prevention Program). The cost of abatement for all existing lead-based paint hazards is estimated to be very expensive, between $28 and $35 billion depending on the degree of abatement performed. Advance notice, *supra* note 2, at 19,219-221; R. Chapman & J. Kowalski, *Lead Paint Abatement Costs: Some Technical and Theoretical Considerations* in LEAD-BASED PAINT POISONING RESEARCH: REVIEW AND EVALUATION 1971-1977 F-1 (I. Billick & V Gray eds. July 1978) [hereinafter POISONING RESEARCH].

Nonetheless, federal, state and local governments, recognizing the seriousness of the disease, and the role of lead-based paint in it, have enacted abatement laws. *Infra* text at notes 120-269.

4. Advance notice, *supra* note 2, at 19-212, -13.

5. As one of the foremost practitioners in the field said:

> With regard to childhood lead poisoning, however, we know enough to act. It is impermissible for humane society to fail to do what is necessary to eliminate wholly preventable disease.

Chisolm, *supra* note 1, at 23.

permanent physical and mental disabilities, with resulting lengthy costly hospitalizations or institutionalization for its vic tims.[6] To prevent the effects of this disease, either the child must be removed from the source of lead or the source of lead removed from where the child lives.[7] The incidence of the disease continues.[8] As long as the disease exists, the abatement laws will

6. *Id.* at 21-23; *see* W NELSON, *supra* note 2, at 1803; PEDIATRICS, *supra* note 2, at 739-741. For discussion of these effects and costs, *see infra* text at notes 52-89.

A study in Baltimore estimated the health care costs of 19 children who had 46 admissions for childhood lead poisoning to be $241,500 for hospitalization and $3,040 for follow-up clinic visits for one year. O'Hara, *Social Factors in the Recurrence of Increased Lead Absorption in Children* in LEAD ABSORPTION IN CHILDREN: MANAGEMENT, CLINICAL AND ENVIRONMENTAL ASPECT 96-97 (J. Chisolm & D. O'Hara eds. 1982) [hereinafter O'Hara].

7 The need to remove lead from child's environment is not disputed, only the best approach for removing it is disputed. *See* text and sources cited at note 2.

The necessity for removal of lead from child' environment or child from an environment containing lead was emphasized in study of children treated at the John F Kennedy Institute in Baltimore. Children released to modern housing less than fifteen years old or public housing (the city built its public housing after the city health department had identified the dangers of lead-based paint and consequently did not use it) were not readmitted within one month of discharge. Children released to older, poorly maintained, inner city housing were readmitted within one month of discharge. O'Hara, *supra* note 6, at 95.

8. Farfel, *supra* note 2, at 333-34; LEAD IN THE HUMAN ENVIRONMENT, 33-100, 236-240 (National Academy of Sciences 1980) [hereinafter LEAD].

This table demonstrates the continuing problem faced in Baltimore:

Baltimore Childhood Lead Poisoning Prevention Program
Baltimore City Public Health Department
Program Statistics F.Y. 1980-1986

	1980	1981	1982	1983	1984	1985	1986
Screenings	20,041	21,840	23,576	28,531	31,220	29,557	29,323
Identified	1,165	180	528	242	249	290	649
Class II[1]	729	58	381	177	222	241	611
Class III[2]	342	43	138	56	23	43	32
Class IV[3]	94	07	09	09	04	06	06
Hospitalized	46	93	111	103	153	156	101*
Dwellings							
Inspected	505	341	949	653	551	441	308
Lead Hazards	447	285	448	535	337	393	216
Abated	272	235	369	466	241	362	198

A Class II child is moderate risk child suffering from an elevated blood lead level or undue lead absorption. His test results will show blood lead level of 25-49 and free erythrocyte protoporphyrin of over 35.

A Class III child is high risk child suffering from undue lead absorption or lead toxicity. His test results will show blood lead level of 50-69 and free eyrthrocyte protoporphyrin of 110-249.

be essential to its treatment.[9]

This article will explore the relationship between the abatement laws and an investor's decision to invest or disinvest in urban rental housing which may contain lead-based paint. First, the article addresses the background of the problem, including the costs of both the illness and of abatement, and the legal climate in which the investor acts. With this background, an economic model will then be developed which explains how a rational investor will react to the abatement laws, if he believes that a particular property will be a likely candidate for lead-based paint abatement.

I. THE PROBLEMS OF LEAD-BASED PAINT IN RENTAL HOUSING

A. *The History of Lead-Based Paint*

Until 1940, lead was used as the prime additive in both interior and exterior house paints to increase the paint's durability covering ability and brilliance.[10] Gradually lead was replaced by other compounds, first zinc and other opacifiers, then titanium dioxide.[11] Routinely paint manufactured before 1940 contained dry solids composed of as much as forty percent lead.[12] The paint industry voluntarily lowered the lead content of interior paint to one percent of lead by weight of dry solids in 1955.[13] However exterior paints were often used to paint the interior of structures, and these exterior paints were not regulated, even voluntarily.[14] In addition, not all manufacturers adhered to the voluntary stan-

A Class IV child is an urgent risk child suffering from lead poisoning. His test results will show blood lead level of 70 or over and free erythrocyte protoporphyrin of 250 or over.

Of the 101 that were hospitalized, 69 were new admissions and 32 were readmissions. *See* text *infra* at notes 52-60 for discussion of classifications.

9. *See* text and sources cited *supra* notes 3 and 7. Greer, *Lead Paint Poisoning—Municipal, State and Federal Approaches*, 7 URB. L. ANN. 247, 248-49 (1974) [hereinafter Greer]; Comment, *Lead-Based Paint Poisoning: Remedies for the HUD Low-Income Homeowner When Neglect Is No Longer Benign*, 8 U. MICH. J.L. REF. 529, 533-37 (1975) [hereinafter *Remedies*]; Comment, *Lead Paint Poisoning: The Response in Litigation*, 19 ST. LOUIS U. L.J. 244, 246 (1974) [hereinafter *Litigation*]; Comment, *Lead Paint Poisoning: Legal Remedies and Preventive Actions*, 6 COL. J.L. & SOC. PROBS. 235, 236-37 (1970) [hereinafter *Preventive Actions*].

10. Chisolm, *supra* note 2, at 21; Farfel, *supra* note 2, at 336; *Litigation*, *supra* note 9, at 244.

11. Advance notice, *supra* note 2, at 19,215; *Preventive Actions*, *supra* note 9, at 326.

12. *See* sources cited *supra* note 10.

13. *See* sources cited *supra* note 11.

14. This incorrect use of exterior paint means that many houses, which should not have lead-based paint in the interior because of their construction date, will have it. *Chronology of Lead Poisoning Control Baltimore 1931-1971* 48 BALT. HEALTH NEWS 36 (1971).

dard for interior paint.[15]

The Lead-Based Paint Poisoning Prevention Act,[16] enacted by Congress in 1971, defined lead-based paint in section 501(3) as any paint containing more than 1% lead by weight of dry solids.[17] The 1973 amendments to the Act changed the definition to 0.5% of lead until December 31 1974.[18] After that date, the lead content would be lowered to the negligible amount of 0.06% of lead unless the Chairman of the Consumer Product Safety Commission found another level between 0.5% and 0.06% to be safe.[19]

In December 1974, the Chairman of the Consumer Products Safety Commission recommended that the lead level of paint remain at 0.5% [20] This recommendation was criticized for allowing too high a lead level.[21] In 1976, the Commission again was directed to study the issue by further amendment to section 501(3) of the Act which set the lead level at 0.06% unless the Chairman

15. *Lead-Based Paint Poisoning Amendments of 1972: Hearings on S. 3080 before the Subcomm. on Health of the Senate Comm. on Labor and Public Welfare*, 92nd Cong., 2d Sess. 137 (1972) (statement of Robert Roland, Executive Vice President, National Paint and Coatings Association).

16. Lead-Based Paint Poisoning Prevention Act (LPPPA), Pub. L. No. 91-695, 84 Stat. 2078 (1971) [hereinafter LPPPA].

17 The definition was:

> any paint containing more than 1 per centum lead by weight (calculated as lead metal) in the total non-volatile content of liquid paints or in the dried film of paint already applied.

LPPPA, Pub. L. No. 91-695, § 501(3), 84 Stat. 2078, 2080 (1971).

18. The definition was:

> (3) the term 'lead-based paint' means—
>
> (A) prior to December 31, 1974, any paint containing more than five-tenths of 1 per centum lead by weight (calculated as lead metal) in the total nonvolatile content of liquid paints or in the dried film of paint already applied;

LPPPA, Pub. L. No. 93-151, § 6, 87 Stat. 565, 567 (1973).

19. The direction was contained in the following language:

> (B) after December 31, 1974, any paint containing more than six one-hundredths of 1 per centum lead by weight (calculated as lead metal) in the total nonvolatile content of liquid paints or in the dried film of paint already applied, except that if prior to December 31, 1974, the Chairman of the Consumer Product Safety Commission, based on studies conducted in accordance with section 301(b) of this Act, determines that another level of lead, not to exceed five-tenths of 1 per centum, is safe, then such other level shall be effective after December 31, 1974.

Id.

20. H.R. REP No. 1007 94th Cong., 2d Sess., 19 (1976).

21. Stein, *An Overview of the Lead Abatement Program: Response to the Silent Epidemic*, in LOW LEVEL LEAD, *supra* note 2, at 282 [hereinafter Stein].

found another level to be safe.[22]

The current federal definition of lead-based paint is 0.06% as provided in section 501(3)(ii).[23] This definition is important because the Secretary of Health and Human Services must prohibit the application of lead-based paint to any cooking utensils, drinking utensils or eating utensils;[24] the Secretary of Housing and Urban Development (HUD) must prohibit the use of lead-based paint in residential structures constructed or rehabilitated by the Federal Government or with any form of Federal assistance;[25] and the Consumer Products Safety Commission must prohibit the application of lead-based paint to any toy or piece of furniture.[26] In addition, under the provisions of the Hazardous Substance Act,[27] the Consumer Products Safety Commission has banned the inter

22. The direction was contained in the following language:

(3)(A) Except as provided in subparagraph (B), the term 'lead-based paint' means any paint containing more than five-tenths of 1 per centum lead by weight (calculated as lead metal) in the total nonvolatile content of the paint, or the equivalent measure of lead in the dried film of paint already applied, or both.

(B)(i) The Consumer Product Safety Commission shall, during the six-month period beginning on the date of the enactment of the National Health Promotion and Disease Prevention Act of 1976, determine, on the basis of available data and information and after providing opportunity for an oral hearing and considerating recommendations of the Secretary of Health, Education, and Welfare (including those of the Center for Disease Control) and of the National Academy of Sciences, whether or not level of lead in paint which is greater than six one-hundredths of 1 per centum but not in excess of five-tenths of 1 per centum is safe. If the Commission determines, in accordance with the preceding sentence, that another level of lead is safe, the term 'lead-based paint' means, with respect to paint which is manufactured after the expiration of the six-month period beginning on the date of the Commission' determination, paint containing by weight (calculated as lead metal) in the total nonvolatile content of the paint more than the level of lead determined by the Commission to be safe or the equivalent measure of lead in the dried film of paint already applied, or both.

(ii) Unless the definition of the term 'lead-based paint' has been established by determination of the Consumer Product Safety Commission pursuant to clause (i) of this subparagraph, the term 'lead-based paint' means, with respect to paint which is manufactured after the expiration of the twelve-month period beginning on such date of enactment, paint containing more than six one-hundredths of 1 per centum lead by weight (calculated as lead metal) in the total nonvolatile content of the paint, or the equivalent measure of lead in the dried film of paint already applied, or both.

Disease Control Amendments of 1976, Pub. L. No. 94-317 § 204(c)(1), 90 Stat. 700, 706 (1976).

23. 42 U.S.C. § 4841(3)(B)(ii) (1986).

24. 42 U.S.C. § 4831(a) (1986).

25. 42 U.S.C. § 4831(b) (1986).

26. 42 U.S.C. § 4831(c) (1986).

27 Hazardous Substances, 15 U.S.C. § 1261(f)(1)(A) (1986).

state shipment, for use in and around the interior of houses, of paint containing more than 0.06% of lead.[28]

Similarly state and local jurisdictions have defined lead-based paint. In addition to defining such paint, these jurisdictions have forbidden its application to interior walls and trim of dwellings and to exterior surfaces accessible to children.[29] The definitions in the state statutes range from 1% to 0.06% of lead. New Jersey defines lead-based paint as paint containing 1% of lead.[30] Arkansas, Illinois, Maine and New York use 0.5% [31] Connecticut, Kentucky Louisiana, Massachusetts, New Hampshire, South Carolina and Wisconsin use 0.06% [32] In addition to states, some local jurisdictions such as Baltimore, Maryland, have defined and prohibited the use of lead-based paint on dwellings.[33] These stan-

28. 16 C.F.R. § 1500.17(a)(6)(i)(A) (1985).

29. These statutes forbid the use of lead-based paint in interiors of dwelling. ARK. STAT. ANN. §§ 82-738(f)-(g), 82-739(c)(4)-(6) (Supp. 1986); ILL. ANN. STAT. ch. 111-1/2, para. 1302(5)-(6), 1303 (Smith-Hurd 1977); ME. REV. STAT. ANN. tit. 22, §§ 1315(4)-(5), 1316 (1986); MASS. GENN. LAWS ANN. ch. 111, § 197 (West 1983) (This is only if child under six resides in premises); N.H. REV. STAT. ANN. §§ 130-A:1(VI), (VII), 130-A:2 (Supp. 1986); N.J. STAT. ANN. §§ 24:14A-4(c), (d), (f), 24:14A-5 (West Supp. 1986); N.Y. PUB. HEALTH LAW §§ 1370(1), (3), 1372 (McKinney 1971 & Supp. 1984-1985); S.C. CODE ANN. §§ 44-53-1320(b), (d), (f), 44-53-1330(b) (Law. Co-op. 1985); WIS. STAT. ANN. §§ 151.01(2), (3), 151.03 (West Supp. 1986).

These statutes require its removal once child with an elevated blood level is reported. KY. REV. STAT. ANN. §§ 211.900(3)-(5), 211.905 (Baldwin 1986); LA. REV. STAT. ANN. §§ 40-1299.21(B), 40-1299.24(B)-(C), 40-1299.27 (West 1986).

Reference is made to these ordinances in Greer, *supra* note 9, at 249-50; *Remedies*, *supra* note 9, at 535; *Litigation*, *supra* note 9, at 247 A compilation of ordinances was included in *1970 Hearings*, *supra* note 3, at 310-20.

30. The early state statutes used one percent. New York passed its statute in 1970, but subsequently amended the statute to lower the lead content to 0.5 percent. N.Y. PUB. HEALTH LAW § 1372 (McKinney 1971) (amended 1976). New Jersey passed its statute in 1971, and the lead content remains at one percent. N.J. STAT. ANN. § 24:14A-4(c) (West Supp. 1986).

31. ARK. STAT. ANN. § 82-738(g) (Supp. 1985); ILL. ANN. STAT., ch. 111-1/2, para. 1302(6) (Smith-Hurd 1977); ME. REV. STAT. ANN. tit. 22, § 1315(5) (1986); N.Y PUB. HEALTH LAW § 1372 (McKinney Supp. 1984-1985).

32. CONN. GEN. STAT. ANN. § 47a-8 (West 1978 & Supp. 1986); KY. REV. STAT. ANN. § 211.900(3) (Baldwin 1986); LA. REV. STAT. ANN. § 40:1299.26(a)(A) & (D) (West 1977); MASS. GEN. LAWS ANN. ch. 111, § 196 (West 1983); N.H. REV. STAT. ANN. § 130-A:1(VI) (Supp. 1986); S.C. CODE ANN. § 44-53-1320(f) (Law. Co-op. 1986); WIS. STAT. ANN. § 151.01(3) (West Supp. 1986).

33. The Baltimore City Code prohibits the use of paint on dwelling unless the paint is free from any lead pigment. BALTIMORE CITY CODE, art. 13, Housing and Urban Renewal § 706 (1983). This ordinance was first health regulation promulgated June 29, 1951. *Chronology of Lead Poisoning Control Baltimore 1931-1971 supra* note 14, at 36. Other cities with similar provisions are New York, Philadelphia and Chicago. Stein, *supra* note 21, at 279.

dards are preempted by the 1973 amendments to the Lead-Based Paint Poisoning Prevention Act for the manufacture and sale of paints.[34] However these nonfederal standards continue to control when a jurisdiction will require abatement of lead-based paint in a structure.[35]

The removal from the market of paint with a high content of lead has not cured the problem of lead in rental housing. The persistance of this lead is due to the age of the housing stock. Buildings constructed before replacement of lead as an element in paint contain high percentages of lead on the walls.[36] One-third of the housing units in the United States were built before 1940,[37] when lead content of forty percent of dried solids was common.[38] One-half of the housing units in the United States were built before 1960,[39] prior to federal regulation, state regulation, and most local regulation of the lead content in paint.[40] Many large cities contain sections of older poorly maintained housing and these are referred to as "the lead belt" [41] An example of a city with a lead belt is Baltimore, Maryland.[42] Baltimore has 302,459 housing units: 152,137 were built before 1940.[43]

34. LPPPA, Pub. L. 93-151, § 7 87 Stat. 565, 568 (1973).

35. The standard for requiring abatement is the amount of lead on the walls; consequently the content of lead in the paint when it was sold does not control. *See, e.g.*, statutes cited *supra* note 29. *See* sources cited *infra* note 50.

36. Advance notice, *supra* note 2, at 19,221; POISONING RESEARCH, *supra* note 3, at F1-F26.

37 BUREAU OF CENSUS, U.S. DEPT. OF COMMERCE, STATISTICAL ABSTRACTS OF U.S. (1980).

38. *See* sources cited *supra* note 10.

39. BUREAU OF CENSUS, U.S. DEPT. OF COMMERCE, STATISTICAL ABSTRACTS OF U.S. (1980).

40. Because paint is sold in interstate commerce, federal regulation of lead content is the most effective approach to limiting it. This regulation did not occur until 1971. *Infra* text at notes 10-28. State regulation started in 1970. *Infra* text at note 29. Local regulation is least likely to effect the lead content because manufacturer will avoid particular market rather than comply with local requirement. In addition, only two cities, Baltimore in 1951 and New York in 1959, had ordinances limiting the lead content. *See Chronology of Lead Poisoning Control Baltimore 1931-1971*, *supra* note 14, at 36; Stein, *supra* note 21, at 279.

41. S. REP No. 1432, 91st Cong., 2d Sess., 2 (1970); O'Hara, *supra* note 6, at 89.

42. For discussion of the impact of deteriorating housing, *see* O'Hara, *supra* note 6, at 98-100.

43. The number of housing units stated represent year-round housing units. BUREAU OF THE CENSUS, U.S. DEPT. OF COMMERCE, 1980 CENSUS OF HOUSING VOL. 1 CHARATERISTICS OF HOUSING UNITS CHAPTER A 'GENERAL HOUSING CHARACTERISTICS' PART 22 MARYLAND 22-10 (1982). Housing units constructed in 1939 or earlier represent 50.3% of all housing units in Baltimore City. BUREAU OF THE CENSUS, U.S. DEPT. OF COMMERCE, 1980

Baltimore has had and still has a substantial problem with childhood lead poisoning.[44]

The lead-based paint in housing is a problem when it is accessible to children under the age of six.[45] The paint becomes accessible to children when housing is not maintained and the paint chips and peels;[46] when heat and humidity act on the paint to make it powder and create lead dust;[47] when children teethe on surfaces covered with lead-based paint;[48] or when renovations are undertaken creating lead dust and chips.[49] The risk of exposure to lead-based paint is not in the amount of lead in the most recent coat of paint, but in the total amount of lead contained in the cumulative layers of paint.[50] This risk exists as long as lead-based paint remains on the surfaces of a structure regardless of how many layers of nontoxic paint cover it.[51] Lead-based paint can become exposed. For example, a pipe may break, causing paint to peel.

B. *The Effect of Childhood Lead Poisoning*

Chronic ingestion of lead by young children causes childhood lead poisoning.[52] The Center for Disease Control (CDC) has grouped children who have ingested lead into four categories de-

CENSUS OF HOUSING VOL. 1 CHARATERISTICS OF HOUSING UNITS CHAPTER B 'DETAILED HOUSING CHARACTERISTICS PART 22 MARYLAND 22-8 (1983).

44. *See Chronology of Lead Poisoning Control Baltimore 1931-1971*, *supra* note 14. In addition to this historical discussion, the statistics in the table from the Baltimore City Health De partment show an increasing number of children have been hospitalized from 1981 to 1986. *See* chart *supra* note 8.

45. W NELSON, *supra* note 2, at 1800; Chisolm, *supra* note 2, at 15; *see* C. KEMPE, H. SILBER, & D. O'BRIEN, *supra* note 2, at 883; *see* PEDIATRICS, *supra* note 2, at 739, 743.

46. Chisolm, *supra* note 2, at 21.

47 Lin-Fu, *Lead Poisoning and Undue Lead Exposure in Children: History and Current Status*, in LOW LEVEL LEAD, *supra* note 2, at 7· *see also* W NELSON, *supra* note 2, at 1800-1801.

48. Chisolm, *supra* note 2, at 21.

49. Advance notice, *supra* note 2, at 19,217

50. *Lead-Based Paint Poisoning Prevention Act of 1975: Hearings on S. 1664 before the Subcomm. on Health of the Senate Comm. on Labor and Public Welfare*, 94th Cong., 1st Sess. 141 (1975) (statement of Dr. Nathan Greenberg, Medical Director, Childhood Lead-Poisoning Control Program, City of Chicago Board of Health); *Id.* at 144 (statement of Dr. Laurence Finberg, Montefiore Hospital and Medical Center, Bronx, N.Y., representing the American Academy of Pediatrics); contrary view was expressed by the paint industry. *Id.* at 204-205 (statement of Robert Roland, Executive Vice President, National Paint and Coatings Association).

51. Ashton v. Pierce, 716 F.2d 56, 62 (D.C. Cir. 1983).

52. *See* discussion and sources cited *supra* note 2.

termined by blood chemistries tests and clinical symptoms.[53] A child is suffering from "lead poisoning" if he has a blood lead level of 70 ug/dl[54] or higher or if he has a lower blood lead level but accompanied by clinical symptoms.[55] A child is suffering from "undue lead absorption" if he has a blood lead level of 30 to 69 ug/dl without clinical symptoms.[56] A child is suffering from "lead toxicity" if he has an erythrocyte protoporphyrin of 50 ug/dl or more, or functional derangements caused by lead.[57] Any child with a blood lead level of 30 ug/dl or greater is suffering from an "elevated blood lead level" [58] The standard for elevated blood lead level was lowered recently by the CDC to 25 ug/dl.[59] Health effects, however have been observed in children whose

53. This exerpt of the policy was contained in the Federal Register:

Lead poisoning is defined as existing whenever child has any one or more of the following:

1. Two successive blood lead levels equal to or greater than 70 ug/dl [micrograms per deciliter] with or without symptoms.
2. Erythrocyte Protoporphyrin (EP) level equal to or greater than 250 ug/dl whole blood and confirmed elevated blood lead level equal to or greater than 49 ug/dl with or without symptoms.
3. EP level greater than 109 ug/dl associated with confirmed elevated blood lead level (greater than 29 ug/dl) with compatible symptoms.
4. Confirmed blood lead level greater than 49 ug/dl with compatible symptoms and evidence of toxicity (e.g., abnormal EP calcium disodium EDTA mobilization test, urinary aminolevulinic acid excretion or urinary coproporphyrin excretion).

Lead toxicity is defined as biochemical (e.g., EP equal to or greater than 50 ug/dl) or functional derangements caused by lead.

Undue lead absorption refers to excess lead in the blood with evidence of biochemical derangement in the absence of clinical symptoms. It is defined by confirmed blood lead levels of 30-69 ug/dl associated with EP levels of 50-249 ug/dl whole blood.

Elevated blood lead level is defined as confirmed blood lead 30 ug/dl or greater.

Advance notice, *supra* note 2, at 19,215; LEAD, *supra* note 8, at 63; *Preventing Lead Poisoning in Young Children A Statement by the Center for Disease Control*, 93 J. PEDIATRICS 709 (1978) [hereinafter *CDC Statement*].

54. The symbol for micrograms per deciliter is ug/dl. *Id.*

55. Advance notice, *supra* note 2, at 19,215; LEAD, *supra* note 8, at 63. The significance of this classification is to label the child an urgent risk who should receive medical treatment in twenty-four hours. *CDC Statement*, *supra* note 53, at 712-13.

56. Advance notice, *supra* note 2, at 19,215; LEAD, *supra* note 8, at 63. This child may be an urgent risk, high risk or moderate risk depending on the combination of factors. If the blood lead level is 50 ug/dl with an EP of greater than 250 ug/dl the child is an urgent risk. However, he is high risk if that blood lead is combined with an EP of less than 250 ug/dl. *CDC Statement*, *supra* note 53, at 712-13.

57 *Id.*

58. *Id.*

59. Farfel, *supra* note 2, at 333.

blood lead levels are below even this figure.[60]

At least three body functions are known to be affected by lead ingestion: (1) heme synthesis; (2) kidney function; and (3) central nervous system function.[61] Lead interferes with the body s biosynthesis of heme which is essential to the transport of oxygen throughout the body [62] Lead acts to scar and shrink the kidneys as well as to cause kidney dysfunction, where necessary substances are excreted rather than absorbed by the kidneys.[63] Lead's effect on the central nervous system is direct injury to the nerve cells as well as swelling of the brain.[64] These effects translate into anemia, Fanconi syndrome, nephritis, encephalotopathy peripheral nerve disease, mental retardation, epilepsy blindness and death.[65]

Children under the age of six are particularly at risk of lead poisoning because they are more likely to ingest lead.[66] Their bodies are developing rapidly and they absorb and retain lead

60. These health effects include interference with heme metabolism and inhibition of some nervous system responses. *Id.* at 335.

61. Chisolm, *supra* note 2, at 17-21; W NELSON, *supra* note 2, at 1801-1802; PEDIATRICS, *supra* note 2, at 740-743.

62. Chisolm, *supra* note 2, at 17-19; W NELSON, *supra* note 2, at 1801; PEDIATRICS, *supra* note 2, at 741; Promelli, *The Effects of Low-Level Lead Exposure on Heme Metabolism* in LOW LEVEL LEAD, *supra* note 2, at 67

63. Chisolm, *supra* note 2, at 19-20; *see* W NELSON, *supra* note 2, at 1801-1802.

64. Chisolm, *supra* note 2, at 19-21; *see* C. KEMPE, H. SILBER, & D. O'BRIEN, *supra* note 2, at 883; *see* PEDIATRICS, *supra* note 2, at 740-741.

65. Some of these conditions like anemia and Fanconi syndrome are reversible if the lead is removed from the body system. Chisolm, *supra* note 2, at 19.

66. The tendency to eat lead-based paint chips may seem odd, but normal part of toddler development is hand to mouth exploration. This exploration causes them to eat lead-based paint chips which have sweet lemon taste. In addition, some children under the age of six have tendency to eat nonfood items which is called pica. Chisolm, *supra* note 2, at 15; POISONING RESEARCH, *supra* note 3, at 70-71. One area of research HUD has pursued to combat the tendency to eat lead-based paint chips is to make them taste bad. Some contracts concerning this are: *H-2218R*—John A. Whysner Associates, Title: Acerbic Substances, 9/01/74-7/17/75, $47,396 (the planning, design, and evaluation plus technical assistance in testing the safety and efficacy of acerbic substances as method for the elimination of the desire to eat paint); *H-2281*—International Research & Development Corporation, Title: Denatonium Benzoate, 6/30/75-12/31/77, $157,500 (testing the acute and chronic toxicity of Denatonium Benzoate for use in paint-on theory that bad taste will prevent paint ingestion); *H-2208R*—Boeing Aerospace Company, Title: Experimental Lead-Based Paint Hazard Elimination Program, Awarded: 6/29/74, $660,375 (to determine the technical feasibility, installation characteristics, performance, effectiveness of elimination and/or cover-up methods and to obtain meaningful cost data for the deleading operations in 250 dwelling units). *See also Department of Housing and Urban Development and Certain Independent Agencies Appropriations for Fiscal Year 1978: Hearings on H.R. 7554 Before the Subcomm. on HUD—Independent Agencies of the Senate Comm. on Appropriations,*

more efficiently· in addition, they show health effects at lower blood lead levels.[67] Another factor which increases the risk to children is the difficulty of diagnosing childhood lead poisoning, and implementing preventive and curative measures.[68] This difficulty exists because there are initially no obvious symptoms of childhood lead poisoning. As the concentration of lead in the blood increases, there are nonspecific symptoms such as irritability clumsiness, fatigue, headaches, and vomiting.[69] These symptoms may intensify into persistent, forceful vomiting, convulsions, coma or death. However without specific tests[70] for childhood lead poisoning, the symptoms are often mistaken for other illnesses and appropriate treatment is not administered.

Children who have elevated blood lead levels often experience permanent health effects. Some of these permanent effects are diminished performance intelligence,[71] poor motor nerve re sponse,[72] minimal brain dysfunction syndrome,[73] behavioral problems,[74] mental retardation,[75] cerebral palsy [76] a shorten life span and accelerated aging.[77] These effects create costs to the individual and to society

95th Cong., 1st Sess. 1120-1122 (1977) (answers to questions submitted by Senator Proxmire to the department subsequent to the hearing).

67 Farfel, *supra* note 2, at 335.

68. Chisolm, *supra* note 2, at 23.

69. "The clustering of symptoms I just mentioned describes half of Rochester kids in the summertime—so you can imagine why it is hard to identify lead poisoning unless you are really looking for it. Charney, *The Price of Missing Early Indications of Lead Poisoning*, 10 SCIENTIST AND CITIZEN 63 (1968).

70. One test used is blood lead level, ug/dl, and another is the free erythrocyte protoperphyrin (FEP). For screening purposes, the FEP level is used. If that is elevated, blood lead is done. *See* Graef, *supra* note 3, at 121.

71. IQs or intelligence quotients are determined by measuring subcategories of intelligence. Children with elevated blood lead levels score significantly below children without elevated blood lead levels in performance intelligence on the Wechsler intelligence scale and the Wechsler preschool and primary scale. The same disparity was not present in verbal intelligence tests. Landrigan, Baker, Whitworth & Feldman, *Neuroepidermologic Evaluations of Children with Chronic Increased Lead Absorption*, in LOW LEVEL LEAD, *supra* note 2, at 25.

72. Silbergeld, *Investigations of Low Level Lead Exposure* in LOW LEVEL LEAD, *supra* note 2, at 146 [hereinafter Silbergeld].

73. Lin-Fu, *supra* note 47 at 10; Silbergeld, *supra* note 72, at 137

74. Needleman, *Lead and Neuropsychological Deficit: A Finding Threshold*, in LOW LEVEL LEAD, *supra* note 2, at 49; Silbergeld, *supra* note 72, at 147

75. Lin-fu, *supra* note 47 at 10.

76. *Id.*

77 Weiss, *Conceptual Issues in the Assessment of Lead Toxicity*, in LOW LEVEL LEAD, *supra* note 2, at 127

C. *The Costs of Childhood Lead Poisoning*

The costs of childhood lead poisoning are difficult to quantify Many of the direct costs are hidden in the nondifferentiated ex penses of the health care system,[78] some of the costs are difficult to reduce to a specific amount,[79] and the precise number of children involved is uncertain.[80] However public health professionals have tried to quantify some of these costs to emphasize the importance of the problem.[81]

One effort to quantify the cost of childhood lead poisoning estimated the following in 1978. medical care costs for children, including hospitalization and outpatient follow-up, were $120.6 to 257 7 million; special education costs for mildly retarded children were $281.8 to 713.2 million; and employment and earnings losses were $27.0 to 65.3 million. The total annual cost was estimated to be between $429 4 million and 1.04 billion.[82] In addition, at the time of passage of the Lead-Based Paint Poisoning Prevention Act in 1971, Congress found that the actual cost of lifetime care for a victim of childhood lead poisoning was a quar

78. Table 2 shows in 1976 that disabled children from age 3-17 who were below poverty level received 51.5% of their services from Medicaid, Neighborhood Health Centers, other free or low cost clinics or other public sources. Those above the poverty line re ceived 34.2%. Family Economic Impacts of Children' Handicaps, Grant MC-R-240426 from the Maternal and Child Health Service, U.S. Dept. of Health and Human Services 23 (September 1982). This information was analyzed in Salkever, *Parental Opportunity Costs and Other Economic Costs of Children s Disabling Conditions*, in ISSUES IN THE CASE OF CHILDREN WITH CHRONIC ILLNESS: A SOURCE BOOK ON PROBLEMS, SERVICES AND POLICIES 873 (N. Hobbes & J. Perrin 1985) [hereinafter *Parental Opportunity Costs*]. These percentages may also be increased by the impact of the Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142, § 89 STAT. 773 (1975), which mandates provision of services.

These government programs contain no incentives to stop repeat medical visits for the same illness. If they funded hazard abatement, the medical costs of childhood lead poisoning would be less. O'Hara, *supra* note 6, at 97

79. O'Hara, *supra* note 6, at 98; Provenzano, *supra* note 78, at 299.

80. The 1970 Senate Report accompanying the LPPPA estimated that 400,000 children year become ill and 200 year die from lead poisoning. S. REP No. 1432, 91st Cong., 2d Sess. 2, [hereinafter S. REP No. 1432]. These estimates were made by extrapolating from few cities for which statistics were known. Subsequently, these estimates appear too high as result of statistics compiled by the CDC in screening programs funded by LPPPA and from information obtained through the Second National Center for Health Statistics—National Health and Nutrition Examination Survey. Advance notice, *supra* note 2, at 19,216-19,218. Nonetheless, there is continuing problem: one in five poor or urban black pre-schoolers has an elevated blood lead level. Farfel, *supra* note 2, at 333; Provenzano, *The Social Cost of Excessive Lead Exposure During Childhood* in LOW LEVEL LEAD, *supra* note 2, at 308-12 [hereinafter Provenzano].

81. O'Hara, *supra* note 6, at 97-98.

82. Provenzano, *supra* note 78, at 312-14.

ter of a million dollars.[83] These costs relate solely to the child who contracts childhood lead poisoning.

Additional costs from childhood lead poisoning are experienced by society A child's inability to pay attention or other behavioral problems may disrupt the education of fellow students and, subsequently the job performance of co-workers.[84] The work hours of a parent of a disabled child are reduced with resulting losses of wages and productivity [85] Medical expenses of the parent of the disabled child may increase due to the stress of the situation.[86] These effects represent identified costs to society Not all costs have been identified; therefore, the true cost to society is likely to be greater

These expenses are spread among society For the most part, the injured children are poor [87] Much of the cost of their medical treatment will be funded by federal, state and local programs, or the institutions supplying the treatment.[88] Even in the case of the nonpoor society will bear the cost either by increased health insurance premiums or higher cost for delivered health care.[89]

All of these costs are a result of the decision not to abate exposure to lead by covering or removing lead-based paint. When the cost of abatement versus the cost of nonabatement are weighed by the investor nonabatement is more attractive. The cost of abatement is a direct cost to the investor while the cost of nonabatement is absorbed by society

D *The Costs of Abatement*

The costs of abatement depend on the method used and required.[90] HUD classifies the methods in five increasingly costly

83. S. REP No. 1432, *supra* note 80, at 2. This figure was contrasted against the cost of removing lead-based paint from row house which was estimated as $250 to $300. T replace windows, door units, baseboards in addition to paint removal in the rowhouse, the estimate was $600 to $1,200.

84. These effects are difficult to quantify, but have lasting impact.

85. Salkever, *Children's Health Problems: Implications for Parental Labor Supply and Earnings*, in ECONOMIC ASPECTS OF HEALTH (V Fuchs ed. 1982) [hereinafter *Children Health Problems*]; *See also Parental Opportunity Costs*, *supra* note 78.

86. *Parental Opportunity Cost*, *supra* note 78, at 26.

87 Farfel, *supra* note 2, at 335.

88. *Supra* note 78.

89. This point is alluded to in the study at the Kennedy Institute. *See* O'Hara, *supra* note 6, at 96-97· *see also* text at n.78.

90. The method of abatement required may be matter of state law, but is usually part of the housing or health codes of local jurisdictions. Arkansas and New York provide that

alternatives from scraping of loose, peeling, flaking paint and repainting, estimated to be the least costly to removal of all paint from all accessible, intact surfaces and repainting, the most costly [91] Within those alternatives, the abatement may be performed by scraping and sanding,[92] burning with an open flame torch,[93] using a heat gun to peel the paint,[94] using a liquid paint remover [95] using an infra-red heat gun,[96] or applying a covering to the surface.[97] The estimated costs of abatement techniques range from twenty cents per square foot to $130.96 per square foot.[98]

Total costs per unit also may vary greatly In 1975, CETA[99] crews abated houses for between $30 and $40 a room, outside contractors charged $500 a house for abatement, and HUD maintained that the cost should be $2,000 per unit.[100] This HUD fig-

the notice to abate will specify the abatement method. ARK. STAT. ANN. § 82-739(c)(6) (Supp. 1985); N.Y. PUB. HEALTH LAW § 1373(5) (McKinney Supp. 1984-1985). Illinois provides that the lead-based paint be removed, replaced or securely and permanently covered in manner prescribed by the Department. ILL. ANN. STAT. ch. 111-1/2, § 1309(4) (Smith-Hurd 1977 & Supp. 1985). Kentucky, Maine, New Hampshire, South Carolina and Wisconsin use similar language to the Illinois statute. KY. REV. STAT. ANN. § 211.905(2)(c) (Baldwin 1982); ME. REV. STAT. ANN. tit. 22, § 1321(3) (1980 & Supp. 1985); N.H. REV. STAT. ANN. § 130-A:4(II) (Supp. 1983); N.J. STAT. ANN. § 24:14A-8 (West Supp. 1985); S.C. CODE ANN. § 44-53-1430(c) (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(2)(d) (West Supp. 1985). The Louisiana statute details how abatement is to be done. LA. REV. STAT. ANN. § 40:1299-27 (West 1977); MASS. GEN. LAWS ANN. ch. 111, § 197 (West 1983).

91. Advance notice, *supra* note 2, at 19,214.

92. Appropriate clean-up is essential or the exposure to lead-based paint will be increased by abatement rather than decreased. Farfel, *supra* note 2, at 345; Chadzynski, *supra* note 3, at 244-46.

93. This method is condemned because it creates lead gas which is inhaled causing elevated blood lead levels, and the solvents themselves are toxic. POISONING RESEARCH, *supra* note 3, at 39; Chadzynski, *supra* note 3, at 244-46.

94. Although slow, this is the preferred technique. *See* Chadzynski, *supra* note 3, at 244-46.

95. Use of such chemicals and dry sanding are forbidden. *Id.*

96. These were developed under contract for HUD and were still being tested in 1978. *See* POISONING RESEARCH, *supra* note 3, at 57; Chadzynski, *supra* note 3, at 244-46.

97 This is the least expensive method, but long term adherence to the surfaces is doubtful because of the condition of the walls. POISONING RESEARCH, *supra* note 3, at 39; Chadzynski, *supra* note 3, at 244-46.

98. Advance notice, *supra* note 2, at 19,222.

99. CETA stands for Comprehensive Employment and Training Act of 1973 and refers to individuals who are performing work while being trained and paid under the Act. 29 U.S.C. § 801 (1973), *repealed by* Pub. L. No. 97-300, tit. I, § 184(a)(1), 96 Stat. 1357 (1982).

100. *Lead-Based Paint Poisoning Prevention Act of 1975: Hearings on S. 1664 Before the Subcomm. on Health of the Senate Comm. on Labor and Public Welfare*, 94th Cong., 1st Sess. 221

ure of $2,000 was later revised downward to a high of $1,072 for a pre 1940 multi-family unit in which all paint was removed and the unit then repainted, to a low of $34 for a 1960-65 multi-family unit in which only loose and peeling paint was scraped and the unit repainted.[101]

Several factors are responsible for the range of findings on costs of abatement. First, the costs of most techniques are primarily labor costs and a function of hours of work and wages of the workers.[102] An investor is more likely to hire someone to do the work and have higher direct costs than a homeowner or volunteer who does not quantify the value of his labor Second, material costs, as well as labor will vary with geographic location.[103] Third, the amount of lead in a structure varies with the age and location of the structure.[104] Fourth, the state and local authorities set the standard to which abatement must conform and enforce that standard to assure compliance.[105] The standard required may be more expensive in one jurisdiction than another and enforcement may be more stringent in one jurisdiction than another requiring greater expense to comply [106] Therefore, the figure representing direct cost to the investor will be specific to the geographic area.

However the investor's mandate to abate may come from federal as well as state or local law In examining an investor s decision to abate, the demands of the legal climate in which he operates must be recognized.

(1975) (statement of Dr. Robert Klein, Director, Massachusetts Childhood Lead Poisoning Prevention Program).

101. POISONING RESEARCH, *supra* note 3, at 45-53.

102. In evaluating the cost of abatement techniques the fluctuating cost of labor was identified as one of the factors making those figures vary. POISONING RESEARCH, *supra* note 3, at 26-63.

103. *Id.*

104. *Id.*

105. *Id.* at 35.

106. The federal government asserted compliance with Philadelphia, Pennsylvania abatement requirements would be so costly that it would remove housing from the market. City-Wide Coalition Against Childhood Lead Paint Poisoning v. Philadelphia Hous. Auth., 356 F Supp. 123, 125, 130-31 (E.D. Pa. 1973).

II. Legal Response to Lead-Based Paint in Rental Housing

A. *Federal Level*

1. Federal Funding for Lead-Based Paint Removal

Congress first acted on childhood lead poisoning during the Great Society era as a result of pressure from local groups such as City-Wide Coalition Against Childhood Lead Paint Poisoning in Philadephia, Pennsylvania, and the Parents Lead Action Group and Citizens Committee to End Lead Poisoning in New York City [107] With the finding that childhood lead poisoning had reached epidemic proportions in some older cities,[108] Congress passed the Lead-Based Paint Poisoning Prevention Act in 1971.[109] Title I of the Act provided money for educational programs, screening programs for detection of children with lead poisoning and treatment of those children.[110] Title II provided funds for identification and abatement of the structures containing lead-based paint.[111] Title III provided in part for research in and development of programs to deal with the problem.[112] Title IV prohibited future use of lead-based paint in residential struc tures constructed or rehabilitated by the Federal government or with Federal aid.[113]

107 Stein, *supra* note 21, at 280-81. Such groups still exist like Baltimore Lead-Out, and lobby for action on the local level.

108. *See* sources cited *supra* note 41.

109. *See* sources cited *supra* note 16.

110. Grants for Detection and Treatment of Lead-Based Paint Poisoning, 42 U.S.C. § 4801 (1982) (repealed 1978). Under the Department of Health, Education and Welfare guidelines on treatment of affected children up to ten percent of the funds could be used for hazard abatement. Poisoning Research, *supra* note 3, at 3.

111. Grants for Elimination of Lead-Based Paint Poisoning, 42 U.S.C. § 4811 (repealed 1982). This money would be for primary prevention by eliminating the hazard from lead-based paint before child contracted childhood lead poisoning. *See* discussion *infra* note 114. Appropriations were never requested or made under this title. Poisoning Research, *supra* note 3, at 3-5.

112. Federal Demonstration and Research Program: Federal Housing Administration Requirements, 42 U.S.C. §§ 4821, 4822 (1982). HUD has consistently done research in this area. Many of its findings are published in Poisoning Research, *supra* note 3. In addition, the title was amended in 1973 to require HUD to establish procedures to eliminate the hazards of lead-based paint in housing covered by an application for mortgage assistance of housing assistance payment. Pub. L. No. 93-151, § 87 Stat. 565, 566 (1973). The interpretation of this amendment is the subject of law suit in Ashton v. Pierce, 716 F.2d 56 (D.C. Cir. 1983). *See* discussion *supra* note 2.

113. Prohibition Against Future Use of Lead-Based Paint, 42 U.S.C. § 4831 (1982). The 1973 Amendments to LPPPA amended this title to require HUD to establish procedures for elimination of existing lead-based paint hazards. Pub. L. No. 93-151, § 87 Stat. 565, 567 (1973); Poisoning Research, *supra* note 3, at 6.

The Act displayed the bifurcated approach which characterizes treatment of childhood lead poisoning: funds may be expended for secondary prevention[114]—finding children at risk, treating them, and abating their homes[115] so they do not continue to be at

114. From public health policy perspective, two fundamental approaches to disease are used: primary prevention and secondary prevention. Primary prevention reduces exposure to lead to prevent lead poisoning before child becomes ill. Secondary prevention requires identifying children at risk, treating them and seeking to reduce their follow-up exposure to lead. This approach reduces the consequences of lead poisoning. Primary prevention is the preferred approach. Farfel, *supra* note 2, at 334. Innoculation is form of primary prevention as is removal of lead-based paint from the child' environment before he becomes ill; treatment after contracting the disease is form of secondary prevention like controlling polio with an iron lung. Houk, *Implications of Newer Data for Screening and Evaluation of Children*, in LOW LEVEL LEAD, *supra* note 2, at 232 [hereinafter Houk].

115. The implication that public money is spent to abate the properties is not true in most cases where private investor owns the property. Public money is used when abatement is required by the federal government because the housing is public housing. However, the investor, who wishes to obtain Federal Housing Administration (FHA) mortgage insurance or who wishes to participate in Section 8 existing housing program, pays for the abatement. Advance notice, *supra* note 2, at 19,219.

If the abatement is required by state or local law, the investor pays for the abatement unless some form of assistance program exists. Some states and local jurisdictions do provide assistance. Philadelphia, Pennsylvania, has used Model Cities money to abate housing. Stein, *supra* note 21, at 279. The Governor of Maryland is considering several proposals from his Housing Policy Commission to fund abatement: (1) the lead paint abatement program to loan money to investors and homeowners to cover cost of abatement where they have insufficient income to qualify for rehabilitation loan or purchase loan; (2) lead paint tax credit to allow investors to recover 50% of the cost of abatement amortized over five year period; and (3) lead paint program to provide grants to cover the cost of abatement which the Commission recommends be merged with the first proposal. MD. HOUSING POL. COMM., REPORT ON RECOMMENDATIONS OF PROGRAMS FOR THE 1986 HOUSING INITIATIVE 22, 27 28 (Sept. 1985).

In few cases, public money and crews are used to perform abatement. This happens if an investor has been ordered to abate and he does not perform. The public authority will then do it, and probably seek restitution of the costs from the investor. *See* text *infra* at notes 167-269.

The cost of abatement cannot be immediately recouped by the investor because abatement is viewed as capital improvement rather than an expense of doing business. This is because it prolongs the life of the property, therefore, it must be capitalized. Jones v. Comm'r, 242 F.2d 616 (5th Cir. 1957); Bank of Houston, 19 T.C.M. (CCH) 589 (1960); Treas. Reg. 1.162-4 (1957); *Cf.* Niagara Mohawk Power Corp. v. United States, 558 F.2d 1379 (Ct. Cl. 1977). Since the basis cannot be changed for depreciation, the expenditure cannot be taken until the investor sells the property. Woodsam Ass'n, Inc. v. Comm of Internal Revenue, 198 F.2d 357 (2d Cir. 1952). If the abatement requires only major renovation of value greater than twenty-five (25) percent of the value of the structure, the cost of abatement can be depreciated separately. I.R.C. § 168(f)(1)(C) (1985). Abatement is unlikely to qualify unless additional renovation is done at the same time.

Immediate deduction of the cost of abatement is allowed if the parent of the child does the abating under doctor' order. The expenses there can be deducted as medical expenses. Rev. Rul. 79-66, 1979 C.B. 114.

risk; or it may be expended on primary prevention—preventing childhood lead poisoning by first finding the properties with impermissible concentrations of lead-based paint and abating them before a child becomes ill.[116] The federal government originally authorized funding for both approaches in the Act. However the federal funding appropriated under the Act has been devoted to locating and treating children who have lead poisoning rather than first finding and abating housing and preventing the disease.[117]

The lead-based paint program was merged into the Maternal and Child Health-Related Block Grants by the Omnibus Budget Reconciliation Act of 1981 [118] The effect of this merger was a reduction in the use of federal dollars to fund local screening programs to combat childhood lead poisoning.[119]

2. Federal Regulatory Responsibility for Abatement

Although the original Lead-Based Paint Poisoning Prevention Act envisioned use of federal funds to abate privately owned structures, this use of federal funds has not occurred.[120] How-

116. HUD avoids using primary and secondary prevention in discussing the strategy for dealing with childhood lead poisoning. Instead the designation "housing approach" is used for primary prevention and "health approach for secondary prevention. The "housing approach requires finding homes with lead-based paint and abating those houses regardless of the presence of child or his health. The "health approach identifies children at risk because they have elevated blood lead levels, treats those children and abates their homes. Advance notice, *supra* note 2, at 19,212-19,213, 19,223. The preferred public health approach is the "housing approach"

117 *See* sources cited *supra* note 111 and discussion *supra* note 114.

118. The legislative history done by Ms. Bailey states:

> The lead-based paint poisoning prevention program was most recently amended by the Omnibus Budget Reconciliation Act. P.L. 97-35, which consolidated the program under the MCH Services Block Grant with seven other Federal health programs.

Lead Poisoning and Children: Hearing Before the Subcomm. on Health and the Environment of the House Committee on Energy and Commerce, 97th Cong., 2d Sess. 3, 8 (1983) (statement of Susan Bailey, Analyst in Social Legislation, Education and Public Welfare Division) [hereinafter 1983 *Hearing*]. However, the Omnibus Budget Reconciliation Act of 1981 does not include the Lead-Based Paint Poisoning Prevention Act in its list of consolidated acts. 95 Stat. 384 (1981).

119. 1983 *Hearing*, *supra* note 118, at 12.

120. *See* note 111. Federal money from other programs has been used to abate structures. One such program was the Comprehensive Employment and Training Act of 1973, 29 U.S.C. § 801 (1982), *repealed by* Pub. L. No. 97-300, tit. I, § 184(a)(1), 96 Stat. 1357 (1982). In Philadelphia in 1969, $600,000 of federal Model Cities money was used to abate houses. Stein, *supra* note 21, at 281.

ever the federal government in its regulatory capacity has abated housing and required others to abate.

Under Title IV of the 1971 Act, future use of lead-based paint in housing for which the Federal government was responsible through construction, rehabilitation, rent subsidies, or mortgage guarantees was forbidden.[121] Title IV was amended in 1973 to make HUD responsible for implementing this provision.[122] Also, in 1973, Title III was amended to require HUD to establish procedures to eliminate lead-based paint in existing housing covered by an application for mortgage insurance or housing assistance payments.[123] The major mortgage insurance programs are Federal Housing Administration (FHA) loans[124] and Veteran s Administration (VA) guarantees.[125] The primary housing assistance payments program is Section 8 certification for existing housing.[126]

Title IV and Title III were implemented through HUD regulations. The initial HUD regulations in 1972 provided that no lead-based paint was to be used in residential structures constructed or rehabilitated with federal money and appropriate action was to be taken to see this policy reflected in contracts and subcontracts.[127] Shortly after promulgation, the regulations were amended to differentiate between the prohibition in the use of lead-based paint

121. The original language stated:

> Sec. 401. The Secretary of Health, Education and Welfare shall take such steps and impose such conditions as may be necessary or appropriate to prohibit the use of lead-based paint in residential structures constructed or rehabilitated after the date of enactment of this Act by the Federal government, or with Federal assistance in any form.

Pub. L. No. 91-695, 84 Stat. 2079 (1971).

122. The amendment read:

> Sec. 401. The Secretary of Health, Education and Welfare, in consultation with the Secretary of Housing and Urban Development, shall take such steps and impose such conditions as may be necessary or appropriate —
>
> (1) to prohibit the use of lead based paint in residential structures constructed or rehabilitated by the Federal Government, or with Federal assistance in any form, after the date of enactment of this Act.

Pub. L. No. 933-151, 87 Stat. 567 (1973). *See* note 113.

123. Pub. L. No. 93-151, 87 Stat. 565, 566 (1973).

124. 12 U.S.C. § 1707 (1982 & Supp. III 1985).

125. 38 U.S.C. § 1801 (1982 & Supp. III 1985).

126. 42 U.S.C. § 1437f (1982 & Supp. III 1985).

127 Prohibition Against Use of Lead-Based Paint in Federal and Federally Assisted Construction, 37 Fed. Reg. 16,872 (Oct. 21, 1972).

in new construction by the federal government and its elimination in HUD-associated properties.[128] The latter properties were defined as any residential property being constructed, purchased, leased, rehabilitated, modernized or improved by federal grant, loan, advance, or proceeds from a HUD-guaranteed loan or HUD insured mortgage.[129]

HUD was sued under these regulations for failing to follow local abatement requirements in *City-Wide Coalition Against Childhood Lead Paint Poisoning v. Philadelphia Housing Authority*.[130] HUD had foreclosed on FHA insured mortgages, rehabilitated the foreclosed houses according to HUD abatement standards, and resold them. HUD regulations required that the surfaces have intact paint[131] while City of Philadelphia Department of Public Health regulations required removal of all lead-based paint, regardless of whether it was intact, up to five feet from the floor before repainting. Purchasers of these properties from HUD abated according to HUD standards, subsequently faced action by the City Health Department to abate according to the City standards or be subject to fines and possible condemnation actions. In addition, several purchasers had children who contracted childhood lead poisoning in HUD abated housing The court ordered HUD to comply with the City regulations because such compliance would implement the legislative policy of the Lead-Based Paint Poisoning Prevention Act.[132] In fact, HUD regulations themselves recognize the need of a property owner to comply with local requirements as well as HUD requirements.[133] In this case, HUD, as an owner like other owners, was required to comply with such regulations.

Subsequent to this decision, Title III was amended in late 1973 to establish procedures to eliminate lead-based paint from existing housing covered by an application for mortgage insurance or housing assistance payments.[134] Regulations to implement

128. Prohibition of Use of Lead-Based Paint and Elimination of Lead-Based Paint Hazard, 24 C.F.R. § 35 (1972).

129. *Id.* at § 35.3(f) as amended at 37 Fed. Reg. 24,112 (Nov. 14, 1972).

130. 356 F Supp. 123 (E.D. Pa. 1973).

131. Intact paint means the surfaces are smooth and tight with no chipping, peeling or swelling. *Id.* at 126.

132. *Id.*

133. *Id.* at 130.

134. Pub. L. No. 93-151, 87 Stat. 565, 566 (1973).

this amendment were proposed in 1975.[135] The proposed regulations provided for: (1) notification to purchasers and tenants of HUD-associated housing that the housing might contain lead-based paint and of the hazards of lead-based paint;[136] (2) prohibition on the use of lead-based paint in HUD-associated housing;[137] (3) procedures for eliminating immediate lead-based paint hazards from HUD-associated housing;[138] (4) the requirement that HUD-associated properties comply with local ordinances, codes, and regulations;[139] and (5) procedures for eliminating immediate lead-based paint hazards in federally owned properties prior to resale as residences.[140] The substance of these regulations was criticized in the comments to the proposed rule. The major criticisms were: the regulations only provided for elimination of immediate lead paint hazards and not potential hazards;[141] the regulations required tight or intact walls, and not removal of all lead-based paint.[142] Both criticisms were based on the belief that the regulations incorrectly interpreted the meaning of the 1973 amendments to Title III.[143] HUD did not revise that interpretation in the final regulations and was sued in *Ashton v. Pierce*[144] on that interpretation.

In *Ashton v. Pierce*, the Court held that the regulations were invalid because they were inconsistent with the 1973 amendment to

135. Lead-Based Paint Poisoning Prevention in Federally Owned and Federally Assisted Housing, 40 Fed. Reg. 26,974 (1975) (proposed rulemaking to be codified in 24 C.F.R. pt. 35).

136. Subpart A—Notification to Purchasers and Tenants of HUD—Associated Housing Constructed Prior to 1950 of the Hazards of Lead-Based Paint Poisoning, 40 Fed. Reg. 26,975-29,976 (1975) (to be codified in 24 C.F.R. pt. 35(A)).

137 Subpart B—Prohibition Against the Use of Lead-Based Paint in HUD—Associated Housing, 40 Fed. Reg. 26,976 (1975) (to be codified in 24 C.F.R. pt. 35(B)).

138. Subpart C—Elimination of Lead-Based Paint Hazards in HUD—Associated Housing, 40 Fed. Reg. 26,976 (1975) (to be codified in 24 C.F.R. pt. 35(C)).

139. Subpart D—Local Codes and Regulations, 40 Fed. Reg. 26,976 (1975) (to be codified in 24 C.F.R. pt. 35(D)).

140. Subpart E—Elimination of Lead-Based Paint Hazards in Federally Owned Properties Prior to Sale for Residential Habitation, 40 Fed. Reg. 26,977 (1975) (to be codified in 24 C.F.R. pt. 35(E)). Minor revisions of these regulations were made in 1976 and 1977 Lead-Based Paint Poisoning Prevention in Certain Residential Structures Elimination of Lead-Based Paint Hazards in Federally Owned Properties Prior to Sale for Residential Habitation, 24 C.F.R. § 35(E) (1977), as amended, in 42 Fed. Reg. 5,043-5,044 (Jan. 27 1977) (to be codified as 24 C.F.R. pt. 35).

141. 41 Fed. Reg. 28,877 (1976).

142. 41 Fed. Reg. 28,878 (1976).

143. 41 Fed. Reg. 28,877-28,878 (1976).

144. 716 F.2d 56 (D.C. Cir. 1983).

Title III of the Lead-Based Paint Poisoning Prevention Act. The Court found that Congress, in the 1973 amendment, had specifically rejected HUD's definition of immediate hazard as being paint which is cracking, scaling, chipping, peeling, or loose.[145] Rather when Congress spoke of " immediate hazards to which children may be exposed. " a broader range of conditions than just cracking, scaling, chipping, peeling, or loose paint was meant.[146] The emphasis was on a child's exposure, not on the condition of the paint.[147] Consequently the regulations, which found intact lead-based paint acceptable and required abatement only of defective paint, were held invalid. Currently HUD is drafting new regulations on the standard of abatement to be used.[148]

Dissatisfaction with the Federal government's approach to childhood lead poisoning has taken other forms in addition to attacking HUD's regulations. Housing purchasers and tenants have sought to force federal payment for abatement in structures where the federal government has failed to meet its mandate.[149] In *Davis v. Romney*,[150] purchasers of housing financed by FHA mortgages under special subsidy programs of the National Housing Act[151] sought damages, declaratory relief, and injunctive relief because their homes contained lead-based paint in violation of local codes. The federal government, they alleged, was responsible for inspecting their houses and finding them in compliance with local ordinances before issuing FHA guarantees. Further they had relied on this FHA inspection to determine if

145. *Id.* at 61-2.

146. *Id.* at 61.

147 *Id.* at 62.

148. The new regulations in proposed form are expected April 1, 1986. The considerations HUD is weighing are contained in the Advance Notice of Rulemaking. Advance Notice, *supra* note 2.

149. *See, e.g.,* Davis v. Romney, 490 F.2d 1360 (3d Cir. 1974), *modifying* 355 F Supp. 29 (E.D. Pa. 1973), and City of Philadephia v. Page, 363 F Supp. 148 (E.D. Pa. 1973), *motion to vacate den d* 373 F Supp. 453 (E.D. Pa. 1974). The suits brought to force the federal government to pay for abatement of lead-based paint were not based on LPPPA but rather are based on either § 221(d)(2) of the National Housing Act, 12 U.S.C. § 1715l(d)(2) (Supp. II 1984), which requires compliance with local ordinances, or general contract principles. The suits were instituted before the 1973 amendments to LPPPA which would also require compliance with local ordinances as well as abatement of lead-based paint hazards. *See infra* text at 421.

150. 490 F.2d 1360 (3d Cir. 1974).

151. These special subsidy programs are National Housing Act §§ 235, 211(d)(2), 12 U.S.C. §§ 1715z(i)(2), 1715l(d)(2) (1972).

their houses were lead free. The District Court held that the requirements of the Philadelphia Housing Code were public health and safety requirements which had to be met under the National Housing Act before FHA certifications could be issued.[152] The Court ordered HUD to insure mortgages only on those properties complying with the Housing Code.[153] However the Court dismissed the homeowners claim for damages under the Tucker Act.[154] The homeowners were not entitled to a sum of money by the provisions of the National Housing Act, but rather were entitled to decent housing which was not quantified.[155] To recover under the Tucker Act, the homeowner had to be owed a sum of money

On appeal, the Court of Appeals affirmed the grant of declaratory relief and found that the Housing Code was a local ordinance with which properties had to comply before FHA guarantees could be issued.[156] However the case was remanded to draw a narrower injunction which would be framed to remedy the harm done to the homeowners in the suit.[157] The homeowners were again not able to obtain damages from HUD to abate the houses.[158]

The homeowners in *City of Philadelphia v. Page*[159] were able to force Federal payment for abatement of the lead-based paint in their homes. In *Page*, HUD had renovated the houses and sold them to the homeowners.[160] HUD had also guaranteed their mortgages.[161] The Court found HUD had breached the implied warranty of habitability in its contract of sale and was therefore

152. 355 F Supp. at 43-45.

153. *Id.*

154. Tucker Act, 28 U.S.C. § 1346(a)(2) (1972) provides original jurisdiction in the district courts for:

> [A]ny other civil action or claim against the United States, not exceeding $10,000 in amount, founded either upon the Constitution, or any Act of Congress, or any regulation of an executive department, or upon any express or implied contract with the United States, or for liquidated or unliquidated damages in cases not sounding in tort.

155. 355 F Supp. at 45-48.

156. Davis v. Romney, 490 F.2d 1368, 1370 (3d Cir. 1974).

157 *Id.* at 1370.

158. *Id.* at 1371.

159. 363 F Supp. 148 (E.D. Pa. 1973), *motion to vacate den d*, 373 F Supp. 453 (E.D. Pa. 1974).

160. 363 F Supp. at 151.

161. *Id.* at 150.

responsible for the cost of abatement as contract damages.[162] On HUD's motion to vacate, the Court reaffirmed its earlier decision and distinguished *Davis* as a case where HUD was " an insurer of mortgages. " as opposed to the present case where HUD was " a seller of homes."[163]

These cases represent narrow circumstances where the Federal government may be responsible for abatement. However the investor's decision to abate is more likely to be affected by HUD's mandate under Title III of the Lead-Based Paint Poisoning Prevention Act. If an investor seeks a federally guaranteed mortgage to finance an existing property [164] or federal funds to rehabilitate an existing property [165] he must abate the property in compliance with both federal and local standards to qualify Also, an investor must demonstrate that the property has been abated in conformity with federal and local requirements for the property to qualify for participation in a rent subsidy program.[166] For participation in these or any new Federal programs an investor must abate the lead-based paint in existing housing. In this way HUD requires an investor to abate. An investor s decision to abate, however is more likely to be shaped by state and local laws than by HUD regulations.

B. *State and Local Level*

Most state and local laws on lead-based paint poisoning take a health approach to the problem.[167] Depending on the method of initiating abatement, these laws are classified as following a "health approach" or a "housing approach."[168] HUD does not use the classification strategies of primary and secondary prevention which is public health terminology [169]

Under the health approach, jurisdictions use their resources to find children at risk from elevated blood lead levels, and to treat

162. *Id.* at 154-55.

163. 373 F Supp. at 455 (emphasis in original).

164. 24 C.F.R. § 35.24(b)(1)(iv) (1986).

165. 24 C.F.R. § 35.60 (1986).

166. 24 C.F.R. § 35.24(b)(2) (1986).

167 Advance notice, *supra* note 2, at 19,213; *supra* notes 114, 116. This is felt to be the most cost effective approach. Public funds that exist are generally spent on the children who are already being affected by the lead-based paint in their environment.

168. Advance notice, *supra* note 2, at 19,213.

169. *Supra* notes 114, 116.

those children.[170] Part of the treatment of a child at risk is to abate the lead-based paint in their housing.[171] This strategy is a form of secondary prevention.[172] Under the housing approach, jurisdictions use their resources to systematically inspect housing and require abatement of any housing containing lead-based paint regardless of the presence of a child or his health.[173] This strategy is a form of primary prevention which is the preferred public health approach.[174]

The federal government used both approaches in the Lead-Based Paint Poisoning Prevention Act.[175] Currently HUD is pursuing a housing approach to qualifying applicants for mortgage guarantees or rent subsidies under Title III of the Act and *Ashton v. Pierce*.[176] However the twelve states which have passed specific statutes aimed at preventing childhood lead poisoning use the health approach.

Arkansas,[177] Illinois,[178] Kentucky [179] Louisiana,[180] Maine,[181] Massachusetts,[182] Michigan,[183] New Hampshire,[184] New Jersey [185] New York,[186] South Carolina,[187] and Wisconsin[188] have passed these statutes. Eight states collect information to initiate abatement by requiring a health care person to report any finding

170. *Supra* note 167

171. Graef, *supra* note 3, at 122; Chadzynski, *supra* note 3, at 240-46; Houk, *supra* note 114, at 232. Dr. Chisolm of the Kennedy Institute in Baltimore, Maryland, has shown that children who are hospitalized with childhood lead poisoning when released become at risk again within month if released to unabated housing. Farfel, *supra* note 2, at 347

172. *Id.*

173. *Supra* note 168.

174. *Supra* note 171.

175. *Infra* text at pp. 416, 424-425.

176. *Infra* text at pp. 420-425.

177 ARK. STAT. ANN. §§ 82-737 to 82-744 (Supp. 1985).

178. ILL. ANN. STAT. ch 111-1/2, §§ 1301-1317 (Smith-Hurd 1977 & Supp. 1986).

179. KY. REV. STAT. ANN. §§ 211.900-211.905, 211.994 (Baldwin 1982).

180. LA. REV. STAT. ANN. §§ 40:1299.20-1299.29 (West 1977 & Supp. 1986).

181. ME. REV. STAT. ANN. tit. 22, §§ 1314-1326 (1980 & Supp 1986).

182. MASS. GEN. LAWS ANN. ch 111, §§ 190-199 (West 1986) [§ 194 expired January 1, 1986].

183. This is not specific statute aimed at childhood lead poisoning, but rather includes it with other diseases, and is primarily focused on data gathering. MICH. COMP LAWS ANN. §§ 325.71-325.79, 333.5111 (West 1980 & Supp. 1986).

184. N.H. REV. STAT. ANN. § 130-A:1 to A:8 (Supp. 1986).

185. N.J. STAT. ANN. § 24:14A-1 to 14A-12 (West Supp. 1986).

186. N.Y PUB. HEALTH LAW § 1370-1376-a (McKinney 1976 & Supp. 1986).

187 S.C. CODE ANN. § 44-53-1310 to 53-1480 (Law. Co-op. 1985).

188. WIS. STAT. ANN. §§ 151.01-151.13 (West Supp. 1986).

of an elevated blood lead level to a state public health official.[189] Six states require screening programs to locate children at risk.[190] In four states, a tenant with a child can request a test of his unit for lead-based paint.[191]

Once a child at risk is identified, the statutes in eleven states provide for inspection[192] of the child's housing to determine the presence of lead-based paint.[193] Only two states envision a program to systematically inspect and identify housing containing lead-based paint.[194] While this type of housing inspection program would be the preferred approach from a public health per

189. ILL. ANN. STAT. ch. 111-1/2, § 1307 (Smith-Hurd 1977); KY. REV. STAT. ANN. § 211.902 (Baldwin 1982); LA. REV. STAT. ANN. § 40:1299.21 (West 1977); ME. REV. STAT. ANN. tit. 22, § 1319 (West 1980); MASS. GEN. LAWS ANN. ch 111, § 191 (West 1983); MICH. COMP LAWS ANN. § 325.74 (West Supp. 1986); S.C. CODE ANN. § 44-53-1380 (Law. Co-op. 1986); WIS. STAT. ANN. § 151.05 (West Supp. 1986).

190. ARK. STAT. ANN. § 82-739(c)(1) to (3) (Supp. 1985); KY. REV. STAT. ANN. § 211.901(1) (Baldwin 1982); LA. REV. STAT. ANN. § 40:1299.20(A) (West 1977 & Supp. 1985); ME. REV. STAT. ANN. tit. 22, § 1317-A (Supp. 1985); MASS. GEN. LAWS ANN. ch. 111, § 193 (West 1983); S.C. CODE ANN. § 44-53-1360 (Law. Co-op. 1985). Federal funding for screening programs was available under Title I of the Lead-Based Poisoning Prevention Act. *Supra* text at pp. 416-419.

191. LA. REV. STAT. ANN. § 40:1299.24(B) (West 1977); ME. REV. STAT. ANN. tit. 22, § 1320 (1980); MASS. GEN. LAWS ANN. ch. 111, § 127H, 194 (West 1983 & Supp. 1985) (Section 194 will expire January 1, 1986); S.C. CODE ANN. 44-53-1410(4) (Law. Co-op. 1985).

192. Inspections of housing cannot be done without warrant if one is demanded. Camara v. Municipal Court of the City and County of San Francisco, 387 U.S. 523 (1967). In the situation of private investor owning rental property, however, the tenant who has the right to exclusive possession of the premises, may consent to the inspection without warrant. Jackson v. Davis, 530 F Supp. 2, 5 (E.D. Tenn. 1981), *aff'd mem.*, 667 F.2d 1026 (6th Cir. 1981). Many of the statutes provide for obtaining warrant. *E.g.*, ARK. STAT. ANN. § 82-740 (Supp. 1985); LA. REV. STAT. ANN. § 40:1299.24(B) (West 1977); S.C. CODE ANN. § 44-53-1390 (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(1) (West Supp. 1986).

193. ARK. STAT. ANN. 82-739(c)(4), § 82-740 (Supp. 1985); ILL. ANN. STAT. ch. 111-1/2, § 1308 (Smith-Hurd 1977); KY. REV. STAT. ANN. § 211.905 (Baldwin 1982); LA. REV STAT. ANN. § 40:1299.24(B) (West 1977); ME. REV. STAT. ANN. tit. 22, § 320, 1320-A (1980 & Supp. 1986); MASS. GEN. LAWS ANN. ch. 111, § 194 (West 1983 & Supp. 1985) (The specific provision in the act requiring inspections will expire January 1, 1986.); N.H. REV. STAT. ANN. § 130-A:3 (Supp. 1986); N.J. STAT. ANN. 24:14A-6 (West Supp. 1986) (The statute does not specifically provide for inspections but does charge the local board with primary responsibility for investigation of violations under this act. Implicit in this would be the need to inspect.); N.Y PUB. HEALTH LAW § 1370(2), 1373(1) (McKinney 1976 & Supp. 1986) (The designation of an "area of high risk" which the commissioner could order abated would appear to require an inspection to determine the paint condition and quality.); S.C. CODE ANN. § 44-53-1390 (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(1) (West Supp. 1986).

194. And then, only to the extent that appropriations permit. LA. REV. STAT. ANN. § 40:1299.24 (West. 1977); MASS. GEN. LAWS ANN. ch. 111, § 194 (West 1983 & Supp. 1985) (This Act will expire January 1, 1986.).

spective, the housing approach has not been followed by most state and local governments.[195]

If lead-based paint is found under either the health approach or the housing approach, abatement of the structure is ordered.[196] The legal process involved varies among the states. In eleven states, a notice is sent to both the owner of the building and the tenant that lead-based paint is present in the dwelling.[197] Eight of these states go further and require a notice to be posted that lead-based paint exists in the structure; the notice cannot be removed until the lead-based paint is abated.[198] The owner is allowed from ten to thirty days to abate the property [199]

195. *Supra* notes 2, 114, 116. This approach is not as cost efficient as the "health approach because it spends funds on houses where child is not at risk. However, as the court observed in City of St. Louis v. Brune, 520 S.W.2d 12, 14 (Mo. 1975), children frequently visit or are kept in homes or apartments where they do not live and are thus exposed.

196. ARK. STAT. ANN. § 82-739(c)(5) (Supp. 1985); ILL. ANN. STAT. ch. 111-1/2, § 1309(4) (Smith-Hurd Supp. 1986); KY. REV. STAT. ANN. § 211.905(2)(c) (Baldwin 1982); LA. REV. STAT. ANN. §§ 40:1299.24(C), 40:1299.27(A) (West 1977); ME. REV STAT. ANN. tit. 22, § 1321(3) (Supp. 1986); MASS. GEN. LAWS ANN. ch 111, § 194 (West 1983 & Supp. 1985) [194 will expire on January 1, 1986]; N.H. REV. STAT. ANN. § 130-A:4 (Supp. 1986); N.J. STAT. ANN. § 24:14A-8 (West Supp. 1986); N.Y. PUB. HEALTH LAW § 1373 (McKinney 1976 & Supp. 1986); S.C. CODE ANN. § 44-53-1430 (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07 (West Supp. 1986).

197 ARK. STAT. ANN. § 82-741 (Supp. 1985); ILL. ANN. STAT. ch. 111-1/2, § 1309(3), (4) (Smith-Hurd Supp. 1986) (This statute used "may instead of the mandatory "shall".); KY. REV. STAT. ANN. § 211.905(2)(a) (Baldwin 1982); LA. REV. STAT. ANN. § 40:1299:24(C) (West 1977); ME. REV STAT. ANN. tit. 22, § 1321(2), (3) (1980 & Supp. 1986); MASS. GEN. LAWS ANN. ch. 111, § 194 (West 1983 & Supp. 1985) (Act will expire January 1, 1986.); N.H. REV STAT. ANN. § 130-A:4 (I & II) (Supp. 1986); N.J. STAT. ANN. § 24:14A-8 (West Supp. 1986); N.Y. PUB. HEALTH LAW § 1373(4) (McKinney 1976) (This statute uses may" instead of the mandatory "shall" This statute uses the disjunctive or" instead of the connjunctive "and, and provides that notice be served on "an owner or occupant"); S.C. CODE ANN. § 44-53-1430(b), (c) (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(2)(c), (d) (West 1986) (This statute uses may instead of the mandatory "shall".).

198. ILL. ANN. STAT. ch. 111-1/2, § 1309(1) (Smith-Hurd Supp. 1986) (This statute used may instead of the mandatory "shall" and does not specify when the posted notice must be removed); KY. REV. STAT. ANN. § 211.905(4) (Baldwin 1982) (Notice here is posted only if the owner fails to abate in thirty days); LA. REV. STAT. ANN. § 40:1299.24(C) (West 1977); ME. REV. STAT. ANN. tit. 22, § 1321(1) (1980); MASS. GEN. LAWS ANN. ch. 111, § 194 (West 1983 & Supp. 1985) (Act will expire January 1, 1986); N.H. REV. STAT. ANN. § 130-A:4(III) (Supp. 1986) (This statute uses "may" instead of the mandatory"shall"); S.C. CODE ANN. § 44-53-1430(a) (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(2)(a) (West Supp. 1986) (This statute uses may instead of the mandatory "shall").

199. Statutes allowing 30 days are: ARK. STAT. ANN. § 82-741 (Supp. 1985); ILL. ANN. STAT. ch. 111-1/2, § 1309 (Smith-Hurd Supp. 1986); KY. REV. STAT. ANN. § 211.905(2)(c) (Baldwin 1982); LA. REV. STAT. ANN. § 40:1299.27(B) (West 1977); ME. REV. STAT. ANN. tit. 22, § 1321(3) (Supp. 1986); N.H. REV. STAT. ANN. § 130-A:4(II) (Supp. 1986); S.C.

If the owner fails to comply with the abatement order one remedy available in some states is to abate his property and charge him. This remedy is accomplished in Louisiana and Massachusetts by treating violations of the abatement order as violations of the health code.[200] Remedies for violations of the health code include abating a nuisance and charging the owner for the cost.[201] The Maine statute authorizes the state to seek a mandatory injunction directing a third party to abate the property at the owner s expense.[202] The New Jersey and South Carolina Acts authorize the local government to make necessary repairs and charge the owner· the charges are a lien on the property until paid.[203] New York provides for the appointment of a receiver to collect rents and use the funds to abate the property [204]

Under some statutes, the state can seek fines and/or a criminal conviction if an abatement order is not followed. Three states authorize the use of an injunction if the abatement order is not fulfilled.[205] That injunction would be enforced by the contempt powers of the court.[206] Five states have specific criminal penalties for failure to comply with an abatement order [207] In three stat-

CODE ANN. § 44-53-1430 (Law. Co-op. 1985); WIS. STAT. ANN. § 151.07(2)(d) (West Supp. 1986) (This statute uses "may instead of the mandatory "shall".).

Ten days is allowed under N.J. STAT. ANN. § 24:14A-8 (West Supp. 1986). MASS. GEN. LAWS ANN. ch. 111, § 197 (West 1983) is silent as to time. N.Y. PUB. HEALTH LAW § 1373(1) (McKinney 1976 & Supp. 1986) requires abatement within "specified period of time

Extensions of reasonable time are permitted under ILL. ANN. STAT. ch. 111-1/2, § 1309(4) (Smith-Hurd Supp. 1986); ME. REV. STAT. ANN. tit. 22, § 1321(3) (Supp. 1986); N.H. REV. STAT. ANN. § 130-A:4(II) (Supp. 1986); and S.C. CODE ANN. § 44-53-1430(c) (Law. Co-op. 1985).

200. LA. REV. STAT. ANN. § 40:1299.28 (West 1977); MASS. GEN. LAWS ANN. ch. 111, § 198 (West 1983).

201. LA. REV. STAT. ANN. § 40:6 (West 1977); MASS. GEN. LAWS ANN. ch. 111, § 127B (West 1983 & Supp. 1985).

202. ME. REV. STAT. ANN. tit. 22, § 1326 (1980).

203. N.J. STAT. ANN. § 24:14A-9 (West Supp. 1986); S.C. CODE ANN. § 44-53-1470 (Law. Co-op. 1985).

204. N.Y. PUB. HEALTH LAW § 1374 (McKinney 1976).

205. ARK. STAT. ANN. § 82-743 (Supp. 1985); LA. REV STAT. ANN. § 40:6(c) (West 1977); MASS. GEN. LAWS ANN. ch. 111, §§ 198, 127B (West 1983).

206. D. DOBBS, HANDBOOK ON THE LAW OF REMEDIES § 2.9 (1973).

207 ILL. ANN. STAT. ch. 111-1/2, § 1310 (Smith-Hurd 1977) (A class A misdemeanor.); ME. REV. STAT. ANN. tit. 22, § 1325 (1980) (Fine of not more than $500 or imprisonment of not more than six months or both.); N.H. STAT. ANN. § 130-A:8 (Supp. 1986) (A violation for each day out of compliance); S.C. CODE ANN. § 44-53-1480 (Law. Co-op. 1985) (Each day is separate offense and each offense is misdemeanor punishable by fine of not more than $200 or imprisonment of not more than thirty days.); WIS.

utes, reference is made to the general powers to enforce health and sanitary codes which include criminal sanctions.[208]

An abatement order under most state statutes may be received by an investor as the result of enforcement by a local unit of government although the mandate is from the state. Indeed, four state statutes on prevention of childhood lead poisoning specifically allow a local program to take precedence over the state program;[209] in several states, the state program either is or may be implemented by the local units of government.[210] Also many of the local units of govenment have their own programs on preventing childhood lead poisoning.

Baltimore City has been active in the area since the 1930's.[211] Baltimore, in 1954, New York City in 1959, Philadelphia, in 1966, and Chicago, in 1968, adopted ordinances empowering their health departments to order removal of lead-based paint.[212] As the danger of childhood lead poisoning became more appar ent, other cities passed similar legislation.[213] Enforcement of these ordinances is initiated by a report of an elevated blood lead level,[214] a tenant complaint,[215] or a periodic inspection[216] and are found in either the city health code or the housing code.

STAT. ANN. § 151.13(2) (West Supp. 1986) (Each day is separate offense, punishable by fine of not more that $300 or imprisonment of not more than 3 months or both).

208. LA. REV. STAT. ANN. § 40:1299.28 (West 1977); MASS. GEN. LAWS ANN. ch. 111, § 198 (West 1983); N.Y PUB. HEALTH LAW § 1375 (McKinney 1976).

209. ARK. STAT. ANN. § 82-744 (Supp. 1985); ME. REV. STAT. ANN. tit. 22, § 1324 (1980); N.H REV. STAT. ANN. § 130-A:7 (Supp. 1986) (The statute is effective only if adopted by the local unit of government.); WIS. STAT. ANN. § 151.11 (West Supp. 1986).

210. LA. REV. STAT. ANN. § 1299.20 (West Supp. 1985); MASS. GEN. LAWS ANNN. ch. 111, § 198 (West 1983); N.J. STAT. ANN. §§ 24:14A-4(e), 24:14A-10 (West Supp. 1986); N.Y. PUB. HEALTH LAW § 1375 (McKinney 1976) (state and local health officials "shall have the same authority, powers and duties."); WIS. STAT. ANN. § 151.01(1) (West Supp. 1986) (the state may designate local health officials to implement the law).

211. Farfel, *supra* note 2, at 339.

212. Stein, *supra* note 21, at 279; *T Provide Federal Assistance for Eliminating the Causes of Lead-Based Paint Poisoning: Hearings on H.R. 17260, H.R. 13254, and H.R. 14734 Before the House Subcomm. on Housing of the Committee on Banking and Currency*, 91st Cong., 2d Sess. 206 (1970) (statement of Raymond L. Tyler, R.S., M.P.H., Chief, Accident Control Section, Environmental Health Services, Community Health Services, Department of Public Health, Philadelphia, PA).

213. Greer, *supra* note 9, at 249, *Litigation*, *supra* note 9, at 247

214. POISONING RESEARCH, *supra* note 3, at 5-8, 82. Most of the ordinances use "health approach which depends on first finding child at risk from an elevated blood lead level.

215. Greer, *supra* note 9, at 250.

216. *Id.* Given strained resources, this happens least often.

A health code ordinance was the subject of litigation in *City of St. Louis v. Brune*[217] and a housing code ordinance was the subject of the two *Holmes v. District of Columbia* cases.[218] In *City of St. Louis v. Brune*, the ordinance provided that a dwelling was to be inspected for lead-bearing substances if a report of lead poisoning was received. If a lead-bearing substance was found on any exposed surface, abatement was to occur in fourteen days. The owner received an order of abatement after an inspection, and he did not comply with that order The Missouri Supreme Court affirmed his criminal conviction for failing to comply with the abatement order[219] In both *Holmes v. District of Columbia* cases the ordinance provided that lead paint found during an inspection must be abated as ordered.[220] In the second *Holmes v. District of Columbia* case, the inspection was required when the tenant's child was found to have an elevated blood lead level.[221] Resulting criminal convictions for failing to comply with the abatement orders, in both cases, were affirmed by the District of Columbia Court of Appeals.[222]

These three cases show that health or housing code ordinances can be enforced by criminal sanctions such as fines or imprisonment. They also may be enforced by injunction or abatement of the nuisance by the local jurisdiction.[223] The effect of these sanctions is to force an owner who receives an abatement order to comply with its terms.

The abatement order to the owner results from governmental action. A tenant also may affect the owner's decision to abate by bringing a repair and deduct,[224] rent withholding or escrow[225] or an implied warranty of habitability action.[226] These actions will

217 520 S.W.2d 12 (Mo. 1975).

218. 354 A.2d 858 (D.C. Cir. 1976) [hereinafter Holmes I]; 418 A.2d 142 (D.C. Cir. 1980) [hereinafter Holmes II].

219. 520 S.W.2d at 13.

220. Holmes I, 354 A.2d at 859; Holmes II, 418 A.2d at 143. The Housing Code in section 2605 states that an inspection can be required whenever reasonable grounds exist to suspect problem with lead paint. A finding of an elevated blood lead level of tenant's child is reasonable ground.

221. Holmes II, 418 A.2d at 145.

222. Holmes I, 354 A.2d at 861; Holmes II, 418 A.2d at 143.

223. *Infra* pp. 428-429.

224. For general discussion of repair and deduct statutes, see R. SCHOSHINSKI, AMERICAN LAW OF LANDLORD ANND TENANT 3:35-3:38 (1980).

225. *Id.* at 3:39-3:45.

226. *Id.* at 3:15-3:34.

interrupt the owner's rent stream. In managing his investment, the owner prefers a predictable gross annual income which will not be possible if the rent stream is interrupted. To avoid the interruption of the rent stream, the investor may choose to abate before being ordered to do so.

For example in *Garcia v. Freeland*,[227] a tenant was allowed to deduct the cost of abating lead-based paint from his monthly rent. The landlord had failed to repair the walls and repaint the unit following notification of lead-based paint. The Court noted that the landlord would be liable if the tenant s children contracted childhood lead poisoning;[228] therefore, the tenant should be reimbursed for his action.[229] Similarly many statutes recognize the right of a tenant to repair a defect for which the landlord is liable and to deduct that cost from monthly rent.[230] The statutes require the owner to comply with local codes[231] and/or to keep the premises habitable.[232] Where the statute refers to local codes and that code forbids lead-based paint, the tenant may repair and deduct.[233] Similarly if the standard in the statute is habitability a tenant with a young child has substantial case law[234] and medical

227 63 Misc.2d 937 314 N.Y.S.2d 215 (1970).

228. *Id.* at 221. See tort discussion of liability. *Infra* pp. 436-439.

229. *Id.* at 222.

230. Specific statutes are: ARIZ. REV STAT. ANN. § 33-1363 (1974); CAL. CIV. CODE § 1942 (West 1985); MICH. COMP LAWS ANN. § 125.534(5) (West 1976); MINN. STAT. ANN. § 566.25(b) (West Supp. 1985); LA. CIV. CODE ANN. art. 2694 (West 1952); MONT. CODE ANN. § 70-24-406(1)(b) (1985); N.D. CENT. CODE § 47-16-13 (1978); S.D. COMP LAWS ANN. § 43-32-9 (1983); WASH. REV. CODE ANN. § 59.18.100 (Supp. 1986).

231. ARIZ. REV. STAT. ANN. § 33-1324 (1974 & Supp. 1985); MINN. STAT. ANN. § 566.18.6, 566.20 (West 1985); MONT. CODE ANN. § 70-24-303 (1984); S.D. COMP LAWS ANN. § 43-32-8 (1983); WASH. REV. CODE ANN. § 59.18.060(1) (Supp. 1986). Many local codes specifically refer to lead-based paint. Others, however, just refer to unsafe and unhealthy conditions. Given current knowledge, lead-based paint should come within their purview. *See infra* pp. 401-414 for discussion of why it creates unsafe and unhealthy conditions.

232. ARIZ. REV. STAT. ANN. § 33-1324 (1974 & Supp. 1985); CAL. CIV. CODE § 1941 (West 1985); LA. CIV. CODE ANN. art. 2693 (West 1952) (" good condition and free from any repairs. "); MICH. COMP LAWS ANN. § 125.534(5) (West 1976) (" unsafe, unhealthy or unsanitary. "); MONT. CODE ANN. § 70-24-406 (1985); N.D. CENT. CODE § 47-16-13 (1978) (" dilapidations which ought to repair. "); S.D. COMP LAWS ANN. § 43-32-8 (1983); WASH. REV. CODE ANN. § 59.18.060 (Supp. 1986).

233. Although Garcia v. Freeland is the only case dealing with the deduction of the cost of abatement from rent, this situation should be in the plain meaning of the statute.

234. These cases hold that an implied warranty of habitability exists when tenant leases property. This warranty is breached by violating local codes or failing to maintain the property in manner fit for its purposes. Green v. Superior Court, 10 Cal.3d 616, 111 Cal. Rptr. 704, 517 P.2d 1168, 1182-83 (1974); Javins v. First National Realty Corp. 428

evidence[235] to show that requirement has not been met, and also can repair and deduct. The situation is unclear where the statute requires compliance with local codes and that code does not prohibit lead-based paint. Local codes usually have a general provision on safe and sanitary condition or on the condition of paint.[236] The tenant can argue that the lead-based paint, especially when chipping and peeling, violates these provisions. The problem is then within the statute.

In addition to these general repair and deduct statutes, two states have specific repair and deduct statutes for lead-based paint.[237] Under these two statutes, the court may order the tenant to do the repairs and deduct the cost.[238] The amount of rent which can be used to abate the lead-based paint is determined by the court.

Most states limit the amount of rent which can be used under the general repair and deduct statutes.[239] In four of nine states, no more than a maximum of one month s rent can be used.[240] This amount is not likely to be sufficient to cover the cost of

F.2d 1071, 1081 (D.C. Cir. 1970), *cert. denied*, 400 U.S. 925, (1970); Lemle v. Breeden, 51 Hawaii 426, 462 P.2d 470, 474 (1969); Lund v. MacArthur, 51 Hawaii 473, 462 P.2d 482, 483 (1969); Jack Spring, Inc. v. Little, 50 Ill.2d 351, 280 N.E.2d 208, 217 (1972); Pole Realty Co. v. Sorrells, 84 Ill.2d 178, 49 Ill. Dec. 283, 417 N.E.2d 1297 (1981); Old Town Development Co. v. Langford, 349 N.E.2d 744 (Ind. App. 1976); Mease v. Fox, 200 N.W.2d 791 (Iowa 1972); Steele v. Latimer, 214 Kan. 329, 521 P.2d 304 (1974); Boston Housing Authority v. Hemingway, 363 Mass. 184, 293 N.E.2d 831 (1973); King v. Moorehead, 495 S.W.2d 65 (Mo. App. 1973); Kline v. Burns, 111 N.H. 87 276 A.2d 248 (1971); Marini v. Ireland, 56 N.J. 130, 265 A.2d 526 (1970); Berzito v. Gambino, 63 N.J. 460, 308 A.2d 17 (1973); Tonetti v. Penati, 48 App. Div. 2d 25, 367 N.Y.S. 2d 804 (1975); Glyco v. Schultz, 35 Ohio Misc. 25, 289 N.E.2d 919 (Mun. Ct. 1972); Pugh v. Holmes, 486 Pa. 272, 405 A.2d 897 (1979); Kamarath v. Bennett, 568 S.W.2d 658 (Tex. 1978); Foisy v. Wyman, 83 Wn.2d 22, 515 P.2d 160 (1973); Teller v. McCoy, 253 S.E.2d 114 (W Va. 1978). A condition which causes tenant' child to become seriously ill will probably breach this warranty.

235. *Infra* pp. 409-412.

236. Abbott, *Housing Policy, Housing Codes and Tenant Remedies: An Integration*, 56 B.U. L. REV. 1, 40-49 (1976).

237 MICH. COMP. LAWS ANN. § 125.534(5) (West 1976); MINN. STAT. ANN. § 566.25(b) (West Supp. 1985).

238. *Id.*

239. *Supra* note 230.

240. ARIZ. REV. STAT. ANN. § 33-1363 (1974) (less than one hundred fifty dollars, or an amount equal to one-half of the monthly rent, whichever amount is greater. .); CAL. CIV. CODE § 1942 (West 1985) (does not require an expenditure more than one month rent. .); MONT. CODE ANN. § 70-24-406(1)(b) (1985) (do not cost more than one month' rent); WASH. REV. CODE ANN. § 59.18.100 (Supp. 1986) (in an amount not to exceed the sum expressed in dollars representing one month's rental. .)

abatement where all interior surfaces are covered or the paint removed. HUD estimates the costs for this abatement to range from $508 to $1,067 [241] If only peeling paint is removed and new paint applied, the costs range from $34 to $225,[242] and the rent is likely to cover those costs. The range of these expenses depends on the age and type of dwelling.[243] The statutes of two states do not limit the amount which can be deducted, but refer to what is reasonable.[244] If the expenses are within HUD's average costs for the age and type of structure, they should be found reasonable.

The owner s rent stream may also be interrupted by rent withholding or rent escrow laws.[245] The childhood lead poisoning prevention acts of Illinois,[246] Massachusetts[247] and Wisconsin[248] have special provisions that direct a tenant to withhold rent if the owner does not comply with an abatement order Maryland has a lead-paint escrow law which permits a tenant to withhold rent if his unit contains lead paint accessible to a child.[249] Similarly a Connecticut statute finds that lead paint in a defective condition makes the property uninhabitable and subject to rent escrow [250]

The general rent escrow or withholding statutes of other states[251] allow a tenant to withhold rent if there is a condition which violates a local code,[252] or is a serious threat to health and

241. POISONING RESEARCH, *supra* note 3, at 47-48.

242. *Id.*

243. *Id.* at 45-53, F-1 F-26.

244. LA. CIV. CODE ANN. art. 2694 (West 1952); N.D. CENT. CODE § 47-16-13 (1978).

245. *Supra* note 225.

246. ILL. ANN. STAT. ch 111-1/2, § 1310 (Smith-Hurd Supp. 1985).

247 MASS. GEN. LAWS ANN. ch. 111, § 127F (West 1983).

248. WIS. STAT. ANN. § 151.13(1) (West Supp. 1985).

249. MD. REAL PROP CODE ANN. § 8-211.1 (1981). This section is interpreted in Ronald Fishkind Realty v. Sampson, 306 Md. 269, 508 A.2d 478 (1986).

250. CONN. GEN. STAT. §§ 47a-7 47a-8 (West 1978 & Supp. 1985).

251. *Supra* note 225.

252. FLA. STAT. ANN. §§ 83.51(1), 83.60 (West Supp. 1985); ILL. ANN. STAT. ch. 23, § 11-23 (Smith-Hurd 1968 & Supp. 1985) (This deals with governmental unit not paying rent allowance to the owner of structure which is not in compliance with local codes.); IOWA CODE ANN. §§ 562A.15(1), 562A.24 (West Supp. 1985); KY. REV. STAT. ANN. §§ 383.595(1), 383.635 (Baldwin 1979); MASS. GEN. LAWS ANN. ch. 239, § 8A (West Supp. 1985); MINN. STAT. ANN. §§ 566.18.6, 566.20 (West 1985); MO. ANN. STAT. §§ 441.500, 441.570 (Vernon Supp. 1985); MONT. CODE ANN. § 70-24-303(1)(a) (1985); NEB. REV. STAT. § 76-1428 (1981); N.H. REV. STAT. ANN. § 540:13-d (Supp. 1983); N.J. STAT. ANN. § 2A:42-85, 2A:42-86 (West Supp. 1985); N.Y. MULT. RESID. LAW § 305-a(2)(1) (McKinney Supp. 1984-1985); N.Y. REAL PROP ACTS LAWS § 755 (McKinney 1979); OHIO REV. CODE ANN. §§ 5321.04(A)(1), 5321.07 (Page 1981); PA. STAT. ANN. tit. 35, § 1700-1 (Purdon 1977); TENN. CODE ANN. §§ 68-40-102, 68-40-104 (1983).

habitability [253] These standards are the same as those in the general repair and deduct statutes.[254] Consequently the analysis of coverage is the same: If lead-based paint is prohibited by local codes,[255] if it is a threat to the health of a tenant's child making the unit uninhabitable,[256] or if it is prohibited under general local code provisions dealing with the condition of paint on walls,[257] the tenant may use the escrow laws. To prove lead-based paint exists in order to use these laws, a tenant must have the property examined by a government inspector [258] This inspection may lead to an abatement order [259] which will be in addition to the interruption of rent when the tenant takes advantage of the escrow laws.

The interruption of the rent stream also will occur if a tenant exercises his contract rights under the implied warranty of habitability [260] This doctrine requires the owner to provide a tenant with a property that complies with local codes and poses no threat to health and safety [261] Lead-based paint is a threat to the health and safety of a tenant's young child,[262] and its presence should be a breach of this warranty This implied warranty of habitability may be the result of a court decision[263] or may be contained in a statute.[264] The remedies available to a tenant for the breach of

253. IOWA CODE ANN. §§ 562A-15(1), 562A.24 (West Supp. 1985); KY. REV. STAT. ANN. §§ 383.595(1), 383.635 (Baldwin 1979); MICH. COMP LAWS ANN. § 125.530(2) (West 1976); MONT. CODE ANN. § 70-24-303(1)(b) (1985); NEB. REV. STAT. § 76-1428 (1981); NEV. REV. STAT. §§ 118A.290, 118A.350(1)(c) (1979); N.J. STAT. ANN. §§ 2A:42-85, 2A:42-86 (West Supp. 1985); N.Y. REAL PROP ACTS LAWS § 755, 769 (McKinney 1979 & Supp. 1984-1985); OHIO REV. CODE ANN. § 5321.04(A)(2) (Page 1981); OR. REV. STAT. §§ 91.770, 91.810 (1983); R.I. GEN. LAWS § 45-24.2-11 (1980); S.D. COMP LAWS ANN. § 43-32-9 (1983); VA. CODE § 55-248.25 (1981 & Supp. 1985) (as amended 1982).

254. *Supra* notes 231 and 232.

255. *Supra* note 233.

256. *Supra* notes 234 and 235.

257 *Supra* note 236.

258. MASS. GEN. LAWS ANN. ch. 239, § 8A (West Supp. 1985); MICH. COMP LAWS ANN. § 125.530(1) (West 1976); PA. STAT. ANN. tit. 35, § 1700-1 (Purdon 1977); R.I. GEN. LAWS § 45-24.2-11 (1980); TENN. CODE ANN. §§ 68-40-103, 68-40-104 (1983). These statutes provide for inspection specifically, but generally inspection is required to prove violation and is done under the police power.

259. *Infra* pp. 427-428, 429-430.

260. *Supra* note 226.

261. *Id.*

262. *Supra* notes 234 and 235.

263. *Supra* note 234.

264. IDAHO CODE § 6-320 (1981); ME. REV. STAT. ANN. tit. 14, § 6021 (Supp. 1982-1983); MICH. COMP LAWS ANN. § 554.139 (Supp. 1982-1983); MINN. STAT. ANN. § 504-18 (West Supp. 1982); N.Y. REAL PROP L. § 235-b (Supp. 1981-1982); R.I. GEN. LAWS § 34-

the warranty are termination of the tenancy [265] damages,[266] reduction in rent,[267] or the right to repair and deduct the cost.[268] All four remedies will interrupt the rent stream.

As discussed, an investor who owns property with lead-based paint is faced with the possibility of government or court ordered abatement which may be initiated by the government or by a tenant. In addition, he may have his rent stream interrupted or diminished. When faced with these possibilities, he may abate or he may choose to disinvest. The decision to disinvest will lead to a tranfer of the property to another or to abandonment.[269]

C. *Private Cause of Action*

Another factor which the investor must weigh, in deciding to invest or to disinvest, is his exposure to liability for the injuries suffered by children who contract lead poisoning in his rental unit. The investor as landlord is the usual target for these tort suits, because it is difficult for litigants to prove who manufac tured each layer of paint in a rental unit and which layer of paint caused the injury [270] The landlord is known and thus is a more readily available target for a law suit.

Several of the state statutes aimed at preventing childhood lead poisoning specifically reserve the tenant s right to sue for dam-

18-16 (1970); W VA. CODE ANN. § 37-6-30 (Supp. 1982); WIS. STAT. ANN. § 704-07 (West Supp. 1982-1983). The implied warranty is contained in UNIF RESIDENTIAL LANDLORD AND TENANT ACT 2.104, 7B U.L.A. 460 (1985). The states adopting the provision are Alaska, Arizona, Florida, Hawaii, Iowa, Kansas, Kentucky, Montana, Nebraska, New Mexico, Oregon, Tennessee and Virginia.

265. Lemle v. Breeden, 51 Hawaii 426, 462 P.2d 470 (1969); King v. Moorehead, 495 S.W.2d 65 (Mo. 1973); Pines v. Perssion, 14 Wis.2d 590, 111 N.W.2d 409 (1961).

266. Lund v. MacArthur, 51 Hawaii 473, 462 P.2d 482 (1969); Mease v. Fox, 200 N.W.2d 791 (Iowa 1972); King v. Moorehead, 495 S.W.2d 65 (Mo. 1973); Steele v. Latimer, 214 Kan. 329, 521 P.2d 304 (1974).

267 Green v. Superior Court, 10 Cal.3d 616, 111 Cal. Rptr. 704, 517 P.2d 1168 (1974); Javins v. First National Realty Corp., 428 F.2d 1071 (D.C. Cir. 1970), *cert. denied*, 400 U.S. 925 (1970); Jack Spring, Inc. v. Little, 50 Ill.2d 351, 280 N.E.2d 208 (1972); Fritz v. Warthen, 298 Minn. 54, 213 N.W.2d 339 (1973); Rome v. Walker, 38 Mich. App. 458, 196 N.W.2d 850 (1972); Foisy v. Wyman, 83 Wn.2d 22, 515 P.2d 160 (1973).

268. Marini v. Ireland, 56 N.J. 130, 265 A.2d 526 (1970).

269. *Infra* pp. 446-447

270. *Preventive Actions*, *supra* note 9, at 327· Moskovitz and Bates, *A New Threat—Lead Poisoning of Slum Children*, 3 CLEARINGHOUSE REV. 92, 103 (1969) [hereinafter Moskovitz and Bates]. To date there are no reported cases succeeding on these theories.

ages.[271] Indeed, Maine[272] and Massachusetts[273] provide for treble damages if the investor fails to correct the lead-based paint condition after notice. Illinois law states that "failure to remove lead-based substances shall be prima facie evidence of negligence. "[274] The tenant's right to sue was recognized before these statutes were enacted in the 1970's.

The right to sue for lead-based paint poisoning proceeds on various theories[275] of negligence with varying results.[276] Recovery has been granted in *Acosta v. Irdank Realty Corp.* [277] and *Norwood v. Lazarus*.[278] The validity of a theory which would support recovery was recognized in *Davis v. Royal-Globe Insurance Co* [279] *Caroline v. Reicher* [280] and *Dunson v. Friedlander Realty*.[281] However no recovery was allowed in *Weaver v. Arthur A. Schneider Realty Co.* [282] *Montgomery v. Cantelli* [283] and *Kolojeski v. John Deischer Inc.*[284] The later cases, *Norwood* and *Davis*, distinguished *Weaver* and *Montgomery* on their facts, and allowed recovery or recognized a theory which would support recovery [285]

271. ILL. ANN. STAT. ch. 111-1/2, § 1315 (Smith-Hurd 1977); LA. REV. STAT. ANN. § 40:1299.29 (West 1977); ME. REV. STAT. ANN. tit. 22, § 1324 (1980); MASS. GEN. LAWS ANN. ch. 111, § 199 (West 1983).

272. ME. REV. STAT. ANN. tit. 22, § 1324-A (1980).

273. MASS. GEN. LAWS ANN. ch. 111, § 199 (West 1983).

274. ILL. ANN. STAT. ch. 111-1/2, § 1315 (Smith-Hurd 1977).

275. In addition to negligence, these authors suggest theories of strict liability, nuisance, mortgagee liability among others, but the case law on private tort action is limited to negligence. Greer, *supra* note 9, at 258-59; Moskovitz and Bates, *supra* note 270; *Remedies*, *supra* note 9, at 542-43; *Litigation*, *supra* note 9, at 248-59; *Preventive Actions*, *supra* note 9, at 327-31.

276. Annotation, 43 A.L.R.3d 1268 (1972).

277 38 Misc.2d 859, 238 N.Y.S.2d 713 (N.Y. Sup. Ct. 1963).

278. 634 S.W.2d 584 (Mo. Ct. App. 1982).

279. 223 So.2d 912 (La. Ct. App. 1969), *rev d on other grounds*, 257 La. 523, 242 So.2d 839 (La. 1971), *cert. denied*, 403 U.S. 911 (1971).

280. 269 Md. 125, 304 A.2d 831 (1973).

281. 369 So.2d 792 (Ala. 1979).

282. 381 S.W.2d 866 (Mo. 1964) (en banc).

283. 174 So.2d 238 (La. Ct. App. 1965).

284. 429 Pa. 191, 239 A.2d 329 (Pa. 1968).

285. In Montgomery v. Cantelli, 174 So.2d at 239, where recovery was not permitted, the injured child was eating paint flakes off the front door. The children in Davis v. Royal Globe Insurance Co., 223 So.2d at 913, were eating paint flakes inside the apartment. In distinguishing Montgomery v. Cantelli, the court in Davis v. Royal Globe Insurance Co. stated:

> We can see how it would be unreasonable to hold landlord for the actions of children in eating such foreign material in those situations [outside the leased property].

All of these suits proceed on the common law theory of negligence. The key issues were whether the landlord had breached a duty[286] and whether the child's injury was a foreseeable result of the landlord's failure to meet his duty.[287] The landlord's duty was based: in *Acosta* on maintaining the premises in proper repair under the state's Multiple Dwelling Law;[288] in *Weaver* and *Norwood* on the common law duty to maintain the common areas in proper repair;[289] in *Montgomery* on the Louisiana Civil Code requirement that the landlord "inspect and discover vices and defects which exist in the premises ".[290] in *Davis* on the landlord's duty to maintain the premises;[291] in *Caroline* on the landlord's obligation to correct dangerous defects;[292] and in *Dunson* on the landlord's obligation to properly perform a duty he undertook.[293] The only lead-based poisoning case to find no duty was *Kolojeski*. In that case the child consumed lead-based paint chips in the living room of her apartment.[294] The court found no common law duty on the part of the landord to maintain the inside of the apartment

223 So.2d at 916. Davis v. Royal Globe Insurance Co. would have permitted recovery, but was reversed on certiorari to the state supreme court because the facts did not support finding of the landlord' liability.

In Weaver v. Arthur A. Schneider Realty Co. and Norwood v. Lazarus, the children in both cases were eating paint chips in the common hallway. In allowing recovery in Norwood v. Lazarus, the court did not find the child' conduct of putting paint chips in her mouth so highly extraordinary as to preclude recovery. 634 S.W.2d at 588. In Weaver v. Arthur A. Schneider Realty Co., some eighteen years before, such conduct was found so extraordinary as to preclude recovery. 381 S.W.2d at 869.

286. Acosta v. Irdank Realty, 238 N.Y.S.2d 713, 714 (1963); Weaver v. Arthur A. Schneider Realty Co., 381 S.W.2d 866, 867 (S. Ct. of Mo. 1964); Montgomery v. Cantelli, 174 So.2d 238, 240 (La. Ct. App. 1965); Kolojeski v. John Deisher, Inc., 429 Pa. 191, 239 A.2d 329, 330-331 (1968); Davis v. Royal Globe Insurance Co., 223 So.2d 912, 918 (La. Ct. App. 1965); Caroline v. Reicher, 269 Ind. 125, 304 A.2d 831, 837 (1973); Dunson v. Friedlander Realty, 369 So.2d at 795; Norwood v. Lazarus, 634 S.W.2d 584, 587-88 (Mo. Ct. App. 1982).

287 Acosta v. Irdank Realty, 238 N.Y.S.2d at 714; Weaver v. Arthur A. Schneider Realty Co., 381 S.W.2d at 867-69; Montgomery v. Cantelli, 174 So.2d at 240-41; Davis v. Royal Globe Insurance Co., 223 So.2d at 916; Caroline v. Reicher, 304 A.2d at 837; Dunson v. Friedlander Realty, 369 So.2d 795; Norwood v. Lazarus, 634 S.W.2d at 587-88.

288. Acosta, 238 N.Y.S.2d at 714.

289. Weaver v. Arthur A. Schneider Realty Co., 381 S.W.2d at 867; Norwood v. Lazarus, 634 S.W.2d at 587-88.

290. Montgomery, 174 So.2d at 240. A claim based on the provision making the landlord responsible for ruin of the building was rejected.

291. Davis, 223 So.2d at 918. Although not mentioned, as Louisiana case it would have the same statutory requirements as Montgomery v. Cantelli, 174 So.2d at 240.

292. Caroline, 304 A.2d at 834-35.

293. Dunson, 369 So.2d at 795.

294. Kolojeski, 239 A.2d at 329-30.

because there was no covenant to repair in the lease.[295] Furthermore, the existence of lead-based paint was not a dangerous condition for which the landlord was liable.[296] With current knowledge, the premise of this 1968 case should no longer be valid.[297] The pivotal issue in these tort cases was whether the child's injury was legally caused by or a foreseeable result of, the failure to abate lead-based paint. The basic question was whether the landlord should have known children would eat paint chips. In *Acosta*,[298] *Davis*,[299] *Caroline*[300] and *Norwood*,[301] the court held that the landlord should expect such conduct. In *Weaver* [302] *Montgomery*,[303] and *Dunson*,[304] it was held the landlord should not expect such conduct. Again, as with the knowledge of the dangers of lead-based paint, the tremendous growth of information and public education in the area of childhood lead poisoning should make invalid the premise that it is not foreseeable children will eat chips of paint.[305]

With these evolutions in knowledge, the landlord who owns rental units with lead-based paint faces a growing tort liability. This potential liability is enormous because of the type of injuries which occur and the costs associated with them.[306] Some reported settlements of cases have been over a million dollars.[307]

295. *See Id.* at 330.

296. *See Id.* at 331.

297 *See* Section I, *infra* pp. 401-416.

298. Acosta, 238 N.Y.S.2d at 714.

299. Davis, 223 So.2d at 916.

300. Caroline, 304 A.2d at 837 The major issue in the case deals with supervening negligence of parent, however, not the foreseeability of injury from the landlord' failure to abate.

301. Norwood, 634 S.W.2d at 587-88.

302. Weaver, 381 S.W.2d at 867-69.

303. Montgomery, 174 So.2d at 240-41.

304. Dunson, 369 So.2d at 795.

305. Public education concerning the dangers of lead-based paint has been part of Baltimore public health program since the 1930's. *See Chronology of Lead Poisoning Control Baltimore 1931-1971*, *supra* note 14. In the late 1960's, other cities began active programs. *See* Stein, *supra* note 21, at 280. The federal government has also been involved under its mandate to notify all people in HUD owned or associated housing of the perils of lead-based paint. 24 C.F.R. § 35.1 (1985).

306. *Infra* pp. 409-412.

307 Whitelaw v. Nowicki, No. 474-326 (Milwaukee, Wis., County Cir. Ct., September 30, 1981), $1.3 million settlement for the mental retardation of an eight year old girl in CHILD INJURY: INGESTION OF PAINT CHIPS: LEAD POISONING: BRAIN DAMAGE: MENTAL RETARDATION: SETTLEMENT, 25 A.T.L.A. L. REP 80 (1982); Jimenez v. Wilson, No. 77-1794 (Middlesex, Mass., Supr. Ct., December 14, 1982), $49,500 settlement for the intellectual and motor impairment of child in CHILD INJURY: INGESTION OF PAINT CHIPS: LEAD

This liability can spur an investor to abate or to disinvest.[308]

III. ECONOMICS OF LEAD-BASED PAINT IN RENTAL HOUSING

A. *Model*

To determine the effect of lead-based paint abatement laws on an investor an income valuation model can be used. The price of real estate is established by one of three methods: comparables, replacement cost, or income valuation.[309] Income valuation models are the preferred method of valuing rental property [310]

These models use discounted gross operating income to estimate market prices. Gross operating income is the rent stream or annual rents before expenses are deducted. This figure is discounted by determining the present value of the projected future rents. The present value represents the market price, which may be estimated by using this model.[311]

(1) $P = \frac{R}{i}$

where P = price
R = annual gross rents
i = minimum required rate of return

The theory of income valuation models holds some gross income multiplier exists which will result in a reasonable estimate of market value.[312] From (1), that multiplier is the inverse of the required rate of return. For example, if the minimum required rate of return is 10% then the multiplier is 1/ 10 or 10. Similarly if the rate of return is 20% the multiplier falls to 1/.20 or 5. Thus, the higher the required return, the lower the multiplier

In the case of a property with a high probability of a lead-based paint, an additional cost expectation exists. Because lead-based

POISONING: INTELLECTUAL AND MOTOR IMPAIRMENT: SETTLEMENT, 26 A.T.L.A. L. REP 175 (1983); Banks v. Esplanade Equities, Inc. (Brooklyn, N.Y., Sup. Ct., October 14, 1968), $250,000 damage award for paralyzing injuries in BABYGIRL EATS PAINT CHIPS FALLING INTO HER CRIB FROM TENEMENT CEILING $250,000 AWARD FOR PARALYZING INJURIES, 11 A.T.L.A. L. REP 497 (Dec. 1968).

308. One of the growing areas of concern, which is beyond the scope of this paper, is the difficulty investors are having in obtaining liability insurance. Many investors when faced with self-insuring or withdrawing from the business choose to withdraw. This alone does not negatively impact the rental housing market unless they choose to abandon.

309. C. WURTZEBACH & M. MILES, MODERN REAL ESTATE 159-194 (2d ed. 1984).

310. W BEATON & T ROBERTSON, REAL ESTATE INVESTMENT 165-170 (2d ed. 1977).

311. D. EPLEY & J. BOYKIN, BASIC INCOME PROPERTY APPRAISAL 163-164 (1983).

312. *Id.* at 70-71.

paint has been an issue since the early 1970's,[313] a reasonable hypothesis is that the expected cost of abatement is discounted into present market prices.[314] If an investor knew that he would be forced to abate in a certain number of years from the time of purchase, he would adjust his offering price in equation 1 as follows:

$$(2)\ P = \frac{R}{i} - \frac{C}{(1+i)^N}$$

where C = cost of abatement
N = year in which abatement will take place

The term $\frac{C}{(1+i)^N}$ is the discounted value of the estimated abatement cost, C. If abatement is expected to be required immediately such as when applying for federal funds to rehabilitate a structure with existing lead-based paint violations,[315] N would be zero and no discounting of the cost would occur i.e., $(1+i)^0 = 1$.[316]

However a more realistic situation would be for abatement to occur in a few years from purchase. Under the health approach, which is the form of most state and local laws, abatement is not required unless a child who resides in the structure is found to have an elevated blood lead level.[317] An investor may estimate that such an occurrence is not likely for several years. If so, abate ment can be postponed, and the present value of the cost, C, can be discounted from the expected year of required abatement.[318]

In fact, the time when abatement will be required is not known with certainty All investment properties do not contain lead-based paint. Even if an investment property does contain the paint, abatement will be required only when ordered by a govern-

313. *Supra* note 107

314. The idea that future benefits and costs of certain aspects of real property are discounted into present value, or market price, is well-known. For example, *see* Johnson & Kaserman, *Housing Market Capitalization of Energy-Saving Durable Good Investment*, 21 ECONOMIC INQUIRY 374-386 (1983).

315. *Supra* note 165.

316. Any real number raised to the zero power is equal to one. M. GRAY, CALCULUS WITH FINITE MATHEMATICS FOR SOCIAL SCIENCES 9 (1972).

317 *Infra* p. 425.

318. Discounting refers to the mathematical process of stating future cash flows in their present—or current—values. J. WESTON & E. BRIGHAM, ESENTIALS OF MANAGERIAL FINANCE 49-64 (6th ed. 1982).

ment agency or a court.[319]

Because the necessity for abatement is uncertain, let

P_1 = probability that lead-based paint exists
P_2 = probability that lead-based paint will have to be abated

Then

$$(3)\ P = \frac{R}{1} - \frac{(P_1P_2C)}{(1+i)^N}$$

Equation 3 assumes that P1 and P2 are conditional, i.e., that the existence of lead-based paint and its necesssary abatement are related. For the investor estimating P1, the existence of lead-based paint, depends on the age of the structure, its past maintenance, and the number of lead poisoning cases in the immediately sur rounding neighborhood.[320]

Estimating P_2, the probability of abatement, is slightly more complicated. If the investor is trying to obtain a certification of his structure for the Section 8 rent subsidy program,[321] P_2 is one. Given the health approach of the laws, abatement depends on a child living on the property [322] If an owner refuses to rent to households with children,[323] P_2 will equal O In any case, lead-based paint needs to be abated only if it exists. Therefore, P_2 is conditional upon the existence of P_1. Many investors may simply estimate the probability of necessary abatement without actually separating P_1 and P_2. However for analytical purposes, the two probabilities should be identified as independent occurrances.

In addition to forced abatement, the investor faces interruption of the rent stream. Some statutes and case law allow a tenant to deduct the cost of repairs from rent,[324] to escrow or withhold rent,[325] or to obtain contract damages.[326] However the economic result in such cases does not differ from the above analysis. For a

319. *Infra* pp. 424-430.

320. These factors were the basis of the HUD study on the cost of abatement. POISONING RESEARCH, *supra* note 3.

321. *Supra* note 126.

322. *Infra* pp. 425-427

323. Many local ordinances formed such discrimination. *See* Marina Point, Ltd. v. Wolfson, 30 Cal.3d 721, 180 Cal. Rptr. 496, 640 P.2d 115, *cert. denied*, 459 U.S. 858 (1982); Note, *Why Johnny Can't Rent—An Examination of Laws Prohibiting Discrimination Against Families in Rental Housing*, 94 HARV. L. REV. 1829 (1981).

324. *Infra* pp. 431-434.

325. *Infra* pp. 434-435.

326. *Infra* p. 435.

tenant to take advantage of these remedies, the owner must be notified of the existence of lead-based paint, and fail to abate it.[327] The tenant then seeks a court order or waits for the owner to sue him for nonpayment of rent.[328] When faced with a court action, the owner will either abate to avoid the rent withholding or damages or he will not. If he chooses not to abate, the tenant may use the rent under court order to abate the property [329] The model in equation 3 covers these outcomes because the investor faces economic losses in a particular year due to the presence of lead-based paint.

Once P_1 and P_2 in equation 3 have been estimated, an investor must choose an appropriate multiplier or discount rate. A gross income multiplier of ten is not unusual for most income produc ing property However older urban rental housing, especially low income, has traditionally required low multipliers. Riskiness in rent collections, high maintenance costs, and high vacancy rates have all been cited as making this type of investment inher ently more risky [330] These properties use a gross income multiplier of approximately three or less.[331]

A hypothetical case can be constructed to demonstrate the model. Assume that rents from a particular property were $3,600 a year and that the investor required a return of 35% In the absence of lead-based paint, he will be willing to pay·

$$P = \frac{R}{i}$$

$$P = \frac{3600}{.35}$$

$$= 10,285$$

Now assume that the investor knows that many houses in the area have been abated; thus, he estimates that there is a 90% chance that a particular property contains lead-based paint. If it is present, the investor estimates a 70% chance of forced abatement in the fourth year of ownership.[332] The cost of correction

327 *Infra* pp. 431-436. *See supra* note 236, at 56-64.

328. *Infra* pp. 431-436.

329. *Id.*

330. G. STERNLIEB, THE TENEMENT LANDLORD 76-97 (1966).

331. *Id.* at 103.

332. These probabilities are often based on knowledge of the market but are more often simply good estimates. They are never precise as most of us would like.

depends on the extent of the presence of lead-based paint, the size of the unit, and the level of abatement required.[333] However $2,000 is high by most estimates.[334] The investor is likely to adjust his offering price according to equation 3:

$$P = \frac{3600}{.35} - \frac{(.9)(.7)2000}{(1.35)^4}$$

$$P = 10,285 - 379$$
$$= 9,906$$

With no abatement probabilities, the offering price would be $10,285. However where the investor anticipates a high probability of costs of $2,000 in the fourth year he will adjust his offering price by $379.00. In other words, the investor will offer a purchase price of approximately four percent less in this case, anticipating the cost of removing the lead-based paint. If such discounting has occurred over the last fifteen years, many present property owners have been compensated for the cost of removing the lead-based paint.

A local government enforcing lead-based paint abatement laws may be concerned that an investor may abandon the property rather than pay the cost of abatement. However if the investor can sell the property for any sum, he will not abandon. A new buyer knowing that abatement must occur immediately will pay the discounted value of the rent stream less the abatement costs. In the last example, the investor adjusted his offering price by four percent to account for the sixty-three percent total probability that he would be required to abate in the fourth year of ownership. Assume that the investor was correct and that in the fourth year the property must be abated immediately with one hundred percent total probability A new buyer would be willing to pay·

$$P = 10,285 - \frac{(1)(2000)}{(1.35)^0}$$

$$= 10,285 - 2,000$$
$$= 8,285$$

333. *Supra* note 101.
334. *Infra* pp. 414-416.

The previous investor purchased the property for $9,906, but must now sell for $8,285. He will, then, have a capital loss[335] of $1,621 However his four year holding period[336] return will not be negative because he has received $3,600 per year for four years while he paid only $9,906 for the property [337] The property would be abandoned only if the costs of abatement were more than $10,285. In that case, the value of the property would be negative. This valuation would occur if costs of abatement were high, discount rates for such property were high, and gross annual rents were low

In addition, the previous investor who paid $9,906 may not be required to abate. The possibility that abatement will not be nec essary is the probability of no lead-based paint on the premises plus the probability that if the paint is present, it need not be abated. In the previous example, the probability that lead-based paint existed was ninety percent. Thus, there is a ten percent probability that it does not exist. If it does exist, the probability of its needing to be abated is seventy percent. Therefore, the probability of its not needing to be abated is thirty percent. To determine the total probability of its not needing to be abated, those probabilities are added:

$$\begin{aligned} T &= .10 + .9(.3) \\ &= .10 + .27 \\ &= .37 \end{aligned}$$

In other words, there is a thirty-seven percent probability that the investor who pays $9,906 will not be forced to abate the property and therefore will receive a windfall gain of $379

B. *Implications of Model*

An investor s most likely response to lead-based paint abatement laws is to discount the future cost of abatement into real estate prices. The form of this discounting will depend on when

335. The investor will sell his property for less than his purchase price. For tax purposes, however, capital gain is defined as net selling price less book value or adjusted basis of value. Thus the investor may have taxable capital gain even though the selling price is less than the purchase price. J. WIEDEMER, REAL ESTATE INVESTMENT 84-88 (3d ed. 1985).

336. Holding Period Return refers to the annualized rate of return over the exact time period during which the investment was held.

337 His four year holding period return will be only slighly less than 35%. The investor bought the property at discount but received the rent stream appropriate to higher priced property. He then took capital loss at the time of sale.

the investor purchased the property relative to public knowledge of childhood lead poisoning and the existence of abatement laws.

If an investor bought his property after the knowledge became public, he would discount expected abatement costs into his offering price. He would then be compensated for future required expenditures. If abatement were never required, this buyer would receive a windfall gain. He would have purchased the property at a lower price, but would not need to spend the savings on abatement. If the same investor sold his property rather than spend funds on abatement at the required time, he would take a capital loss.[338] The person buying from him, knowing that he must abate immediately would offer a price reduced by the present cost of abatement. The investor would be forced to sell his property for less than his purchase price. Nonetheless, he would have received the normal cash flow on his purchase price during his holding period.

Investors who purchased property prior to the public knowledge of childhood lead poisoning and abatement laws would take unexpected capital losses. However these investors would have received normal cash returns over their holding period. Also, if the costs of abatement are minor the costs can be deducted as a business expense; if major they can be added to the capital ac count and recovered on sale.[339]

Investor's conduct would rationally be expected to take into ac count the cost of abatement. However when the possibility of required widespread abatement was first raised in 1972 Congressional hearings, government officials alleged that the result of rigid enforcement of such laws would be widespread abandonment.[340] Abandonment of properties is feared by local governments because the properties are removed from the tax roles and the governments do not have the resources to make the proper ties productive.[341] Fear of abandonment is well founded: Baltimore, Maryland has over 7,000 abandoned units; Philadelphia, approximately 30,000; and New York City about 100,000.[342] In-

338. *Supra* note 335.

339. *Supra* note 115.

340. *Hearings on S. 3080 Before the Subcom. on Health of the Com. on Labor and Public Welfare*, 92d Cong., 2d Sess. 23, 36-37 (1972).

341. E. MILLS & B. HAMILTON, URBAN ECONOMICS 204-205 (3d ed. 1984).

342. *Id.* at 201-202. These figures include both residential and nonresidential structures.

vestors have given these properties to the local government because they believe that the cost of ownership is higher than the rent stream from the property These costs include minimal maintenance, insurance, property taxes, and interest if financed.[343]

Investors who have abandoned their property may blame forced lead abatement. However the more likely reason, as admitted by government officials in the 1972 hearings, is that the properties are marginal: they are poorly maintained, in an area of declining value, and expensive to hold.[344] Abatement may or may not be an additional reason to abandon, but would rarely be the primary cause.

Abatement would not be the primary cause because the costs of abatement for individual properties are relatively low [345] The $2,000 cost used in the model was the highest figure estimated by HUD and later estimates were lower [346] In any case, the discounted cost of abatement would need to be higher than the discounted value of rents for a property to be worthless, and therefore, abandoned. This is likely to happen only where the property is worth little for reasons other than abatement costs. The spector of abandonment is used by private investors to argue against abatement laws and paying the cost of abatement. Yet the one time cost to remove all lead-based paint in the United States was estimated in 1976 to be $28.4 billion.[347] This is contrasted against an estimated annual cost in 1978 to society for the victims of childhood lead poisoning of $4.29 million to 1.04 billion.[348] On a local level, the cost of repeated medical care for nineteen children was estimated to be $141,750, and the cost of abating their housing to avoid those repeat medical costs was estimated to be $28,500.[349]

The cost of most abatement must be paid, at the present time, by private owners. These investors view abatement as a business expense, not a human necessity As such they would prefer not to abate unless the cost is borne by others. However if the model is

343. *Supra* note 330 at 203-224.
344. *Supra* note 340.
345. *Infra* pp. 414-416.
346. *Supra* notes 100, 101.
347 POISONING RESEARCH, *supra* note 3, at 50.
348. Provenzano, *supra* note 78, at 312-14.
349. O'Hara, *supra* note 6, at 97

correct, present owners already have been compensated for this expense. Given the terrible consequences of this disease and the relatively small cost of removing lead-based paint from an individual structure, abatement should no longer be postponed in our cities.

IV CONCLUSIONS

Childhood lead poisoning is a continuing threat to young children who live in housing containing lead-based paint. As long as older poorly maintained, housing stock is used, childhood lead poisoning will occur The costs of such illness are only now being understood and quantified. They extend far beyond the initial expenses of treatment to decreased earning potential of the victim and his caretaker lifelong health care requirements of the victim, and adverse impact on the educational potential of the victim and those around the victim.

Treatment and prevention of childhood lead poisoning requires abatement of housing containing lead-based paint. The financial responsibility for abatement rests on the owner of the structure. However investors have resisted this responsibility because the expense of abatement is a direct expense to them which may not be immediately recovered, and the expense of the illness is borne by the victim and society

The valuation model demonstrates that if real estate markets work rationally investors today have already accounted for the cost of abating lead-based paint. Thus, the public has no obligation to pay for abatement since it has been calculated into market prices. To end childhood lead poisoning, governments must require immediate systematic abatement of housing containing lead-based paint.