HUD's analysis of these screening data has begun with the venous blood lead data from New York City. Preliminary analysis undertaken in cooperation with the New York City Department of Health found some highly significant results relating to variations of blood lead levels in New York between 1970 and 1976. These results include:

1. There is a definite difference in blood lead values for racial and ethnic groups; blacks have the highest mean lead levels, and hispanic and white groups have nearly the same, significantly lower levels.

2. The mean blood lead level is related to age among children. This age dependence is similar for all sampling years; the 1- to 12-month age group has the lowest levels, and generally the maximum is found among 2- to 4-year old children.

3. There was a consistent decrease of mean blood levels between 1970 and 1976. This decrease was coincident with a reduction in the air lead levels in the New York area as measured at a single air sampling station.

4. There is a seasonal variation in mean blood leads; a peak occurs each July and August.

This study is based on one of the most extensive data sets available on blood lead levels. The results were considered significant and the initial findings were transmitted to the Environmental Protection Agency to be included in the Air Lead Criteria Document used for setting an ambient air lead standard. Appendix E is a copy of the letter of the results of this study transmitted to EPA.

Whether deleading of a dwelling unit alone will result in a significant decrease in children's blood lead levels is unclear. The concept of deleading a dwelling unit after finding a child with elevated blood lead was based on early programmatic experience which showed that, in some instances and primarily among children with clinical lead poisoning, lack of hazard abatement resulted in a recurrence of symptoms. At the same time a number of children have recovered spontaneously with no hazard abatement. Unfortunately to date no controlled studies have been completed to determine whether hazard abatement is effective, to what extent it must be done, or whether other factors, such as education, might play a role in decreasing lead levels in children, particularly in asymptomatic cases.

HUD is now sponsoring one study in cooperation with the City of New York which may provide some information on this area. In 1975 NBS sponsored a feasibility study to determine if a research project could be designed that would compare the cost-effectiveness of completely or partially removing lead-based paint from the dwellings where children with moderately and highly elevated blood lead levels live (6). This study showed that in order to develop the statistical data to determine the efficacy of alternate intervention strategies, it would be necessary to examine a large program with at least 100 subjects in each intervention group, and with a narrow range of blood lead levels in each group. Only the New York City screening program historically had identified sufficient children with elevated blood lead levels to meet these conditions. The New York City Bureau of Lead Poisoning Control submitted a proposal to HUD to perform the study, and it was awarded a grant in June 1976.

The results of this study will be vital to help determine the nature of lead-based paint hazards and the effectiveness of present hazard abatement procedures. Under the terms of the grant, New York will analyze the data from a statistical sample of children to determine the effects of alternative intervention techniques on blood lead levels.

The study requires selecting 700 subjects with blood lead levels in narrowly defined ranges, randomly assigning these subjects to 7 groups of 100 each, and providing a follow-up of these subjects after 12 months. Four groups will be made up of children with blood lead levels between 38 and 42 ug/100 ml and the other group will be from children with blood lead levels higher than 50 ug/100 ml.

The three intervention techniques are:

1. Standard intervention -- removal only of peeling or flaking lead-based paint

2. Standard intervention and extensive education of the family

3. Standard intervention plus removal or covering of all identified lead-based painted surfaces.

The overall objectives are to ascertain the costs and effectiveness of the three intervention alternatives. Determining the best alternative could mean more effective use of Federal and local funds for hazard abatement.

It is too early to make any preliminary comment about the results of this study. The study has been thwarted by the fact that there are fewer lead poisoning cases available than would have been predicted from previous years' findings. This is consistent with the data analysis showing a declining mean blood lead level over time.

Our knowledge about the nature of lead poisoning is currently in a state of flux, and over the last few years more questions have been raised than answers provided. While we still believe that lead paint causes some lead poisoning there would be considerable doubt as to whether one could now make definite statements, such as those transmitted in the Report to Congress, about lead-based paint poisoning. EPA recently completed an Air Lead Criteria Document that reflects the latest scientific knowledge about the health hazard due to lead (7). This voluminous compilation sums up the current thinking on the effect of lead, primarily ambient air lead, on public health. It will serve, as a fundamental source of information on the effects of lead from many sources, including lead-based paint.

4.2 The Extent of Lead-Based Paint Poisoning

The level of lead in a child as determined by the methods currently being used by local screening programs provides a measure of total lead regardless of its source. These techniques cannot distinguish how much lead comes from paint or the other sources of environmental exposure. The data available therefore provide an upper bound to the extent of elevated lead levels due to paint ingestion and do not permit reliable estimates of the relative contribution from lead-based paint alone.

The analysis of the New York City data raises questions about the accuracy of the projections to the national extent of lead based paint poisoning currently being used by policy planners and public health authorities (8,9).

Further, the currently used statistic of 600,000 children with elevated lead levels is based on dated information, i.e., data collected prior to 1971 in a few cities and extrapolated nationwide; these may need to be revised.

As an example of the possible errors, one might consider the currently used estimate of 200 deaths a year due to lead-based paint poisoning. It is not clear how this figure was derived (8), but presumably it was based on the number of deaths due to lead poisoning in several major cities, such as, New York and Chicago in the late 1960's. However, even today

reliable statistics on the number of children killed by lead poisoning are unavailable. Neither HEW nor local health agencies require reports on lead poisoning deaths. In an effort to obtain an estimate of childhood lead poisoning deaths, HUD conducted a telephone survey of local administrators of lead poisoning screening projects for their data for 1974, 1975 and 1976.

The reports of suspected lead poisoning deaths showed that in 1974 Philadelphia and Atlanta each reported one death and Chicago reported three. In 1975 only St. Louis indicated a single suspected lead poisoning death. None of the localities listed in Table 6-3 reported any suspected lead poisoning deaths between 1974 and 1976. The population represented by the 42 localities with HEW-supported lead poisoning control projects is a significant percentage of the population at risk and therefore should provide a good indication of the deaths due to childhood lead poisoning in the United States. However, these partial data cannot be used to project an expected annual death rate for the country as a whole. On the other hand, if the projected 200 deaths were a reliable estimate, then one would expect many more deaths in the surveyed localities than actually were found.

Another example of an outdated statistic is the estimate of 600,000 children with elevated blood lead levels. Both the HEW and NBS calculations cite this number, but use different definitions for elevated blood lead. The HEW estimate (8) refers to the number of children with blood lead levels above 60.0 micrograms lead per 100 milliliters of blood, but with no overt symptoms. The estimate was based on the results of the Illinois and New York City screening projects in the late 1960's and early 1970's which were showing about 3% of the children screened with lead above this level. Our analysis of the New York City venous blood lead data shows that currently only about .2-.5% of the children screened have lead levels above this value. This finding is further supported by a report by the New York City Bureau of Lead Control and summarized in Table 6-4. These data are for all children screened and show that the number of children with blood lead levels over 55 microgram percent has dropped from 3% in 1970 to 0.4% in 1976 (10).

NBS also estimated 600,000 children nationwide with elevated blood lead levels. However, their definition of elevated blood lead level was 40 ug/100 ml (9) not 60 ug/100 ml as used by HEW (8). The NBS study used data from New Haven, Connecticut as the basis of national projections. The New Haven data used by NBS showed that 23% of the children screened prior to 1971 and an elevated blood lead level of 40 ug/100 ml. More recent studies of data obtained between July 1974 and December 1976 shows that 11% of the children screened had an 40 ug/100 ml blood lead on the first test and only half of these could be confirmed on a subsequent blood test.

Table 6-3

LOCALITIES SURVEYED FOR LEAD POISONING DEATHS 1974-1976

CONNECTICUT	VIRGINIA	WISCONSIN
New Haven	Richmond	Statewide
Stanford	Norfolk	
MASSACHUSETTS	KENTUCKY	ARKANSAS
Statewide	Louisville	Little Rock
NEW YORK	SOUTH CAROLINA	TEXAS
Albany	Charleston	Houston
Buffalo		
New York City	TENNESSEE	KANSAS
Syracuse	Memphis	Kansas City
NEW JERSEY	ILLINOIS	MISSOURI
Hoboken	Rockford	St. Louis
Newark		
DELAWARE	OHIO	CALIFORNIA
Wilmington	Cincinnati	Statewide
	Cleveland	
MARYLAND	Columbus	MICHIGAN
Baltimore		Detroit

Table 6-4

INCIDENCE OF BLOOD-LEAD LEVELS GREATER THAN 55 μg/100 ml IN NEW YORK CITY 1970-1976 (10)

Year	Total Number Screened	Total Cases greater than 55 μg/100 ml	Percent Cases of Total
1970	87,007	2,649	3.04
1971	115,816	1,925	1.66
1972	100,182	944	.94
1973	124,092	761	.61
1974	124,900	494	.40
1975	111,954	431	.38
1976	103,016	370	.36

It would therefore appear that there is sufficient evidence to suspect the reliability of the current national estimates of lead poisoning being used. The national estimate which is to be used by policy makers should be re-evaluated. Data to make this re-evaluation is currently being collected by HUD, but so far only the New York City data has been analyzed.

Finally, there are no reliable estimates of how many children found with undue lead absorption have sustained permanent injury. Medical and health experts are still debating which, if any, permanent disabilities are caused by excessive lead absorption in the absence of clinical lead poisoning. It is not even known from the data reported how many children with excessive lead absorption have classical clinical symptoms of lead poisoning. More thorough analyses of local screening data and hospital records are required to arrive at some estimate of the consequences of elevated blood lead levels at 40 ug/100 ml.

4.3 Extent of Lead-Based Paint in Housing

A major source of environmental lead exposure for the general population comes from lead contained in both interior and exterior paint. It is generally accepted that lead-based paint is the primary source of pediatric lead poisoning in the United States (11). The amount of lead and its accessibility depends on the age of the dwelling unit and the physical condition of the dwelling unit. Older buildings were painted with paint manufactured before lead content was regulated.

The level and distribution of lead paint in dwelling units is a complex function of history, geography, economics, and individual decorating habits. Lead pigments were the first pigments produced on a large commercial scale when the paint industry burgeoned in the early 1900's. In the 1930's, lead pigments gradually were replaced with zinc and other opacifiers. By the 1940's, titanium dioxide became available and now has become the most commonly used pigment for residential coatings. There was no regulation of the lead used in house paints in the U.S. until 1955, when the paint industry adopted a voluntary standard that limited the lead content in paint, for interior uses, to no more than 1 percent by weight of the nonvolatile solids. At approximately the same time, local jurisdictions began adopting codes and regulations prohibiting the sale and use of interior paints containing more than 1 percent lead (12).

However, contrary to public beliefs and in spite of the change in paint technology and local regulations governing lead content, interior paint with significant amounts of lead was still available in the 1970's. A 1971 study in New York City found that 8 out of 76 paints tested had a lead content ranging from 2.6 to 10.8 percent, well above the city's legally permissible 1 percent level (13). Later studies by the National Bureau of Standards (14) and by the Consumer Product Safety Commission (15) showed a steady decrease in the number of interior paints with lead levels greater than 1 percent. By 1974, only 2 percent of the interior paints sampled were found to have more than 1 percent lead in the dried film (15).

The level of lead in paint already applied in the dwelling unit that should be considered a hazard is unclear. In addition to the total amount of lead in paint, a child's accessibility to it and the frequency of ingestion are significant. Attempts to set an acceptable lead level for painted surfaces have been unsuccessful, and preventive control of lead paint hazards has been concerned with levels of lead in paint currently manufactured. In one of its reviews, the National Academy of Sciences concluded (16):

> "Since control of the lead paint hazard is difficult to accomplish once multiple layers have been applied in homes over two to three decades, and since control is more easily regulated at the time of manufacture, we recommend that the lead content of paints be set and enforced at time of manufacture."

Local communities use health or housing codes and regulations to control lead-based paint hazards. At the Federal level the Department of Housing and Urban Development has issued regulations for lead hazard abatement in housing assisted or supported by its programs. Generally, the lead level is considered hazardous when it ranges from 0.5 to 2.5 milligrams per square centimeter (mg/cm^2); when the paint is loose, flaking, peeling or broken; or in some cases when it is on surfaces within reach of a child's mouth. Within the same range, the hazardous lead level actually used for legal enforcement appears to be dependent on the sensitivity of field measurements using X-ray fluorescent lead detectors rather than on a determination of biological dose-response relationships.

Some studies have been carried out to determine the distribution of lead levels in paint in dwelling units. A survey of lead levels in 2,730 randomly selected dwelling units in Pittsburgh provides an indication of the distribution lead levels (17). Figure 6-1 shows the distribution curves for the highest lead level found in dwelling units of three age groups. It is clear that paint with high levels of lead is most frequently found in pre-1940 dwelling units. The curves also show that high level lead paint may also be present in dwellings built after 1940. Approximately 20% of the dwelling units surveyed in Pittsburgh built after 1960 have at least one surface with more than 1.5 mg/cm^2 of lead.

Places where lead paint is found within an individual dwelling unit varies considerably. Figure 6-2 shows the distribution of the highest paint lead measurements on walls, doors, and windows for all the units sampled. These data also indicate that the lead paint is found most frequently on doors and windows; about 20% of those surveyed had lead levels greater than 1.5 mg/cm^2. Only about 10% of the walls had lead levels greater than 1.5 mg/cm^2 (18).

In the literature on lead poisoning, the generally accepted premise is that the presence of lead in paint is a necessary, but not sufficient, condition to constitute a hazard (11). Accessibility to peeling, flaking or otherwise non-intact paint is also a necessary condition to consider a hazard to be present. Figure 6-3 shows the distribution of lead levels for non-intact conditions for dwelling units and surfaces in the Pittsburgh sample. Of the total samples surveyed, approximately 14 percent of the dwelling units have accessible paint with a lead content greater than 1.5 mg/cm^2.

It is not possible to extrapolate the results of the Pittsburgh survey nationally. However, additional data from a pilot study of 115 dwelling units in Washington, D.C. showed similar results (18).

An attempt was made in the Pittsburgh study to obtain information about the correlation between the quantity and condition of lead paint in the dwelling unit and the blood lead levels of children who lived in the units surveyed. Blood lead analyses and socio-economic data for 456 children were matched with information on lead in the paint levels in their dwelling units. The median blood lead level for this group was 20.7 micrograms of lead per 100 millimeters of blood.

Figure 6-1

CUMULATIVE DISTRIBUTION OF LEAD LEVELS IN DWELLING UNITS*

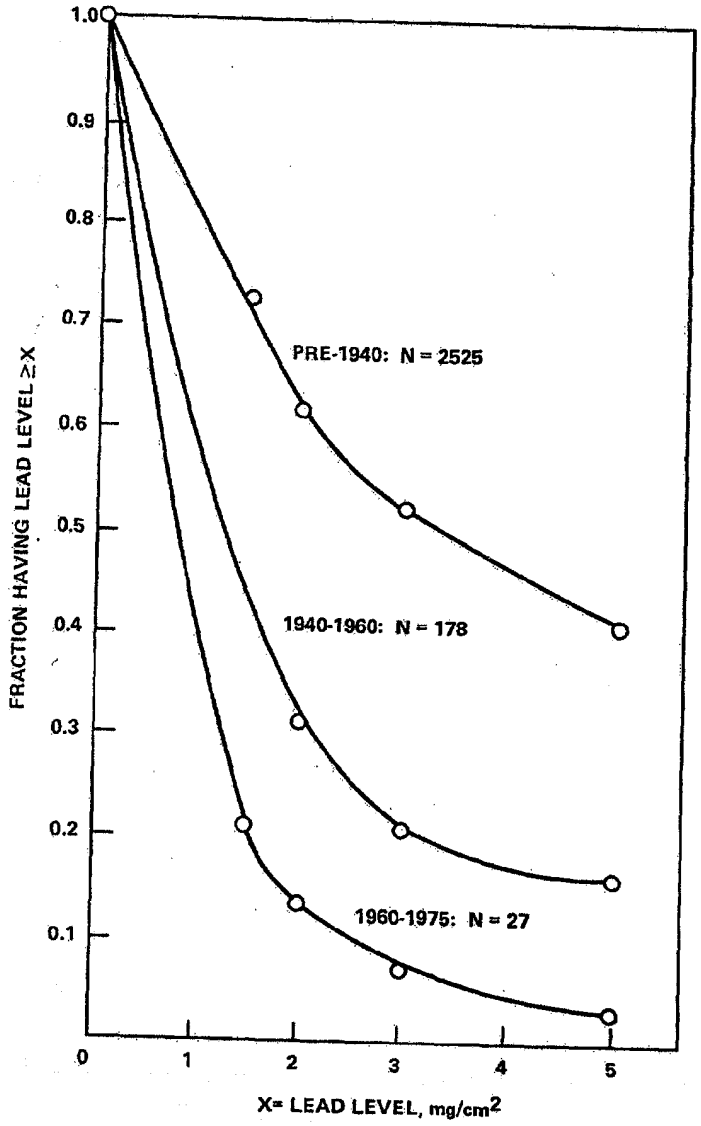


Figure 6-2

CUMULATIVE DISTRIBUTION OF LEAD LEVELS BY LOCATION IN DWELLING*

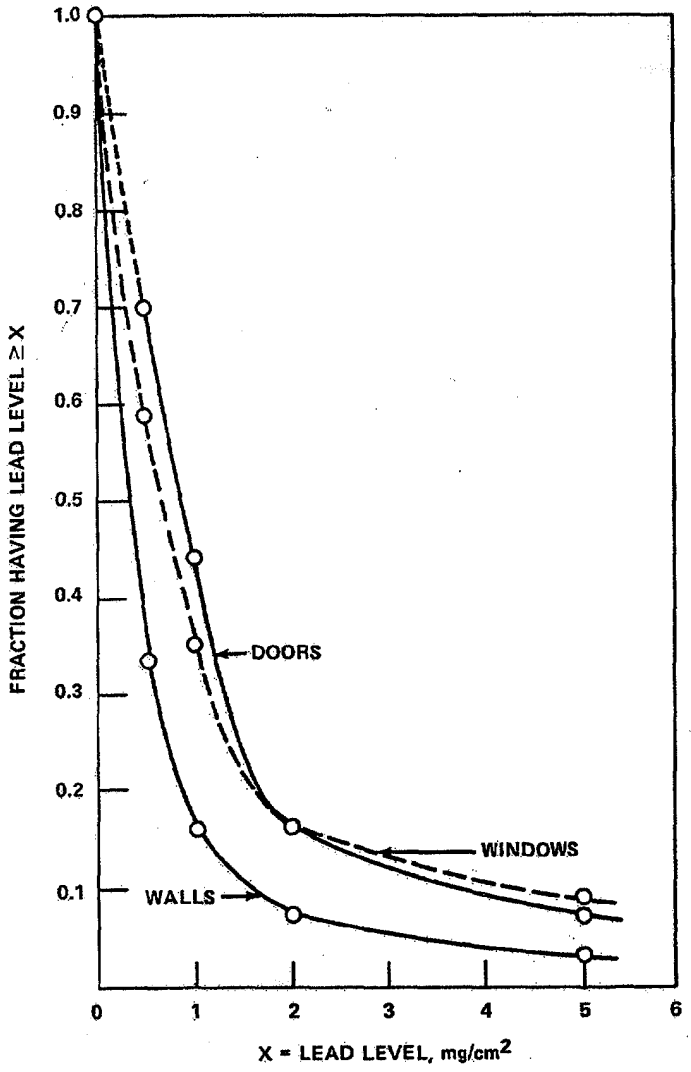


Figure 6-3

CUMULATIVE DISTRIBUTION OF LEAD LEVELS IN DWELLING UNITS OF THREE AGE GROUPS WITH UNSOUND PAINT CONDITIONS

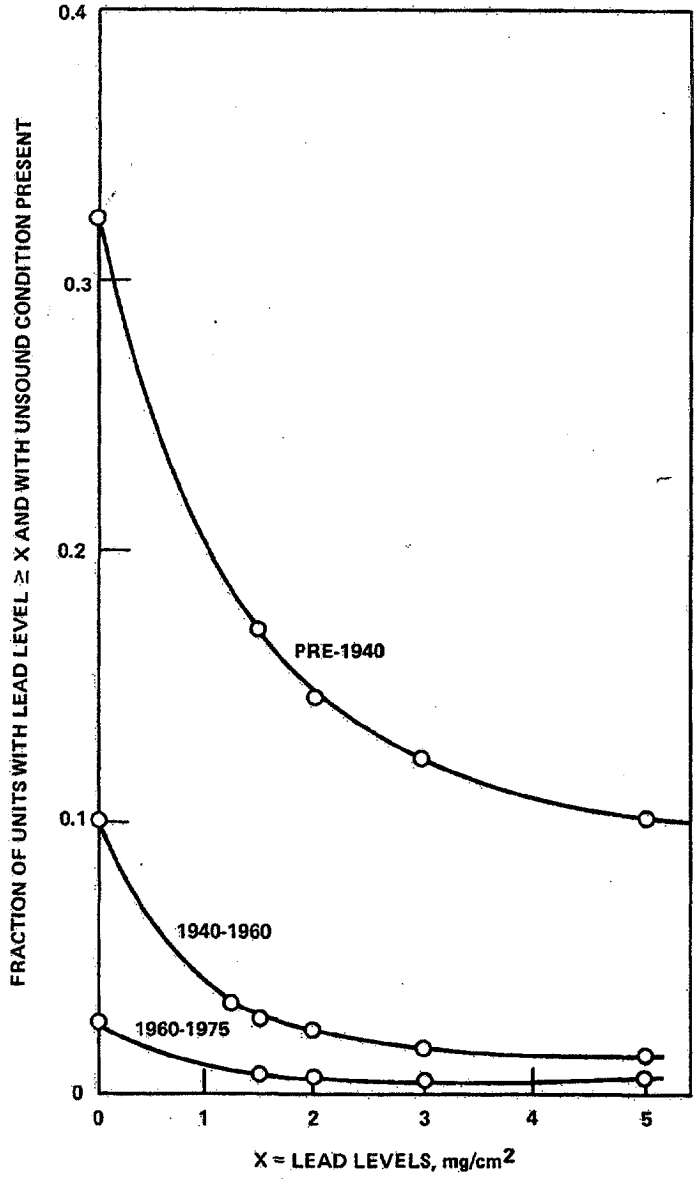


Figure 6-4 is a plot of the blood lead levels against the proportion of surfaces within a dwelling unit that had lead levels of at least 2 mg/cm^2. Analysis of the data shows a weak correlation (15%). A stronger correlation (40%) was found between the age of the child's dwelling and that child's blood lead level. Both of these trends, though statistically weak, were the strongest relationships found in this survey. No correlation was found between the levels of lead on the surface and the blood lead levels (19).

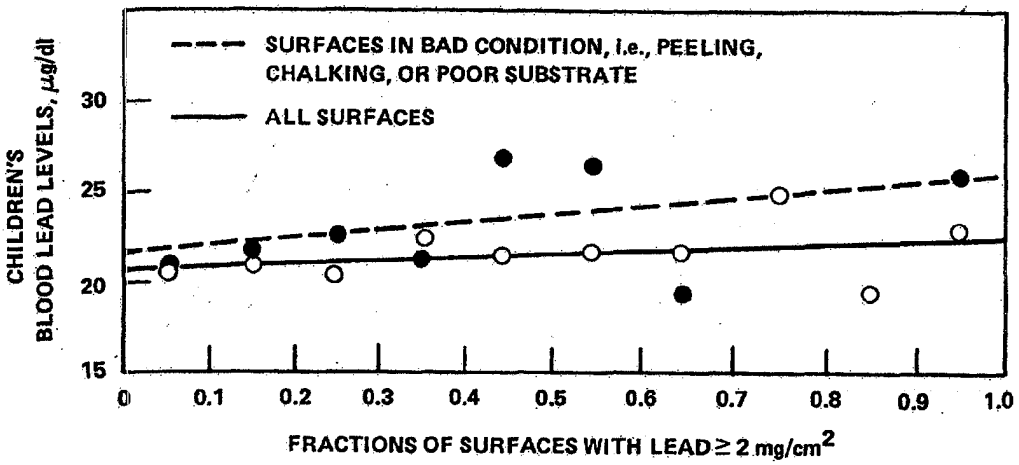
In Cincinnati a study of 81 children from two lower socio-economic communities attempted to relate blood lead levels and paint lead as determined by x-ray fluorescence (20). Although there was considerable lead in the home environment, it was not reflected in the children's blood lead level.

Most of the evidence cited in the literature indicates that one source of exposure in clinical cases of childhood lead poisoning is almost invariably peeling lead paint and broken lead-impregnated plaster found in poorly maintained houses. At the same time there are many cases where the lead poisoning cannot be related to a paint hazard in their home environment. Surveys of homes of children with elevated blood lead levels have not consistently revealed lead levels falling within the legally defined range of lead paint hazards (3,4,5). For example, one study reported 5,466 samples of paint obtained from the home environment of lead-poisoned children in Philadelphia between 1964 and 1968. Of these 67 percent yielded positive findings, defined as paint with more than 1 percent lead (21).

Likewise, data published or made available by HEW's Center for Disease Control show that a significant number of children with excessive lead absorption occupy dwelling units which were inspected for lead-based paint hazards but in which no hazard could be demonstrated (3,4,5). Table 6-1 shows the data obtained from the HEW-funded lead-based paint poisoning control projects for Fiscal Years 1974, 1975 and 1976 and for the transition quarter from July 1, 1976 to September 30, 1976. These data show that in approximately 40 to 45 percent of confirmed cases of elevated blood lead levels, a possible source of lead paint hazard in the home environment could not be located. In the remaining cases a paint hazard was identified, which may or may not represent a significant actual source of lead for the child.

Figure 6-4

CORRELATING OF CHILDREN'S BLOOD LEVELS WITH FRACTIONS OF SURFACES WITHIN A DWELLING ≥ 2 mg Pb/cm^2



The implications of these findings are not clear. However, they should not be taken as evidence that lead-based paint is not a major environmental source of lead. Rather, they are presented to introduce the concept of total lead exposure. Lead-based paint is only one source of lead contributing to the total lead exposure. The contribution of lead from other sources to children's lead levels is an unknown dimension and the relative contribution of these other sources vis-a-vis lead-based paint cannot be determined at the present time.

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APPENDIX A

PUBLIC LAW 91-695

Public Law 91-695
91st Congress, H. R. 19172
January 13, 1971

An Act

To provide Federal financial assistance to help cities and communities to develop and carry out intensive local programs to eliminate the causes of lead-based paint poisoning and local programs to detect and treat incidents of such poisoning, to establish a Federal demonstration and research program to study the extent of the lead-based paint poisoning problem and the methods available for lead-based paint removal, and to prohibit future use of lead-based paint in Federal or federally assisted construction or rehabilitation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Lead-Based Paint Poisoning Prevention Act". Lead-Based Paint Poisoning Prevention Act.

TITLE I—GRANTS FOR THE DETECTION AND TREATMENT OF LEAD-BASED PAINT POISONING

GRANTS FOR LOCAL DETECTION AND TREATMENT OF LEAD-BASED PAINT POISONING

SEC. 101. (a) The Secretary of Health, Education, and Welfare (hereafter referred to in this title as the "Secretary") is authorized to make grants to units of general local government in any State for the purpose of assisting such units in developing and carrying out local programs to detect and treat incidents of lead-based paint poisoning.

(b) The amount of any such grant shall not exceed 75 per centum of the cost of developing and carrying out a local program, as approved by the Secretary, during a period of three years. Limitation.

(c) A local program should include—

(1) educational programs intended to communicate the health danger and prevalence of lead-based paint poisoning among children of inner city areas, to parents, educators, and local health officials;

(2) development and carrying out of intensive community testing programs designed to detect incidents of lead-based paint poisoning among community residents, and to insure prompt medical treatment for such afflicted individuals;

(3) development and carrying out of intensive followup programs to insure that identified cases of lead-based paint poisoning are protected against further exposure to lead-based paints in their living environment; and

(4) any other actions which will reduce or eliminate lead-based paint poisoning.

(d) Each local program shall afford opportunities for employing the residents of communities or neighborhoods affected by lead-based paint poisoning, and for providing appropriate training, education, and any information which may be necessary to inform such residents of opportunities for employment in lead-based paint poisoning elimination programs. Employment opportunities.

TITLE II—GRANTS FOR THE ELIMINATION OF LEAD-BASED PAINT POISONING

SEC. 201. The Secretary of Health, Education, and Welfare is authorized to make grants to units of general local government in any State for the purpose of assisting such units in developing and carrying out programs that identify those areas that present a high risk to the health of residents because of the presence of lead-based

paints on interior surfaces, and then to develop and carry out programs to eliminate the hazards of lead-based paint poisoning.

(a) A local program should include:

(1) development and carrying out of comprehensive testing programs to detect the presence of lead-based paints on surfaces of residential housing;

(2) the development and carrying out of a comprehensive program requiring the prompt elimination of lead-based paints from all interior surfaces, porches, and exterior surfaces to which children may be commonly exposed, of residential housing on which lead-based paints have been used as a surface covering, including those surfaces on which non-lead-based paints have been used to cover surfaces to which lead-based paints were previously applied; and

(3) any other actions which will reduce or eliminate lead-based paint poisoning.

(b) Each such program shall—

(1) be consistent with the appropriate local program assisted under section 101, and

Employment opportunities.

(2) afford, to the maximum extent feasible, opportunities for employing the residents of communities or neighborhoods affected by lead-based paint poisoning, and for providing appropriate training, education, and any information which may be necessary to inform such residents of opportunities for employment in lead-based paint elimination programs.

TITLE III—FEDERAL DEMONSTRATION AND RESEARCH PROGRAM

FEDERAL DEMONSTRATION AND RESEARCH PROGRAM

SEC. 301. The Secretary of Housing and Urban Development, in consultation with the Secretary of Health, Education, and Welfare, shall develop and carry out a demonstration and research program to determine the nature and extent of the problem of lead-based paint poisoning in the United States, particularly in urban areas, and the methods by which lead-based paint can most effectively be removed from interior surfaces, porches, and exterior surfaces to which children may be commonly exposed, of residential housing. Within one year after the date of the enactment of this Act the Secretary shall submit to the Congress a full and complete report of his findings and recommendations as developed pursuant to such program, together with a statement of any legislation which should be enacted, and any changes in existing law which should be made, in order to carry out such recommendations.

Report to Congress.

TITLE IV—PROHIBITION AGAINST FUTURE USE OF LEAD-BASED PAINT

PROHIBITION AGAINST USE OF LEAD-BASED PAINT IN FUTURE CONSTRUCTION AND REHABILITATION

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.

TITLE V—GENERAL

DEFINITIONS

SEC. 501. As used in this Act—

(1) the term "State" means the several States, the District of Columbia, the Commonwealth of Puerto Rico, and the territories and possessions of the United States;

(2) the term "units of general local government" means (A) any city, county, township, town, borough, parish, village, or other general purpose political subdivision of a State, (B) any combination of units of general local government in one or more States, (C) an Indian tribe, or (D) with respect to lead-based paint poisoning elimination activities in their urban areas, the territories and possessions of the United States; and

(3) the term "lead-based paint" means 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.

CONSULTATION WITH OTHER DEPARTMENTS AND AGENCIES

SEC. 502. In carrying out the authority under this Act, the Secretary of Health, Education, and Welfare shall cooperate with and seek the advice of the heads of any other departments or agencies regarding any programs under their respective responsibilities which are related to, or would be affected by, such authority.

APPROPRIATIONS

SEC. 503. (a) There is hereby authorized to be appropriated to carry out the provisions of title I of this Act not to exceed $3,330,000 for the fiscal year 1971 and $6,660,000 for the fiscal year 1972.

(b) There is hereby authorized to be appropriated to carry out the provisions of title II of this Act not to exceed $5,000,000 for the fiscal year 1971 and $10,000,000 for the fiscal year 1972.

(c) There is hereby authorized to be appropriated to carry out the provisions of title III of this Act not to exceed $1,670,000 for the fiscal year 1971 and $3,340,000 for the fiscal year 1972.

(d) Any amounts appropriated under this section shall remain available until expended when so provided in appropriation Acts; and any amounts authorized for the fiscal year 1971 but not appropriated may be appropriated for the fiscal year 1972.

Approved January 13, 1971.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 91-1463 (Comm. on Banking and Currency) and No. 91-1802 (Comm. of Conference).
SENATE REPORT No. 91-1432 (Comm. on Labor and Public Welfare).
CONGRESSIONAL RECORD, Vol. 116 (1970):
Oct. 5, considered and passed House.
Dec. 17, considered and passed Senate, amended.
Dec. 29, House disagreed to Senate amendment.
Dec. 30, Senate agreed to conference report.
Dec. 31, House agreed to conference report.

Public Law 93-151
93rd Congress, S. 607
November 9, 1973

An Act

87 STAT. 565

To amend the Lead Based Paint Poisoning Prevention Act, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) section 101(a) of the Lead Based Paint Poisoning Prevention Act is amended by striking out "units of general local government in any State" and inserting in lieu thereof "public agencies of units of general local government in any State and to private nonprofit organizations in any State".

Lead Based Paint Poisoning Prevention Act, Amendment. 84 Stat. 2078. 42 USC 4801.

(b) Section 101(b) of such Act is amended by striking out "75 per centum" and inserting in lieu thereof "90 per centum".

Grants for detection and treatment, extension.

(c) Section 101 of such Act is amended by adding at the end thereof the following new subsection:

"(e) The Secretary is also authorized to make grants to State agencies for the purpose of establishing centralized laboratory facilities for analyzing biological and environmental lead specimens obtained from local lead based paint poisoning detection programs.".

Centralized laboratory facilities.

(d) Section 101 of such Act is further amended by adding at the end thereof the following new subsection:

"(f) No grant may be made under this section unless the Secretary determines that there is satisfactory assurance that (A) the services to be provided will constitute an addition to, or a significant improvement in quality (as determined in accordance with criteria of the Secretary) in, services that would otherwise be provided, and (B) Federal funds made available under this section for any period will be so used as to supplement and, to the extent practical, increase the level of State, local, and other non-Federal funds that would, in the absence of such Federal funds, be made available for the program described in this section, and will in no event supplant such State, local, and other non-Federal funds.".

Prohibition.

SEC. 2. (a) Section 201 of the Lead Based Paint Poisoning Prevention Act is amended by striking out "units of general local government in any State" and inserting in lieu thereof "public agencies of units of general local government in any State and to private nonprofit organizations in any State".

Grants for hazard elimination, extension.

(b) Section 201(a)(2) of such Act is amended to read as follows:

42 USC 4811.

"(2) the development and carrying out of procedures to remove from exposure to young children all interior surfaces of residential housing, porches, and exterior surfaces of such housing to which children may be commonly exposed, in those areas that present a high risk for the health of residents because of the presence of lead based paints. Such programs should include those surfaces on which non-lead-based paints have been used to cover surfaces to which lead based paints were previously applied; and".

(c) Section 201 of such Act is amended by adding at the end thereof the following new subsection:

"(c) Any public agency, of a unit of local government or private nonprofit organization which receives assistance under this Act shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for purposes of audit and examination, any books, documents, papers, and records that are pertinent to the assistance received by such public agency of a unit of local government or private nonprofit organization under this Act."

Books and records, availability.

84 Stat. 2079.
42 USC 4821.

SEC. 3. Section 301 of the Lead Based Paint Poisoning Prevention Act is amended to read as follows:

"FEDERAL DEMONSTRATION AND RESEARCH PROGRAM

"SEC. 301. (a) The Secretary of Housing and Urban Development, in consultation with the Secretary of Health, Education, and Welfare, shall develop and carry out a demonstration and research program to determine the nature and extent of the problem of lead based paint poisoning in the United States, particularly in urban areas, including the methods by which the lead based paint hazard can most effectively be removed from interior surfaces, porches, and exterior surfaces of residential housing to which children may be exposed.

Safe level of lead.

"(b) The Chairman of the Consumer Product Safety Commission shall conduct appropriate research on multiple layers of dried paint film, containing the various lead compounds commonly used, in order to ascertain the safe level of lead in residential paint products. No later than December 31, 1974, the Chairman shall submit to Congress a full and complete report of his findings and recommendations as developed pursuant to such programs, together with a statement of any legislation which should be enacted or any changes in existing law which should be made in order to carry out such recommendations."

Report to Congress.

SEC. 4. (a) Title III of the Lead Based Paint Poisoning Prevention Act is amended—

(1) by adding at the end thereof the following:

"FEDERAL HOUSING ADMINISTRATION REQUIREMENTS

"SEC. 302. The Secretary of Housing and Urban Development (hereafter in this section referred to as the 'Secretary') shall establish procedures to eliminate as far as practicable the hazards of lead based paint poisoning with respect to any existing housing which may present such hazards and which is covered by an application for mortgage insurance or housing assistance payments under a program administered by the Secretary. Such procedures shall apply to all such housing constructed prior to 1950 and shall as a minimum provide for (1) appropriate measures to eliminate as far as practicable immediate hazards due to the presence of paint which may contain lead and to which children may be exposed, and (2) assured notification to purchasers and tenants of such housing of the hazards of lead based paint, of the symptoms and treatment of lead based paint poisoning, and of the importance and availability of maintenance and removal techniques for eliminating such hazards. Such procedures may apply to housing constructed during or after 1950 if the Secretary determines, in his discretion, that such housing presents hazards of lead based paint. The Secretary may establish such other procedures as may be appropriate to carry out the purposes of this section. Further, the Secretary shall establish and implement procedures to eliminate the hazards of lead based paint poisoning in all federally owned properties prior to the sale of such properties when their use is intended for residential habitation."; and

Housing constructed before 1950.

Housing constructed during or after 1950.

Federally owned property for residential habitation.

(2) by inserting after "PROGRAM", in the caption of such title, a semicolon and the following: "FEDERAL HOUSING ADMINISTRATION REQUIREMENTS".

Effective date.

(b) The amendments made by subsection (a) of this section become effective upon the expiration of ninety days following the date of enactment of this Act.

42 USC 4831.

SEC. 5. Section 401 of the Lead Based Paint Poisoning Prevention Act is amended to read as follows:

"PROHIBITION AGAINST USE OF LEAD BASED PAINT IN CONSTRUCTION OF FACILITIES AND THE MANUFACTURE OF CERTAIN TOYS AND UTENSILS

"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, and

"(2) to prohibit the application of lead based paint to any toy, furniture, cooking utensil, drinking utensil, or eating utensil manufactured and distributed after the date of enactment of this Act."

SEC. 6. Section 501(3) of the Lead Based Paint Poisoning Prevention Act is amended to read as follows: 84 Stat. 2080. 42 USC 4841.

"(3) the term 'lead based paint' means— "Lead based paint."

"(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;

"(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, Ante, p. 566. 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.".

SEC. 7. (a) Section 503(a) of the Lead Based Paint Poisoning Prevention Act is amended (1) by striking out the word "and" and inserting in lieu thereof a comma, and (2) by inserting before the period a comma and the following: "and $25,000,000 for each of the fiscal years 1974 and 1975". Appropriation. 42 USC 4843.

(b) Section 503(b) of such Act is amended (1) by striking out the word "and" and inserting in lieu thereof a comma, and (2) by inserting before the period a comma and the following: "and $35,000,000 for each of the fiscal years 1974 and 1975".

(c) Section 503(c) of such Act is amended (1) by striking out the word "and" and by inserting in lieu thereof a comma, and (2) by inserting before the period a comma and the following: "and $3,000,000 for each of the fiscal years 1974 and 1975".

(d) Section 503(d) of such Act is amended by striking out all matter after the semicolon and inserting in lieu thereof "and any amounts authorized for one fiscal year but not appropriated may be appropriated for the succeeding fiscal year.".

(e) Title V of the Lead Based Paint Poisoning Prevention Act is amended by adding at the end thereof the following new sections:

"ELIGIBILITY OF CERTAIN STATE AGENCIES

"SEC. 504. Notwithstanding any other provision of this Act, grants authorized under sections 101 and 201 of this Act may be made to an Ante, p. 565. agency of State government in any case where State government provides direct services to citizens in local communities or where units of general local government within the State are prevented by State law from implementing or receiving such grants or from expending such grants in accordance with their intended purpose. 87 STAT. 567 87 STAT. 568

"ADVISORY BOARDS

National Childhood Lead Based Paint Poisoning Advisory Board, establishment.

"SEC. 505. (a) The Secretary of Health, Education, and Welfare, in consultation with the Secretary of Housing and Urban Development, is authorized to establish a National Childhood Lead Based Paint Poisoning Advisory Board to advise the Secretary on policy relating to the administration of this Act. Members of the Board shall include residents of communities and neighborhoods affected by lead based paint poisoning. Each member of the National Advisory Board who is not an officer of the Federal Government is authorized to receive an amount equal to the minimum daily rate prescribed for GS-18, under section 5332 of title 5, United States Code, for each day he is engaged in the actual performance of his duties (including traveltime) as a member of the Board. All members shall be reimbursed for travel, subsistence, and necessary expenses incurred in the performance of their duties.

5 USC 5332 note.

Expenses, reimbursement.

Regulations.

"(b) The Secretary of Health, Education, and Welfare, in consultation with the Secretary of Housing and Urban Development, shall promulgate regulations for establishment of an advisory board for each local program assisted under this Act to assist in carrying out this program. Two-thirds of the members of the board shall be residents of communities and neighborhoods affected by lead based paint poisoning. A majority of the board shall be appointed from among parents, who, when appointed, have at least one child under six years of age. Each member of a local advisory board shall only be reimbursed for necessary expenses incurred in the actual performance of his duties as a member of the board.

Membership,

"EFFECT UPON STATE LAW

"SEC. 506. It is hereby expressly declared that it is the intent of the Congress to supersede any and all laws of the States and units of local government insofar as they may now or hereafter provide for a requirement, prohibition, or standard relating to the lead content in paints or other similar surface-coating materials which differs from the provisions of this Act or regulations issued pursuant to this Act. Any law, regulation, or ordinance purporting to establish such different requirement, prohibition, or standard shall be null and void.".

80 Stat. 1186; 84 Stat. 1306. 42 USC 246.

SEC. 8. Section 314(c) of the Public Health Service Act is amended by inserting at the end thereof the following new paragraph:

"No funds appropriated pursuant to the authorization of this subsection shall be available for lead based paint poisoning control of the type authorized under the Lead Based Paint Poisoning Prevention Act (84 Stat. 2078)."

42 USC 4801 note.

Approved November 9, 1973.

LEGISLATIVE HISTORY:

HOUSE REPORTS No. 93-373 accompanying H.R. 8920 (Comm. on Banking and Currency) and No. 93-522 (Comm. of Conference).
SENATE REPORT No. 93-130 (Comm. on Labor and Public Welfare).
CONGRESSIONAL RECORD, Vol. 119 (1973):
May 9, considered and passed Senate.
Sept. 5, considered and passed House, amended, in lieu of H.R. 8920.
Oct. 16, Senate agreed to conference report.
Oct. 24, House agreed to conference report.

GPO 99-139

Public Law 94-317
94th Congress, S. 1466
June 23, 1976

An Act

To amend the Public Health Service Act to provide authority for health information and health promotion programs, to revise and extend the authority for disease prevention and control programs, and to revise and extend the authority for venereal disease programs, and to amend the Lead-Based Paint Poisoning Prevention Act to revise and extend that Act.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Public Health Service Act, amendments; Lead-Based Paint Poisoning Act, extension. National Consumer Health Information and Health Promotion Act of 1976. 42 USC 201 note.

TITLE I—HEALTH INFORMATION AND HEALTH PROMOTION

SHORT TITLE

SEC. 101. This title may be cited as the "National Consumer Health Information and Health Promotion Act of 1976".

AMENDMENT TO PUBLIC HEALTH SERVICE ACT

SEC. 102. The Public Health Service Act is amended by adding at the end thereof the following new title:

"TITLE XVII—HEALTH INFORMATION AND HEALTH PROMOTION

"GENERAL AUTHORITY

"SEC. 1701. (a) The Secretary shall— 42 USC 300u.

"(1) formulate national goals, and a strategy to achieve such goals, with respect to health information and health promotion, preventive health services, and education in the appropriate use of health care;

"(2) analyze the necessary and available resources for implementing the goals and strategy formulated pursuant to paragraph (1), and recommend appropriate educational and quality assurance policies for the needed manpower resources identified by such analysis;

"(3) undertake and support necessary activities and programs to—

"(A) incorporate appropriate health education components into our society, especially into all aspects of education and health care,

"(B) increase the application and use of health knowledge, skills, and practices by the general population in its patterns of daily living, and

"(C) establish systematic processes for the exploration, development, demonstration, and evaluation of innovative health promotion concepts;

"(4) undertake and support research and demonstrations respecting health information and health promotion, preventive health services, and education in the appropriate use of health care;

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"(5) undertake and support appropriate training in, and undertake and support appropriate training in the operation of programs concerned with, health information and health promotion, preventive health services, and education in the appropriate use of health care;

"(6) undertake and support, through improved planning and implementation of tested models and evaluation of results, effective and efficient programs respecting health information and health promotion, preventive health services, and education in the appropriate use of health care;

"(7) foster the exchange of information respecting, and foster cooperation in the conduct of, research, demonstration, and training programs respecting health information and health promotion, preventive health services, and education in the appropriate use of health care;

"(8) provide technical assistance in the programs referred to in paragraph (7); and

"(9) use such other authorities for programs respecting health information and health promotion, preventive health services, and education in the appropriate use of health care as are available and coordinate such use with programs conducted under this title.

Administration.
42 USC 300k-2.

The Secretary shall administer this title in a manner consistent with the national health priorities set forth in section 1502 and with health planning and resource development activities undertaken under titles XV and XVI.

42 USC 300k-1, 300o.
Appropriation authorization.

"(b) For payments under grants and contracts under this title there are authorized to be appropriated $7,000,000 for the fiscal year ending September 30, 1977, $10,000,000 for the fiscal year ending September 30, 1978, and $14,000,000 for the fiscal year ending September 30, 1979.

Grant or contract.

"(c) No grant may be made or contract entered into under this title unless an application therefor has been submitted to and approved by the Secretary. Such an application shall be submitted in such form and manner and contain such information as the Secretary may prescribe. Contracts may be entered into under this title without regard to sections 3648 and 3709 of the Revised Statutes (31 U.S.C. 529; 41 U.S.C. 5).

"RESEARCH PROGRAMS

42 USC 300u-1.

"SEC. 1702. (a) The Secretary is authorized to conduct and support by grant or contract (and encourage others to support) research in health information and health promotion, preventive health services, and education in the appropriate use of health care. Applications for grants and contracts under this section shall be subject to appropriate peer review. The Secretary shall also—

"(1) provide consultation and technical assistance to persons who need help in preparing research proposals or in actually conducting research;

"(2) determine the best methods of disseminating information concerning personal health behavior, preventive health services and the appropriate use of health care and of affecting behavior so that such information is applied to maintain and improve health, and prevent disease, reduce its risk, or modify its course or severity;

"(3) determine and study environmental, occupational, social, and behavioral factors which affect and determine health and ascertain those programs and areas for which educational and preventive measures could be implemented to improve health as it is affected by such factors;

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"(4) develop (A) methods by which the cost and effectiveness of activities respecting health information and health promotion, preventive health services, and education in the appropriate use of health care, can be measured, including methods for evaluating the effectiveness of various settings for such activities and the various types of persons engaged in such activities, (B) methods for reimbursement or payment for such activities, and (C) models and standards for the conduct of such activities, including models and standards for the education, by providers of institutional health services, of individuals receiving such services respecting the nature of the institutional health services provided the individuals and the symptoms, signs, or diagnoses which led to provision of such services;

"(5) develop a method for assessing the cost and effectiveness of specific medical services and procedures under various conditions of use, including the assessment of the sensitivity and specificity of screening and diagnostic procedures; and

"(6) enumerate and assess, using methods developed under paragraph (5), preventive health measures and services with respect to their cost and effectiveness under various conditions of use.

Survey.

"(b) The Secretary shall make a periodic survey of the needs, interest, attitudes, knowledge, and behavior of the American public regarding health and health care. The Secretary shall take into consideration the findings of such surveys and the findings of similar surveys conducted by national and community health education organizations, and other organizations and agencies for formulating policy respecting health information and health promotion, preventive health services, and education in the appropriate use of health care.

"COMMUNITY PROGRAMS

42 USC 300u-2.

"SEC. 1703. (a) The Secretary is authorized to conduct and support by grant or contract (and encourage others to support) new and innovative programs in health information and health promotion, preventive health services, and education in the appropriate use of health care, and may specifically—

"(1) support demonstration and training programs in such matters which programs (A) are in hospitals, ambulatory care settings, home care settings, schools, day care programs for children, and other appropriate settings representative of broad cross sections of the population, and include public education activities of voluntary health agencies, professional medical societies, and other private nonprofit health organizations, (B) focus on objectives that are measurable, and (C) emphasize the prevention or moderation of illness or accidents that appear controllable through individual knowledge and behavior;

"(2) provide consultation and technical assistance to organizations that request help in planning, operating, or evaluating programs in such matters;

"(3) develop health information and health promotion materials and teaching programs including (A) model curriculums for the training of educational and health professionals and paraprofessionals in health education by medical, dental, and nursing schools, schools of public health, and other institutions engaged in training of educational or health professionals, (B) model curriculums to be used in elementary and secondary schools and institutions of higher learning, (C) materials and programs

for the continuing education of health professionals and paraprofessionals in the health education of their patients, (D) materials for public service use by the printed and broadcast media, and (E) materials and programs to assist providers of health care in providing health education to their patients; and

"(4) support demonstration and evaluation programs for individual and group self-help programs designed to assist the participant in using his individual capacities to deal with health problems, including programs concerned with obesity, hypertension, and diabetes.

Grants.

"(b) The Secretary is authorized to make grants to States and other public and nonprofit private entities to assist them in meeting the costs of demonstrating and evaluating programs which provide information respecting the costs and quality of health care or information respecting health insurance policies and prepaid health plans, or information respecting both. After the development of models pursuant to sections 1704(4) and 1704(5) for such information, no grant may be made under this subsection for a program unless the information to be provided under the program is provided in accordance with one of such models applicable to the information.

"(c) The Secretary is authorized to support by grant or contract (and to encourage others to support) private nonprofit entities working in health information and health promotion, preventive health services, and education in the appropriate use of health care. The amount of any grant or contract for a fiscal year beginning after September 30, 1978, for an entity may not exceed 25 per centum of the expenses of the entity for such fiscal year for health information and health promotion, preventive health services, and education in the appropriate use of health care.

"INFORMATION PROGRAMS

42 USC 300u-3.

"SEC. 1704. The Secretary is authorized to conduct and support by grant or contract (and encourage others to support) such activities as may be required to make information respecting health information and health promotion, preventive health services, and education in the appropriate use of health care available to the consumers of medical care, providers of such care, schools, and others who are or should be informed respecting such matters. Such activities may include at least the following:

"(1) The publication of information, pamphlets, and other reports which are specially suited to interest and instruct the health consumer, which information, pamphlets, and other reports shall be updated annually, shall pertain to the individual's ability to improve and safeguard his own health; shall include material, accompanied by suitable illustrations, on child care, family life and human development, disease prevention (particularly prevention of pulmonary disease, cardiovascular disease, and cancer), physical fitness, dental health, environmental health, nutrition, safety and accident prevention, drug abuse and alcoholism, mental health, management of chronic diseases (including diabetes and arthritis), and venereal diseases; and shall be designed to reach populations of different languages and of different social and economic backgrounds.

"(2) Securing the cooperation of the communications media, providers of health care, schools, and others in activities designed to promote and encourage the use of health maintaining information and behavior.

"(3) The study of health information and promotion in advertising and the making to concerned Federal agencies and others such recommendations respecting such advertising as are appropriate.

"(4) The development of models and standards for the publication by States, insurance carriers, prepaid health plans, and others (except individual health practitioners) of information for use by the public respecting the cost and quality of health care, including information to enable the public to make comparisons of the cost and quality of health care.

"(5) The development of models and standards for the publication by States, insurance carriers, prepaid health plans, and others of information for use by the public respecting health insurance policies and prepaid health plans, including information on the benefits provided by the various types of such policies and plans, the premium charges for such policies and plans, exclusions from coverage or eligibility for coverage, cost sharing requirements, and the ratio of the amounts paid as benefits to the amounts received as premiums and information to enable the public to make relevant comparisons of the costs and benefits of such policies and plans.

"(6) Assess, with respect to the effectiveness, safety, cost, and required training for and conditions of use, of new aspects of health care, and new activities, programs, and services designed to improve human health and publish in readily understandable language for public and professional use such assessments and, in the case of controversial aspects of health care, activities, programs, or services, publish differing views or opinions respecting the effectiveness, safety, cost, and required training for and conditions of use, of such aspects of health care, activities, programs, or services.

"REPORT AND STUDY

"SEC. 1705. (a) The Secretary shall, not later than two years after the date of the enactment of this title and annually thereafter, submit to the President for transmittal to Congress a report on the status of health information and health promotion, preventive health services, and education in the appropriate use of health care. Each such report shall include— 42 USC 300u-4.

"(1) a statement of the activities carried out under this title since the last report and the extent to which each such activity achieves the purposes of this title;

"(2) an assessment of the manpower resources needed to carry out programs relating to health information and health promotion, preventive health services, and education in the appropriate use of health care, and a statement describing the activities currently being carried out under this title designed to prepare teachers and other manpower for such programs;

"(3) the goals and strategy formulated pursuant to section 1701(a)(1), the models and standards developed under this title, and the results of the study required by subsection (b) of this section; and

"(4) such recommendations as the Secretary considers appropriate for legislation respecting health information and health promotion, preventive health services, and education in the appropriate use of health care, including recommendations for revisions to and extension of this title.

Study.

"(b) The Secretary shall conduct a study of health education services and preventive health services to determine the coverage of such services under public and private health insurance programs, including the extent and nature of such coverage and the cost sharing requirements required by such programs for coverage of such services.

"OFFICE OF HEALTH INFORMATION AND HEALTH PROMOTION

Establishment.
42 USC 300u-5.

"SEC. 1706. The Secretary shall establish within the Office of the Assistant Secretary for Health an Office of Health Information and Health Promotion which shall—

"(1) coordinate all activities within the Department which relate to health information and health promotion, preventive health services, and education in the appropriate use of health care;

"(2) coordinate its activities with similar activities of organizations in the private sector; and

"(3) establish a national information clearinghouse to facilitate the exchange of information concerning matters relating to health information and health promotion, preventive health services, and education in the appropriate use of health care, to facilitate access to such information, and to assist in the analysis of issues and problems relating to such matters.".

Disease Control Amendments of 1976.

TITLE II—DISEASE CONTROL

SHORT TITLE

42 USC 201 note.

SEC. 201. This title may be cited as the "Disease Control Amendments of 1976".

AMENDMENTS TO SECTIONS 311 AND 317

42 USC 247b note.

SEC. 202. (a) Effective with respect to grants under section 317 of the Public Health Service Act made from appropriations under such section for fiscal years beginning after June 30, 1975, section 317 of such Act is amended to read as follows:

"DISEASE CONTROL PROGRAMS

Grants.
42 USC 247b.

"SEC. 317. (a) The Secretary may make grants to States and, in consultation with State health authorities, to public entities to assist them in meeting the costs of disease control programs.

"(b)(1) No grant may be made under subsection (a) unless an application therefor has been submitted to, and approved by, the Secretary. Such application shall be in such form, be submitted in such manner, and contain such information as the Secretary shall by regulation prescribe and shall meet the requirements of paragraph (2).

Application requirements.

"(2) An application for a grant under subsection (a) shall—

"(A) set forth with particularity the objectives (and their priorities, as determined in accordance with such regulations as the Secretary may prescribe) of the applicant for each of the disease control programs it proposes to conduct with assistance from a grant under subsection (a);

"(B) contain assurances satisfactory to the Secretary that, in the year during which the grant applied for would be available, the applicant will conduct such programs as may be necessary (i) to develop an awareness in those persons in the area served by

the applicant who are most susceptible to the diseases or conditions referred to in subsection (f) of appropriate preventive behavior and measures (including immunizations) and diagnostic procedures for such diseases, and (ii) to facilitate their access to such measures and procedures; and

"(C) provide for the reporting to the Secretary of such information as he may require concerning (i) the problems, in the area served by the applicant, which relate to any disease or condition referred to in subsection (f), and (ii) the disease control programs of the applicant for which a grant is applied for. Report to Secretary.

In considering such an application the Secretary shall take into account the relative extent, in the area served by the applicant, of the problems which relate to one or more of the diseases or conditions referred to in subsection (f) and the extent to which the applicant's programs are designed to eliminate or reduce such problems. The Secretary shall give special consideration to applications for programs which (A) will increase to at least 80 per centum the immunization rates of any population identified as not having received, or as having failed to secure, the generally recognized disease immunizations, and (B) to the fullest extent practicable, will cooperate and use public and nonprofit private entities and volunteers. The Secretary shall give priority to applications submitted for disease control programs for communicable diseases.

"(c)(1) Each grant under subsection (a) shall be made for disease control program costs in the one-year period beginning on the first day of the first month beginning after the month in which the grant is made.

"(2) Payments under grants under subsection (a) may be made in advance on the basis of estimates or by way of reimbursement, with necessary adjustments on account of underpayments or overpayments, and in such installments and on such terms and conditions as the Secretary finds necessary to carry out the purposes of this section.

"(3) The Secretary, at the request of a recipient of a grant under subsection (a), may reduce the amount of such grant by—

"(A) the fair market value of any supplies (including vaccines and other prevention agents) or equipment furnished the grant recipient, and

"(B) the amount of the pay, allowances, and travel expenses of any officer or employee of the Government when detailed to the recipient and the amount of any other costs incurred in connection with the detail of such officer or employee,

when the furnishing of such supplies or equipment or the detail of such an officer or employee is for the convenience of and at the request of such recipient and for the purpose of carrying out a program with respect to which the recipient's grant under subsection (a) is made. The amount by which any such grant is so reduced shall be available for payment by the Secretary of the costs incurred in furnishing the supplies or equipment, or in detailing the personnel, on which the reduction of such grant is based, and such amount shall be deemed as part of the grant and shall be deemed to have been paid to the recipient.

"(d)(1) The Secretary may conduct, and may make grants to and enter into contracts with public and nonprofit private entities for the conduct of— Grants and contracts.

"(A) training for the administration and operation of disease prevention and control programs, and

"(B) demonstrations and evaluations of such programs.

Application.

"(2) No grant may be made or contract entered into under paragraph (1) unless an application therefor is submitted to and approved by the Secretary. Such application shall be in such form, be submitted in such manner, and contain such information, as the Secretary shall by regulation prescribe.

"(e) The Secretary shall coordinate activities under this section respecting disease control programs with activities under other sections of this Act respecting such programs.

"Disease control program."

"(f) For purposes of this section, the term 'disease control program' means a program which is designed and conducted so as to contribute to national protection against diseases or conditions of national significance which are amenable to reduction, including tuberculosis, rubella, measles, poliomyelitis, diphtheria, tetanus, pertussis, mumps, and other communicable diseases (other than venereal diseases), and arthritis, diabetes, diseases borne by rodents, hypertension, pulmonary diseases, cardiovascular diseases, and Rh disease. Such term also includes vaccination programs, laboratory services, studies to determine the disease control needs of the States and the means of best meeting such needs, the provision of information and education services respecting disease control, and programs to encourage behavior which will prevent disease and encourage the use of preventive measures and diagnostic procedures. Such term also includes any program or project for rodent control for which a grant was made under section 314(e) for the fiscal year ending June 30, 1975.

42 USC 246.

Appropriation authorization.

"(g)(1)(A) For the purpose of grants under subsection (a) for disease control programs to immunize children against immunizable diseases (including measles, rubella, poliomyelitis, diphtheria, pertussis, tetanus, and mumps), there are authorized to be appropriated $9,000,000 for fiscal year 1976, $17,500,000 for fiscal year 1977, and $23,000,000 for fiscal year 1978.

Appropriation authorization.

"(B) For the purpose of grants under subsection (a) for disease control programs for diseases borne by rodents there are authorized to be appropriated $13,500,000 for fiscal year 1976, $14,000,000 for fiscal year 1977, and $14,500,000 for fiscal year 1978.

Appropriation authorization.

"(C) For the purpose of grants under subsection (a) for disease control programs, other than programs for which appropriations are authorized under subparagraph (A) or (B), and for the purpose of grants and contracts under subsection (d), there are authorized to be appropriated $4,000,000 for fiscal year 1976, $4,500,000 for fiscal year 1977, and $5,000,000 for fiscal year 1978.

"(D) Not to exceed 15 per centum of the amount appropriated for any fiscal year under any of the preceding subparagraphs of this paragraph may be used by the Secretary for grants and contracts for such fiscal year for programs for which appropriations are authorized under any one or more of the other subparagraphs of this paragraph if the Secretary determines that such use will better carry out the purpose of this section, and reports to the appropriate committees of Congress at least thirty days before making such use of such amount his determination and the reasons therefor.

42 USC 247c.

"(2) Except as provided in section 318, no funds appropriated under any provision of this Act other than paragraph (1) of this subsection may be used to make grants in any fiscal year for disease control programs if (A) grants for such programs are authorized by subsection (a), and (B) all the funds authorized to be appropriated under this subsection for that fiscal year have not been appropriated for that fiscal year and obligated in that fiscal year.

Report to Congress.

"(h) The Secretary shall submit to the President for submission to the Congress on January 1 of each year (1) a report (A) on the

effectiveness of all Federal and other public and private activities in controlling the diseases and conditions referred to in subsection (f), (B) on the extent of the problems presented by such diseases, (C) on the effectiveness of the activities, assisted under grants and contracts under this section, in controlling such diseases, and (D) setting forth a plan for the coming year for the control of such diseases; and (2) a report (A) on the immune status of the population of the United States, and (B) identifying, by area, population group, and other categories, deficiencies in the immune status of such population.

"(i) (1) Nothing in this section shall limit or otherwise restrict the use of funds which are granted to a State or to an agency or a political subdivision of a State under provisions of Federal law (other than this Act) and which are available for the conduct of disease control programs from being used in connection with programs assisted through grants under subsection (a).

"(2) Nothing in this section shall be construed to require any State or any agency or political subdivision of a State to have a disease control program which would require any person, who objects to any treatment provided under such a program, to be treated or to have any child or ward treated under such a program.".

(b) Section 311(c) of the Public Health Service Act is amended to read as follows: 42 USC 243.

"(c) (1) The Secretary is authorized to develop (and may take such action as may be necessary to implement) a plan under which personnel, equipment, medical supplies, and other resources of the Service and other agencies under the jurisdiction of the Secretary may be effectively used to control epidemics of any disease or condition referred to in section 317(f) and to meet other health emergencies or problems involving or resulting from disasters or any such disease. The Secretary may enter into agreements providing for the cooperative planning between the Service and public and private community health programs and agencies to cope with health problems (including epidemics and health emergencies) resulting from disasters or any disease or condition referred to in section 317(f). 42 USC 247b.

"(2) The Secretary may, at the request of the appropriate State or local authority, extend temporary (not in excess of forty-five days) assistance to States or localities in meeting health emergencies of such a nature as to warrant Federal assistance. The Secretary may require such reimbursement of the United States for assistance provided under this paragraph as he may determine to be reasonable under the circumstances. Any reimbursement so paid shall be credited to the applicable appropriation for the Service for the year in which such reimbursement is received.". Federal assistance.

(c) Section 311(b) of such Act is amended by inserting at the end thereof the following new sentence: "The Secretary may charge only private entities reasonable fees for the training of their personnel under the preceding sentence.".

AMENDMENTS RESPECTING VENEREAL DISEASES

SEC. 203. (a) The Congress finds and declares that— 42 USC 247c note.

(1) the number of reported cases of venereal disease continues in epidemic proportions in the United States;

(2) the number of patients with venereal disease reported to public health authorities is only a fraction of those actually infected;

(3) the incidence of venereal disease is particularly high in the 15–29-year age group, and in metropolitan areas;

(4) venereal disease accounts for needless deaths and leads to such severe disabilities as sterility, insanity, blindness, and crippling conditions;

(5) the number of cases of congenital syphilis, a preventable disease, tends to parallel the incidence of syphilis in adults;

(6) it is conservatively estimated that the public cost of care for persons suffering the complications of venereal disease exceed $80,000,000 annually;

(7) medical researchers have no successful vaccine for syphilis or gonorrhea, and have no blood test for the detection of gonorrhea among the large reservoir of asymptomatic females;

(8) school health education programs, public information and awareness campaigns, mass diagnostic screening and case followup activities have all been found to be effective disease intervention methodologies;

(9) knowledgeable health providers and concerned individuals and groups are fundamental to venereal disease prevention and control;

(10) biomedical research leading to the development of vaccines for syphilis and gonorrhea is of singular importance for the eventual eradication of these dreaded diseases; and

(11) a variety of other sexually transmitted diseases, in addition to syphilis and gonorrhea, have become of public health significance.

42 USC 247c.

(b)(1) Section 318(b)(2) of the Public Health Service Act is amended to read as follows:

"(2) For the purpose of carrying out this subsection, there are authorized to be appropriated $5,000,000 for fiscal year 1976, $6,600,000 for fiscal year 1977, and $7,600,000 for fiscal year 1978.".

Appropriation authorization.

(2) Subsection (d)(2) of such section is amended to read as follows:

"(2) For the purpose of carrying out this section there is authorized to be appropriated $32,000,000 for fiscal year 1976, $41,500,000 for fiscal year 1977, and $43,500,000 for fiscal year 1978.".

(c) Subsection (a) of such section is amended by striking out "public authorities and" and inserting in lieu thereof "public and nonprofit private entities and to".

(d) Subsection (d)(1)(B) of such section is amended by inserting before the semicolon at the end the following: "and routine testing, including laboratory tests and followup systems".

(e) Subsection (d)(1)(E) of such section is amended by striking out "control" and inserting in lieu thereof "prevention and control strategies and activities".

Repeal.

(f)(1) Subsection (c) is repealed.

(2) Subsection (e)(1) of such section is amended by striking out "or (d)" and inserting in lieu thereof "or (c)".

(3) Subsection (e)(2)(C) of such section is amended by striking out "(including dark-field microscope techniques for the diagnosis of both gonorrhea and syphilis)".

(4) The last sentence of subsection (e)(4) of such section is amended by striking out the semicolon and all that follows through "paid to such recipient".

(5) The first sentence of subsection (e)(5) of such section is amended by inserting before the period the following: "or as may be required by a law of a State or political subdivision of a State".

(6) Subsection (g) of such section is amended by striking out ", (c), and (d)" and inserting in lieu thereof "and (c)".

(7) Subsection (h) of such section is amended by striking out "treated or to have any child or ward of his".

(8) Subsections (d), (e), (f), (g), and (h) of such section are redesignated as subsections (c), (d), (e), (f), and (g), respectively.

(g) Subsection (e) of such section (as so redesignated) is amended by striking out "317(d)(4)" and inserting in lieu thereof "317(g)(2)". 42 USC 247b.

(h) Such section is amended by adding at the end thereof the following new subsection:

"(h) For purposes of this section and section 317, the term 'venereal disease' means gonorrhea, syphilis, or any other disease which can be sexually transmitted and which the Secretary determines is or may be amenable to control with assistance provided under this section and is of national significance.". "Venereal disease."

(i) Section 318(b)(1) is amended by inserting "education," before "and training". 42 USC 247c.

EXTENSION AND REVISION OF LEAD-BASED PAINT POISONING PREVENTION ACT

SEC. 204. (a)(1) Section 101(c) of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4801(c)) is amended by inserting after and below paragraph (4) the following:

"Follow-up programs described in paragraph (3) shall include programs to eliminate lead-based paint hazards from surfaces in and around residential dwelling units or houses, including programs to provide for such purpose financial assistance to the owners of such units or houses who are financially unable to eliminate such hazards from their units or houses. In administering programs for the elimination of such hazards, priority shall be given to the elimination of such hazards in residential dwelling units or houses in which reside children with diagnosed lead-based paint poisoning.". Follow-up programs.

(2)(A) Section 101(c) of such Act is amended by striking out should include" and inserting in lieu thereof "shall include".

(B) Section 101(f) of such Act is amended by (i) striking out "and (B)" and inserting in lieu thereof "(B)", and (ii) by inserting before the period at the end the following ", and (C) the services to be provided will be provided under local programs which meet the requirements of subsections (c) and (d) of this section".

(b) Section 401 of such Act (42 U.S.C. 4831) is amended to read as follows:

"PROHIBITION AGAINST USE OF LEAD-BASED PAINT IN CONSTRUCTION OF FACILITIES AND THE MANUFACTURE OF CERTAIN TOYS AND UTENSILS

"SEC. 401. (a) The Secretary of Health, Education, and Welfare shall take such steps and impose such conditions as may be necessary or appropriate to prohibit the application of lead-based paint to any cooking utensil, drinking utensil, or eating utensil manufactured and distributed after the date of enactment of this Act.

"(b) The Secretary of Housing and Urban Development shall take 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 by the Federal Government, or with Federal assistance in any form after the date of enactment of this Act.

"(c) The Consumer Product Safety Commission shall take such steps and impose such conditions as may be necessary or appropriate to prohibit the application of lead-based paint to any toy or furniture article.".

(c)(1) Section 501(3) of such Act (42 U.S.C. 4841(3)) is amended to read as follows:

"Lead-based paint."

"(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.

Hearing.

"(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 considering 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 a 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's 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 a 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.".

(2) Section 501 of such Act is amended (1) by striking out "the term" in paragraphs (1) and (2) and inserting in lieu thereof "The term", (2) by striking out the semicolon at the end of paragraph (1) and inserting in lieu thereof a period, and (3) by striking out "; and" at the end of paragraph (2) and inserting in lieu thereof a period.

(d) Section 502 of such Act (42 U.S.C. 4842) is amended by striking out "In carrying out the authority under this Act, the Secretary of Health, Education, and Welfare shall" and inserting in lieu thereof "In carrying out their respective authorities under this Act, the Secretary of Housing and Urban Development and the Secretary of Health, Education, and Welfare shall each".

Appropriation authorization.

(e)(1) Section 503 of such Act (42 U.S.C. 4843) is amended by striking out subsections (a), (b), and (c) and inserting in lieu thereof the following:

"(a) There are authorized to be appropriated to carry out this Act $10,000,000 for the fiscal year 1976, $12,000,000 for the fiscal year 1977, and $14,000,000 for the fiscal year 1978.".

(2) Subsection (d) of such section is redesignated as subsection (b).

TITLE III—MISCELLANEOUS AMENDMENT

SEC. 301. (a) Section 2(f) of the Public Health Service Act is amended to read as follows: 42 USC 201.

"(f) Except as provided in sections 314(g)(4)(B), 355(5), 361(d), 1002(c), 1201(2), 1401(13), 1531(1), and 1633(1), the term 'State' includes, in addition to the several States, only the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.".

(b)(1) Section 361(d) is amended by adding at the end thereof the following: "For purposes of this subsection, the term 'State' includes, in addition to the several States, only the District of Columbia.". 42 USC 264.

(2) Section 1401 is amended by adding after paragraph (12) the following new paragraph: 42 USC 300f.

"(13) The term 'State' includes, in addition to the several States, only the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.".

Approved June 23, 1976.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 94-1007 accompanying H.R. 12678 (Comm. on Interstate and Foreign Commerce).
SENATE REPORT No. 94-330 (Comm. on Labor and Public Welfare).
CONGRESSIONAL RECORD:
Vol. 121 (1975): July 30, considered and passed Senate.
Vol. 122 (1976): Apr. 7, considered and passed House, amended, in lieu of H.R. 12678.
May 26, Senate concurred in amendment, with amendment.
June 7, House concurred in Senate amendment.

APPENDIX B

HUD LEAD-BASED PAINT REGULATIONS

federal register

TUESDAY, JULY 13, 1976

PART II:

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Secretary

■

LEAD-BASED PAINT POISONING PREVENTION IN HUD-ASSOCIATED HOUSING AND FEDERALLY OWNED PROPERTY TO BE SOLD FOR RESIDENTIAL HABITATION

Reprinted by the U. S. Department of Housing and Urban Development

Title 24—Housing and Urban Development

SUBTITLE A—OFFICE OF THE SECRETARY, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. R-76-339]

PART 35—LEAD-BASED PAINT POISONING PREVENTION IN HUD-ASSOCIATED HOUSING AND FEDERALLY OWNED PROPERTY TO BE SOLD FOR RESIDENTIAL HABITATION

Revision of Part

The Department of Housing and Urban Development (HUD) published notice on June 25, 1975, at 40 FR 26974, proposing revisions to Part 35 of this chapter regarding lead-based paint poisoning prevention in order to implement the provisions of section 302 of the Lead-Based Paint Poisoning Prevention Act, Pub. L. 91-695, as amended by Pub. L. 93-151, 42 U.S.C. 4801, et seq.) (hereinafter referred to as "the Act").

Since the enactment of Pub. L. 93-151, November 9, 1973, which amended the Lead-Based Paint Poisoning Prevention Act, (42 U.S.C. 4801), HUD has been engaged in a continuing effort to clarify the complex issues related to lead-based paint poisoning and to determine the most cost-effective and practical methods to best effectuate the Congressional intent expressed in section 302 of the Act. To this end, the Department has developed a comprehnsive program for addressing the threat that lead poisoning poses to the life and safety of children.

In addition to earlier regulations prohibiting the use of lead-based paint in HUD-associated properties pursuant to the 1971 Act, HUD also issued regulations in 24 CFR Part 35 implementing the provisions of 42 CFR Part 90 prohibiting the use of lead-based paint in Federally owned and assisted residential structures. To assist in its evaluation of these regulations in light of the amendments to the 1971 Act, HUD held four days of public hearings, May 20-23, 1974, for the purpose of obtaining information relating to the causes, treatment and elimination of lead poisoning.

Written comments and testimony at the hearings covered the full spectrum of technical opinions and advice of health experts, tenants, environmental specialists, engineers, real estate brokers, landlords, homeowners, State and local officials, representatives from chemical laboratories, and representatives of paint manufacturers. A variety of points of view were expressed in the testimony with respect to the nature, source and solution to the problem. While there appeared to be agreement that lead-based paint probably is the most serious source of poisoning, there was also considerable testimony regarding the relative importance of other sources of lead poisoning such as dust, dirt, gasoline and other pollutants, as well as socio-economic factors which are important contributing agents to lead poisoning found in children. There were also differences of opinion as to what amount of lead in the blood constitutes a hazard.

The hearings were recorded and a transcript of the record and copies of the written comments are available to the public during regular office hours in Room 8136, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, D.C.

In discussing solutions to the problem, a number of experts at the HUD hearings recommended that the focus of deleading activities should be on housing where children with elevated blood levels reside. This "health approach" would involve an initial screening of children to determine their blood lead level, the identification and treatment of children found to have an elevated blood lead level and the deleading of the homes in which such children reside. In contrast, a "housing approach" would involve an inspection of all housing for lead-based paint and removal of such paint where found, regardless of the age and blood lead level of the inhabitants. While completely removing all lead-based paint from all housing could substantially elminate one source of lead poisoning, the potential costs involved would be prohibitive. In addition, such costs could adversely affect the value of the housing involved and could also substantially reduce the supply of otherwise standard housing available to low and moderate income families.

In addition to the hearings, HUD also conducted an informal survey of local codes, ordinances and administrative procedures regarding lead based paint hazard abatement. The Department found that a "health approach" was used almost universally. While localities vary in their specified abatement requirements, such requirements were found to be enforced primarily when a child with an elevated blood lead level (as locally defined) is found.

In support of a "health approach", there are numerous local programs, aided by funds from the Department of Health, Education and Welfare's Childhood Lead Poisoning Control Program, that test children for elevated blood lead levels and treat those who have potentially hazardous levels of lead in their blood. In addition to the specific project grant funds, Medicaid may also be available to pay for the screening and the treatment of children of low-income families who are eligible for Medicaid assistance.

During the period of HUD's evaluation of the problem, the Department instituted interim procedures for alerting all residents in older HUD-associated properties to the potential hazards of lead-based paint by requiring that all purchasers and tenants of HUD-associated properties constructed prior to 1950 be notified that such potential hazards may be present, and informing them of the symptoms of lead poisoning and the precautions to be taken to avoid poisoning.

Until the last few years, there had been very limited information available on the medical, environmental and technological nature of lead poisoning—its cause, treatment and prevention. Because of the complex nature of the problem, HUD has instituted a comprehensive research program. Cost-effective solutions to lead poisoning and hazard prevention are highly sensitive to technological developments. Consequently, research is a critical element in addressing the problem. HUD's research effort has been directed toward understanding the nature and extent of lead-based paint in lead poisoning and toward the development of improved methods for the detection and elimination of lead-based paint hazards. HUD has and will continue to seek the ideas and suggestions of interested and expert parties in meeting these goals.

In 1974, HUD substantially expanded the research and demonstration program initiated in 1972. Early research projects conducted through the National Bureau of Standards assessed the magnitude of the problem and the technology available for detecting and mitigating lead hazards. These initial research projects resulted in 24 research reports and provided essential basic information on which the current, much expanded, research and development program is based. These reports are available to the public through the National Technical Information Service.

An extensive program of immediate and long-range objectives has been established for the research program. These include, in cooperation with other Federal agencies, a program to identify all sources of lead poisoning and to quantify the contribution of each source, including lead-based paint. It has been determined through research and from evidence given by experts at the public hearings that lead-based paint is only one source of lead in the environment, although present indications point to it as a serious source. It remains unclear, however, to what extent lead-based paint or other sources, such as dust, dirt, gasoline and other pollutive substances, contribute to the total incidence of lead in the environment and to what extent each is a contributing factor in lead poisoning in children. In cooperation with the Environmental Protection Agency, the National Science Foundation and the National Institutes of Health, the HUD lead-based paint research program has undertaken a series of projects to determine the sources and causes of undue lead ingestion.

Utilizing data from HEW funded and other local programs and HUD surveys, HUD is attempting to develop a basis for establishing a national standard for determining what level of lead-based paint on surfaces constitutes a hazard. In this connection, research programs are seeking to develop a less costly and more sensitive method for detecting the presence of lead-based paint. Present methods are either very time consuming and inefficient or unreliable. HUD has awarded contracts for development of improved methods for the inexpensive, reliable detection of low levels of lead-based paint on walls.

Further, HUD is seeking to develop more efficient and cost-effective methods for eliminating lead-based paint hazards. Major activities include the following: A multi-city experimental program to test existing technology; development of new technologies, i.e., the testing of acerbic (bad tasting) paints and encourage-

ment for private industry doing research in this field; and development of program strategies to assist state and local governments to combat lead poisoning in the most effective manner. Jointly with HEW, the HUD research program is funding local demonstration programs to improve local program management, to effectively combine health and housing strategies in alleviating lead poisoning and to mobilize local resources for the long-term funding of lead poisoning control programs. HUD is also establishing a clearinghouse to provide for the rapid dissemination of the results of HUD research to the various user groups. HUD anticipates that this research effort will provide medical and technical solutions to effectively address this serious childhood disease. Interested parties are continuously requested to send research suggestions to the Lead-Based Paint Research Program, Room 8136, Office of Policy Development and Research, Department of Housing and Urban Development, 451 Seventh Street SW., Washington, D.C. 20410.

In re-evaluating the proposed regulations, HUD gave careful consideration to many factors: information received at the Department's public hearings; reports of HUD research and development programs; anticipated results of the short- and long-term research programs; the impact of alternative solutions on the supply of housing for low and moderate income families; limitations on HUD's legal authority to deal with housing other than that which is under the jurisdiction of this Department; a survey of local codes and procedures for lead based paint poisoning abatement and the costs involved in relation to the benefits to be derived. In addition, the Department has carefully evaluated all comments received in response to the June 25, 1975 notice of proposed rulemaking.

These revised regulations implement the requirements of section 302 of the Act for the establishment of procedures to eliminate as far as practicable the immediate hazards of lead based paint poisoning with respect to HUD-associated housing and federally owned property to be sold for residential habitation. These regulations do not purport to incorporate a "health approach" of child screening followed by hazard elimination, since this Department has neither the capability nor the mandate to undertake a program of child screening for lead even though the "health approach" would be an effective method. Given the vast number of housing units containing lead, the high cost of presently available methods of abatement and the fact that excessive lead absorption only occurs in a small percentage of children, screening is one method whereby finite resources can be directed to children adversely affected rather than to generalized abatement. HUD is mandated, under the statute, however, to eliminate, as far as practicable, the immediate hazards of lead-based paint in all housing subject to the Act without regard to the risk factor; and has adopted the methods it believes most reasonable in carrying out this mandate.

The Department has determined that, in view of the limiting language of Section 302 to removal of "immediate hazards" to the extent practicable and the extension of coverage to all HUD-associated housing, the requirement for elimination of defective paint conditions (cracking, scaling, chipping, peeling or loose paint) is the most practicable method at this time. These final regulations will be subject to continuing evaluation and review by HUD for the purpose of further modification and revision as new information becomes available through continuing medical and technological research programs.

The final regulations include: a new Subpart A entitled Notification to Purchasers and Tenants of HUD-Associated Housing Constructed Prior to 1950 of the Hazards of Lead-Based Paint Poisoning; a new Subpart B entitled Prohibition Against the Use of Lead-Based Paint in HUD-Associated Housing; a new Subpart C entitled Elimination of Lead-Based Paint Hazards in HUD-Associated Housing; a new Subpart D entitled Local Codes and Regulations, and a new Subpart E entitled Elimination of Lead-Based Paint Hazards in Federally Owned Properties Prior to Sale for Residential Habitation.

The new Subpart A implements the provisions of the Act regarding notification to purchasers and tenants of the hazards of lead-based paint in housing covered by an application for mortgage insurance or housing assistance payments constructed prior to 1950 and administratively extends the notification requirement to all other HUD-associated housing constructed prior to 1950.

The new Subpart E implements the provision of the Act authorizing the Secretary to establish and implement procedures to eliminate the hazards of lead-based paint poisoning in all federally-owned properties prior to sale when their use is intended for residential habitation. This Subpart is applicable to all properties owned by Federal agencies when sold by such agencies for residential habitation and directs such agencies to inspect for and eliminate immediate hazards of paints which may contain lead in such properties, and to comply with the notification requirement under § 35.5 (a).

The Subparts designated B, C and D modify the existing requirements and procedures in the current Subpart A and B of 24 CFR Part 35. The definition of "lead-based paint" is revised. The definition of "health hazards" is deleted and a definition of "immediate hazards" substituted.

In response to the June 25, 1975 notice of proposed rulemaking, the Department received ten comments. All of the comments were carefully reviewed and considered by HUD and, based upon such comments, certain changes have been made to the proposed regulations, as set forth below. A discussion of the major changes as well as the more significant comments follows:

1. Several comments recommended that the definition of "Applicable Surfaces" contained in § 35.3(g) be modified to make it clear that all interior surfaces are subject to the requirements of the regulations; whether or not they are accessible to children. The Department has adopted this suggestion by adding the language "whether accessible or not" following "interior surfaces."

2. The suggestion was made that prospective purchasers and tenants of housing subject to the regulations should be notified of the hazards of lead based paint poisoning before they have purchased or rented the property. The Department has adopted this suggestion by changing the language of § 35.5(a) to require that such notification of lead based paint hazards be given to prospective purchasers and tenants prior to their purchase or rental. A new § 35.56 (a)(4) has been added requiring that the notice required under § 35.5(a) be given to prospective purchasers of federally owned property where its use is intended for residential habitation.

3. Three comments suggested modifications in the language of the notification requirements. Concern was expressed that the language was unnecessarily complex, and did not provide for Spanish translations. Questions were also raised as to whether the language of the notifications implied that a child would promptly show symptoms of lead poisoning. The Department has responded to these comments by substantially simplifying and shortening the notifications (See Appendix D). When published for mass distribution, these notifications will be accompanied with appropriate visual and graphic illustrations. Notifications will be printed in both English and in Spanish translations. Finally, the language of the notifications has been corrected to state that there are usually no signs of lead poisoning.

4. Two comments objected to the regulations in light of a 1973 ruling of the Federal District Court in *City-Wide Coalition Against Childhood Lead Paint Poisoning vs. Philadelphia Housing Authority and HUD*, 356 F. Supp. 123 (E.D. Pa., 1973). It was the finding of the Court in *City-Wide* that, prior to the sale of a HUD-owned acquired property, HUD is required to abate lead paint hazards in conformity with the local Philadelphia ordinance, including removal or coverup of lead-based paint on sinking or peeling walls and the removal of lead paint from intact but accessible woodwork and trim. The Department is in compliance with the ruling of the Court in *City-Wide*.

5. Two comments took issue with the Department's interpretation of section 302 of the Act. These comments expressed the opinion that the statutory language fails to provide for any distinction between "immediate" and "potential" hazards, that section 302 mandates the elimination of all lead paint hazards, irrespective of practicality, in federally-owned units, and that the limitation of "as far as practicable" applies only to HUD-associated (but not federally-owned) units. The Department is of the legal opinion that the phrase "procedures to eliminate as far as practicable

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the hazards of lead paint poisoning," which describes existing housing covered by an application for mortgage insurance or housing assistance payments, is similar to the phrase "procedures to eliminate the hazards of lead-based paint poisoning" which is applied to federally owned properties prior to sale. Section 302 provides that the procedures to eliminate as far as practicable the hazards of lead-based paint poisoning in HUD assisted housing *shall*, as a *minimum*, provide for appropriate measures to eliminate "as far as practicable" immediate hazards. Although this minimum requirement is not mentioned with regard to federally-owned property, the House Report summary of the 1973 amendments to the Act provides that:

> Similar procedures would be established and implemented for all Federally-owned property being sold for residential purposes. (H.R. Rep. No. 93-373, 93rd Cong., 1st Sess. 10 (1973).)

The Department does not believe that Congress intended to require the establishment of more stringent procedures for disposition of federally-owned properties than for properties covered by FHA insurance or housing assistance payments, because the major source of federally-owned properties is acquisition after default on an insured mortgage. Nothing in the legislative history indicates that Congress intended to impose any financial burden upon the mortgage insurance funds by the establishment of a dual standard which could result in such a burden. The definition of "HUD-associated" properties in § 35.3(e) therefore includes both HUD-owned as well as other HUD-assisted structures.

6. Several comments suggested the need for more stringent enforcement provisions, including annual inspections, special notices when specific hazards are discovered, remedies for violations, and specific time limitations for compliance. These suggestions have not been adopted. The Department does not believe it necessary to provide detailed inspection and enforcement procedures in these regulations, since each Assistant Secretary will, as directed by the regulations, implement those inspection and enforcement procedures most appropriate for the particular HUD programs within his or her jurisdiction.

7. Several comments questioned the distinction made in the regulations between "immediate" and "potential" hazards, asserting that all intact paint should be required to be removed, based on accessibility and lead content. As discussed above, HUD has determined that cracking, scaling, chipping, peeling, or loose paint presents the most immediate hazard and removal of such paint is the most practicable step at this time.

8. In response to comments, the Department is also revising the regulations to make explicit its intention to comply with State or local laws, ordinances, codes or regulations governing lead based paint hazard abatement enforcement. Section 35.40 on local codes and regulations has been amended accordingly.

An environmental impact statement pursuant to the National Environmental Policy Act of 1969 was prepared and circulated for public comment with respect to these final regulations. A copy of the final environmental impact statement, including the comments received on the draft impact statement and our response to those comments, is available for public inspection during regular business hours, in the Office of the Rules Docket Clerk, Room 10141, Department of Housing and Urban Development and in the Information Centers of HUD's Regional Offices.

Accordingly, Part 35 of Title 24 is revised to read as follows:

Subpart A—Notification to Purchasers and Tenants of HUD-Associated Housing Constructed Prior to 1950 of the Hazards of Lead-Based Paint Poisoning

AUTHORITY: Pub. L. 91-695, 84 Stat. 2078, as amended by Pub. L. 93-151 (42 U.S.C. 4801 et seq.); sec. 7(d) Department of Housing and Urban Development Act (42 U.S.C. 3535(d)).

Subpart A—Notification to Purchasers and Tenants of HUD-Associated Housing Constructed Prior to 1950 of the Hazards of Lead-Based Paint Poisoning

§ 35.1 Purpose and scope.

This Subpart A establishes procedures to assure that purchasers and tenants of all HUD-associated housing constructed prior to 1950 are notified of the hazards of lead-based paint which may exist in such housing, of the symptoms and treatment of lead-based paint poisoning and of the precautions to be taken to avoid lead-based paint poisoning.

§ 35.3 Definitions.

For the purposes of this subpart, the following definitions are applicable:

(a) "Act" means the Lead-Based Paint Poisoning Prevention Act, Pub. L. 91-695, 84 Stat. 2076, as amended by Pub. L. 93-151, (42 U.S.C. 4801 et seq.).

(b) "Department" or "HUD" means the Department of Housing and Urban Development.

(c) "Secretary" means the Secretary of Housing and Urban Development or a HUD official delegated the Secretary's authority with respect to the Act.

(d) "Assistant Secretaries" means the Assistant Secretaries in the Department of Housing and Urban Development.

(e) "*HUD-associated housing*" means any residential structure as defined in paragraph (f) of this section, which is owned by the Department or Secretary of Housing and Urban Development or financially assisted under any programs administered by the Secretary, when such structures are being constructed, sold, purchased, leased, rehabilitated (including routine maintenance work), modernized or improved with any form of HUD financial assistance whether by grant, loan, advance, housing assistance payments, the proceeds of a HUD- guaranteed loan or a HUD-insured mortgage.

(f) "Residential structure" means any house, apartment or structure intended for human habitation, including any institutional structure where persons reside, such as an orphanage, boarding school, dormitory, day care center, or extended care facilities, college housing, hospitals, group practice facilities and community facilities.

(g) "Applicable surfaces" means all interior surfaces, whether accessible or not, and those exterior surfaces such as stairs, decks, porches, railings, windows and doors which are readily accessible to children under 7 years of age.

(h) "Potential hazard" means paint (which may contain lead) on applicable surfaces which are in a sound, tight condition, but which may become an immediate hazard, as defined in paragraph (i) of this section, by reason of cracking, chipping, scaling, peeling or loosening.

(i) "Immediate hazard" means paint (which may contain lead) on applicable surfaces which is cracking, scaling, chipping, peeling or loose.

(j) "Defective paint condition" means any paint on applicable surfaces which is cracking, scaling, chipping, peeling or loose.

§ 35.5 Requirements.

(a) Purchasers and tenants of HUD-associated housing constructed prior to 1950 shall be notified, (1) that the property was constructed prior to 1950, (2) that the property may contain lead-based paint, (3) of the potential and immediate hazards of lead-based paint, (4) of the symptoms and treatment of lead-based paint poisoning, and (5) of the precautions to be taken to avoid lead-based paint poisoning (including maintenance and removal techniques for eliminating such hazards). Prospective purchasers of renters shall receive the above notifications prior to purchase or rental. Appendix I, which is attached hereto and made a part hereof, consists of HUD brochures, copies of which shall be used to provide the required notification.

(b) Each Assistant Secretary shall take necessary actions to implement the requirements of paragraph (a) of this section with respect to the HUD programs within his/her administrative jurisdic-

tion. Such actions shall include the establishment of procedures to (1) provide evidence that the information contained in the appropriate HUD brochure, Appendix I, has been received by purchasers and tenants of HUD-associated housing constructed prior to 1950, and to (2) require the inclusion of appropriate provisions in contracts of sale, rental or management of HUD-associated housing to assure the receipt of the information contained in the appropriate HUD brochures by purchasers and tenants of such housing.

Subpart B—Prohibition Against the Use of Lead-Based Paint in HUD-Associated Housing

§ 35.10 Purpose and scope.

This subpart implements the provisions of 42 CFR Part 90 issued by the Secretary of Health, Education, and Welfare pursuant to section 401 of the Act which are applicable to federal agencies and which prohibit the use of lead-based paint on applicable surfaces of residential structures constructed or rehabilitated by the Federal Government or with federal assistance and establishes procedures to prohibit the use of lead-based paint on applicable surfaces in all HUD-associated housing.

§ 35.12 Definition.

The definitions contained in § 35.3 of Subpart A of this part shall apply to this Subpart B and in addition the following definition is applicable to this Subpart B:

(a) "Lead-based paint" as defined in section 501(3) of the Act means any paint containing more than five-tenths of 1 percentum lead by weight (calculated as lead metal) in the total nonvolatile content of liquid paints or in the dried film of paint already applied.

§ 35.14 Requirements.

(a) No office of the Department shall use or permit the use of lead-based paint on applicable surfaces of HUD-associated housing.

(b) Each Assistant Secretary shall implement the requirements of paragraph (a) of this section with respect to the HUD programs within his/her administrative jurisdiction. Implemention shall include the establishment of procedures to require the inclusion of appropriate provisions in contracts and subcontracts involving HUD-associated housing prohibiting the use of lead-based paint on applicable surfaces of such HUD-associated housing and shall include provisions necessary for enforcement of the prohibition.

Subpart C—Elimination of Lead-Based Paint Hazards in HUD-Associated Housing

§ 35.20 Purpose and scope.

This Subpart C implements the provisions of section 302 of the Act with respect to establishing procedures to eliminate as far as practicable the hazards due to the presence of paint which may contain lead on applicable surfaces of HUD-associated housing.

§ 35.22 Definitions.

The definitions contained in § 35.3 shall apply to this Subpart C.

§ 35.24 Requirements.

(a) Prior to the occupancy of HUD-associated housing, immediate hazards shall be eliminated by the most practicable means. For this purpose, all defective paint conditions shall be assumed to be immediate hazards.

(b) Each Assistant Secretary shall implement or provide for the implementation of the requirements of paragraph (a) of this section with respect to HUD programs within his/her administrative jurisdiction. Implementation shall include the following:

(1) HUD-associated housing shall be inspected to determine whether or not immediate hazards exist. Responsibility for such inspections shall be as follows:

(i) HUD-owned housing that is to be rehabilitated before sale shall be inspected by local HUD staff or, if appropriate, by the property manager as part of the program for management and disposition of HUD-owned property;

(ii) HUD-owned property that is to be sold in an as-is condition shall be inspected by the local HUD staff or by the property manager as part of the program for management and disposition of HUD-owned property prior to the sale of such property or subsequent to the sale but prior to occupancy thereof for residential use: *Provided, however,* That where properties are conveyed to a unit of state or local government, the state or local governmental body shall be responsible for inspection.

(iii) HUD-owned property that is rented or leased for residential use or will be offered for such rental shall be inspected by the local HUD staff or by the property manager as part of the program for management and disposition of HUD-owned properties.

(iv) Existing housing proposed for HUD-FHA mortgage insurance shall be inspected by the local HUD staff or by fee appraisers where otherwise permitted under existing procedures;

(v) Low-income public housing (including occupied units) shall be inspected by the local housing authority, local public agency or other agency responsible for the maintenance, management, repair and operation of such housing;

(vi) In the rehabilitation of HUD-associated college housing, the architect shall be responsible for inspection of the premises;

(vii) In housing assisted with Community Development funds, the appropriate local public agency, local public body, city demonstration agency or unit of local government or agency thereof shall be responsible for inspection of the premises;

(2) Notwithstanding the requirements of paragraph (b)(1) of this section, in the Section 8 Housing Assistance Payments Program, (Sec. 8 of the United States Housing Act of 1937, as amended by Title II, Housing and Community Development Act of 1974), the owner of the assisted housing shall be responsible for providing a certification to the local HUD staff, the local public housing agency or the state housing agency, if any, that the property has been inspected and treated in accordance with the applicable provisions of this part.

(3) Treatment necessary to eliminate immediate hazards shall, as a minimum, consist of the following:

(i) All surface conditions identified as immediate hazards shall be thoroughly cleaned (washed, sanded, scraped, wire brushed or otherwise cleaned) so as to remove all cracking, scaling, peeling, chipping and loose paint on applicable surfaces. Such surfaces that have been so treated shall then be repainted with two coats of a suitable non-leaded paint in accordance with the requirements of § 35.14; or

(ii) Where the paint film integrity of the applicable surface cannot be maintained, the paint shall be completely removed or the surface recovered with a suitable material such a gypsum wallboard, plywood, or plaster before any repainting is undertaken; and

(4) Appropriate provisions for the inspection and elimination of immediate hazards and provisions necessary for enforcement of the requirements shall be included in contracts and subcontracts involving HUD-associated housing.

§ 35.25 Clearinghouse.

In order to facilitate the exchange of information and suggestions with respect to elimination of lead-based paint hazards, the Lead-Based Paint Research Program, Room 8136, Office of Policy Development and Research, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, D.C. 20410, will serve as a Clearinghouse for suggestions, inquiries and requests for information. The transcript of the hearings held by HUD are available for examination at this office and reports of the research projects undertaken will likewise be made available to interested persons.

Subpart D—Local Codes and Regulations

§ 35.40 Compliance with local laws.

(a) HUD, as owner of federally-owned housing, will comply with State or local laws, ordinances, codes, or regulations governing lead-based paint hazard abatement.

(b) Nothing in this Part 35 is intended to relieve an owner or tenant of HUD-associated housing of any responsibility for compliance with State or local laws, ordinances, codes, or regulations governing lead-based paint hazard abatement.

(c) HUD does not assume any responsibility with respect to inspection, enforcement, interpretation or determination of compliance with such State or local requirements, except that the Federal standard for lead content in paint supersedes any State or local requirement, prohibition, or standard, as provided in section 506 of the Act.

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§ 35.42 Requirements.

Each Assistant Secretary shall take necessary actions to implement the intent of § 35.40.

Subpart E—Elimination of Lead-Based Paint Hazards in Federally-Owned Properties Prior to Sale for Residential Habitation

§ 35.50 Purpose and scope.

This Subpart E implements the provisions of section 302 of the Act which directs the Secretary to establish and implement procedures to eliminate the hazards of lead-based paint poisoning in all federally-owned properties prior to the sale of such properties when their use is intended for residential habitation.

§ 35.52 Applicability.

The requirements established by this Subpart E are applicable to all federally-owned properties prior to their sale by a federal agency when their use is intended for residential habitation.

§ 35.54 Definitions.

The following are applicable to this Subpart E:

(a) "Federal agency" means the United States or any executive departments, independent establishments, administrative agencies and instrumentalities of the United States, including corporations in which all or substantially all of the stock is beneficially owned by the United States or by any of the foregoing departments, establishments, agencies or instrumentalities.

(b) "Federally-owned properties" means any properties owned by a federal agency as defined in paragraph (a) of this section.

(c) "Act" means the Lead-Based Paint Poisoning Prevention Act, Pub. L. 91-695, 84 Stat. 2078, as amended by Pub. L. 93-151 (42 U.S.C. 4801 et seq.).

(d) "Residential structure" means any house, apartment or structure intended for human habitation, including any institutional structure where persons reside, such as an orphanage, boarding school, dormitory, day care center, or extended care facilities, college housing, hospitals, group practice facilities and community facilities.

(e) "Applicable surfaces" means all interior surfaces, whether accessible or not, and those exterior surfaces such as stairs, decks, porches, railings, windows and doors which are readily accessible to children under 7 years of age.

(f) "Immediate hazard" means paint (which may contain lead) on applicable surfaces which is cracking, scaling, chipping, peeling or loose.

(g) "Defective paint condition" means any paint on applicable surfaces which is cracking, scaling, chipping, peeling or loose.

(h) "Use for residential habitation" means the use of a property as a residential structure as defined in paragraph (d) of this section.

§ 35.56 Requirements.

(a) Prior to occupancy of a federally-owned property where its use subsequent to sale is intended for residential habitation, the federal agency selling the property shall assure that the following steps are taken:

(1) The property is inspected to determine whether or not immediate hazards exist; for this purpose all defective paint conditions shall be assumed to be immediate hazards; and

(2) All surface conditions identified as immediate hazards are thoroughly cleaned (washed, sanded, scraped, wire brushed, or otherwise cleaned) so as to remove all cracking, scaling, peeling, chipping and loose paint on applicable surfaces and then repainted with two coats of a suitable non-leaded paint in accordance with the requirements of § 35.14;

(3) Where the paint film integrity of the applicable surface cannot be maintained, the paint shall be completely removed or the surface recovered with a suitable material such as gypsum wallboard, plywood, or plaster before any repainting is undertaken.

(4) Prospective purchasers are provided all notifications described in § 35.5 (a) of this regulation.

(b) The provisions of this Subpart E shall be binding upon all federal agencies as provided by section 302 of the Act; however, nothing contained in this Part 35 shall preclude any federal agency from promulgating such other procedures or additional requirements as may be necessary to implement the provisions of the Act.

APPENDIX I—THE DANGER OF LEAD POISONING FOR HOMEOWNERS

This housing or apartment was built before 1950. There is a possibility that it may contain lead paints. Lead paint is poisonous if eaten. Many children do eat paint flakes and frequently become very sick. You as a parent are in the best position to safeguard your child's health by preventing him or her from eating paint or paint chips. This pamphlet will answer some of your questions about how to know if your child has been eating lead paint and what to do about it.

Lead poisoning is a serious problem in this country. Each year thousands of children under 7 years of age are poisoned when they eat bits of paint containing lead. Children who eat lead can become mentally retarded, blind, paralyzed, or even die. You can safeguard your child's health by preventing him from eating paint chips which may contain lead. The Department of Housing and Urban Development has prepared this pamphlet to make you aware of the problem of lead paint poisoning in the home.

As a parent, you need to know how to prevent the sickness lead paint can cause. You need to know what to do if your child has lead poisoning.

Your child can get lead poisoning by eating paint, dirt, dust, newspaper, or other non-food items containing lead. The most common cause of lead poisoning is lead-based paint. Children can get dangerous amounts of lead from eating even very small amounts of such paint. Unfortunately, usually there are no obivous signs of lead poisoning. Often lead poisoning can seem like a number of other childhood diseases, but if your child has stomachaches and vomiting, has headaches, a loss of appetite, is cranky, or frequently is too tired to play, he may have lead poisoning. Any or all of these symptoms can be signs of lead poisoning. *Often*, there are no symptoms at all. If anyone tells you that your child has eaten paint chips or plaster, or if you see any of these signs in your child, he should be tested for lead in his blood as soon as possible. Do not wait too long! Your doctor, local clinic, hospital, or public health department can test your child for lead poisoning. Blood samples can be taken and tested to tell if your child has eaten enough lead to be harmful. *In many communities* there are blood screening programs operated by local health departments, but screening is usually conducted in older areas of cities where lead-based paint and poisoning *is most common*. Testing for lead takes only a matter of minutes.

Blood screening programs are usually free and will test children for lead even if they show no symptoms of poisoning and have not been seen eating paint. A number of blood screening programs are supported by the Department of Health, Education, and Welfare, and local health departments. If you are unaware of a screening program in your area, call your public health nurse or social worker at the local health department. If there are no screening programs in your city and you cannot afford testing, the Medicaid *program may pay for screening* of children both below six years of age and above the age of six, if a doctor says that testing is necessary.

If tests show that your child has a high level of lead in his blood he will need medical supervision and possibly treatment. If treatment is necessary, your doctor, a local clinic, or hospital will be able to remove the lead in his blood. Such treatments may be paid for by Medicaid or your local health department. If testing shows that your child has a lot of lead in his blood, the local health department may send someone to measure the lead paint in your home. Standards for treatment of lead hazards in housing vary from city to city. Follow the directions and guidance of your local health department.

Lead paint is not the only cause of lead poisoning. Your child can be poisoned by eating paint, dirt, or other non-food substances containing lead. Young children put many things besides food in their mouths, but if those objects contain lead, poisoning is possible. Your child can get lead poisoning from eating or chewing on non-food items which contain lead, including dirt, newspaper, and even some pottery, and furniture. Even common household dust sometimes contains high levels of lead. Lead paint which has weathered and fallen to the ground can collect in dust and soil. Exhaust from automobiles which use leaded gasoline also contains lead which can collect in dust and soil. Children should be discouraged from playing in dust and dirt near busy streets where the lead content in soil is likely to be heaviest.

You should stop your child from eating or chewing paint and other objects that may contain lead. Warn your child of the dangers of eating anything other than food if he is old enough to understand. Make sure that the rest of your family and anyone who babysits for you is aware of the lead paint problem and will prevent your child from *eating paint. Often children* will eat things if they are bored or hungry. Children are safer if they have activities or toys to keep them busy. If your child is not eating properly, you may want to take *him to a doctor*.

The best way to prevent lead paint poisoning is to keep your home in good shape. The primary source of the lead paint hazard is peeling and flaking paint. Water leaks from faulty plumbing or defective roofs often cause paint to peel or flake from walls and ceilings. Quick repair of such leaks can prevent this.

To prevent peeling paint, most housing units should be repainted every three to five years. Any loose or flaking paint should be

removed by scraping or brushing. Cracked walls should be replastered before new paint is applied. If your walls are cracking or peeling now, you may have a lead paint hazard. If you have small children, there are some things you should do immediately to protect them: (1) Get a broom or stiff brush and remove all loose pieces of paint from walls, woodwork, and ceilings; (2) sweep up all the pieces of paint and plaster; (3) put the sweepings in a paper bag or wrap them in newspaper and put these packages in a trash can; (4) be careful not to leave paint chips on the floor. Always keep the floor clear of loose bits of paint and plaster. Sweeping the floors clean of paint chips is simple, but it is most important. Children can pick loose paint off walls, so be extra careful about keeping loose paint from the lower part of walls where your child can reach. As an emergency measure to protect your child, you can cover up the lower part of walls with adhesive backed paper and you can cover the woodwork which your child might chew with adhesive tape or paper. As an emergency measure, you might also move heavy furniture against walls with peeling paint.

Remember that you play a major role as a homeowner and as a parent in the prevention of lead poisoning. Your actions and awareness about the lead problem can make a big difference.

APPENDIX II—THE DANGER OF LEAD POISONING FOR RENTERS

This housing or apartment was built before 1950. There is a possibility that it may contain lead paint. Lead paint is poisonous if eaten. Many children do eat paint flakes and frequently become very sick. You as a parent are in the best position to safeguard your child's health by preventing him or her from eating paint or paint chips. This pamphlet will answer some of your questions about how to know if your child has been eating lead paint and what to do about it.

Lead poisoning is a serious health problem in this country. Each year thousands of children under 7 years of age are poisoned when they eat bits of paint containing lead. Children who eat lead can become mentally retarded, blind, paralyzed, or even die. You can safeguard your child's health by preventing him from eating paint chips which may contain lead. The Department of Housing and Urban Development has prepared this pamphlet to make you aware of the problem of lead paint poisoning in the home.

As a parent, you need to know what to do to prevent the sickness lead paint can cause. You need to know what to do if your child has lead poisoning.

Your child can get lead poisoning by eating paint, dirt, dust, newspaper, or other non-food items containing lead. The most common cause of lead poisoning is lead-based paint. Children can get dangerous amounts of lead from eating even very small amounts of such paint. Unfortunately, usually there are no obvious signs of lead poisoning. Often lead poisoning can seem like a number of other childhood diseases, but if your child has stomach aches and vomiting, has headaches, a loss of appetite, is cranky, or frequently is too tired to play, he may have lead poisoning. Any or all of these symptoms can be signs of lead poisoning. Often, there are no symptoms at all. If anyone tells you that your child has eaten paint chips or plaster, or if you see any of these signs in your child, he should be tested for lead in his blood as soon as possible. Do not wait too long! Your doctor, local clinic, hospital, or public health department can test your child for lead poisoning. Blood samples can be taken and tested to tell if your child has eaten enough lead to be harmful. In many communities there are blood screening programs operated by local health departments, but screening is usually conducted in older areas of cities where lead-based paint and poisoning is most common. Testing for lead takes only a matter of minutes.

Blood screening programs are usually free and will test children for lead even if they show no symptoms of poisoning and have not been seen eating paint. A number of blood not been seen eating paint. A number of blood screening programs are supported by the Department of Health, Education and Welfare, and local health departments. If you are unaware of a screening program in your area, call your public health nurse or social worker at the local health department. If there are no screening programs in your city and you cannot afford testing, the Medicaid program may pay for screening of children both below six years of age and above the age of six if a doctor says that testing is necessary.

If tests show that your child has a high level of lead in his blood he will need medical supervision and possibly treatment. If treatment is necessary, your doctor, a local clinic, or hospital will be able to remove the lead in your child's blood. Such treatments may be paid for by Medicaid or your local health department. If testing shows that your child has a lot of lead in his blood, your local health department may send someone to measure the lead paint in your home, and may require treatment by the owner of the unit of the lead paint hazards on walls and woodwork. Such work is often messy and inconvenient, but it is necessary to prevent the possibility of further sickness from lead. Cooperate with any workmen who are sent to correct the lead condition in your home.

Laid paint is not the only cause of lead poisoning. Your child can be poisoned by eating paint, dirt, or other non-food substances containing lead. Young children put many things besides food in their mouths, but if those objects contain lead, poisoning is possible. A child can get lead poisoning from eating or chewing on non-food items which contain lead, including dirt, newspaper, and even some pottery, and furniture. Even common household dust sometimes contains high levels of lead. Lead paint which has weathered and fallen to the ground can collect in dust and soil. Exhaust from automobiles which used leaded gasoline also contains lead which can collect in dust and soil. Children should be discouraged from playing in dust and dirt near busy streets where the lead content in soil is likely to be heaviest.

You should stop your child from eating or chewing paint and other objects that may contain lead. Warn your child of the dangers of eating anything other than food if he is old enough to understand. Make sure that the rest of your family and anyone who babysits for you is aware of the lead paint problem and will prevent your child from eating paint. Often children will eat things if they are bored or hungry. Children are safer if they have activities or toys to keep them busy. If your child is not eating properly, you may want to take him to a doctor.

The best way to prevent lead paint poisoning is to keep your home in good shape. The primary source of lead paint hazards is peeling and flaking paint. Water leaks from faulty plumbing or defective roofs often cause paint to peel or flake from walls and ceilings. Repair of such leaks can prevent future peeling or flaking. If you have such leaks, or if you have peeling, flaking paint in your apartment, notify the management or landlord.

To prevent peeling paint, most apartments should be repainted every three to five years. It is important to cooperate with the management office when repainting time comes. If your apartment has not been repainted within this period of time, inform the management office, resident manager, or landlord.

You may have a lead paint hazard now if your walls are cracking or peeling. If you have small children, there are some things you should do immediately to protect them. (1) Notify the management office or resident manager or landlord immediately; (2) get a broom or stiff brush and remove all loose pieces of paint from walls, woodwork, and ceilings; (3) sweep up all the pieces of paint and plaster; (4) put the sweepings in a paper bag or wrap them in newspaper and put these in a trash can; (5) be careful not to leave paint chips on the floor, and keep children away from the dust. Always keep the floor clear of loose bits of paint and plaster. Sweeping the floors clean of paint chips is simple, but it is most important. Children can pick loose paint off walls, so be extra careful about keeping the loose paint from the lower part of walls where your child can reach. As an emergency measure, you might also move heavy furniture against walls with peeling paint.

Remember that you play a major role as a parent in the prevention of lead poisoning. Your actions and awareness about the lead problem can make a big difference.

NOTE.—It is hereby certified that the economic and inflationary impacts of this proposed regulation have been carefully evaluated in accordance with OMB Circular A-107.

Effective date: This regulation shall be effective on July 13, 1976.

CARLA A. HILLS,
Secretary of Housing and Urban Development.

[FR Doc.76-19687 Filed 7-12-76;8:45 am]

APPENDIX C

HUD CONTRACTS, INTER-AGENCY AGREEMENTS

HUD CONTRACTS, GRANTS, INTER-AGENCY AGREEMENTS

1. IAA-H-37-72T-20 - National Bureau of Standards
Title: Lead-Based Paint Prevention Research
6/21/72-9/30/74 $1,545,000

To prepare estimates on the nature and extent of the lead poisoning problem and to conduct lead hazard abatement research as required under the Lead-Based Paint Poisoning Prevention Act.

2. IAA-H-35-75 - National Bureau of Standards
Title: Technical Assistance
7/1/75-6/30/76 $ 640,000

3. IAA-H-42-76 - National Bureau of Standards
Title: Technical Assistance
Awarded: 1/28/76 $ 595,000

4. IAA-H-38-76TQ - National Bureau of Standards
Title: Technical Assistance
7/1/76-9/30/77 $ 530,000

Nos. 2/3/4: To provide technical assistance to the HUD Lead-Based Paint Program as required, including the demonstration and analysis of deleading techniques identified and tested at the National Bureau of Standards.

5. RT-63-73 - Department of HEW
Title: To determine the Body Absorption of Various Lead Compounds
Awarded: 7/13/71 $ 50,000

To carry out a research program to determine the relative absorption of various lead compounds used in paints when ingested by rats.

6. IAA-H-40-75 - National Science Foundation
Title: Environmental Sources of Lead
Awarded: 5/1/74 $ 5,000

To develop methods of determining environmental sources of lead in young children with elevated blood levels.

7. H-2218R - John A. Whysner Associates
Title: Acerbic Substances
9/1/74-7/17/75 $ 47,396

The planning, design, and evaluation plus technical assistance in testing the safety and efficacy of acerbic substances as a method for the elimination of pica.

8. 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 pica.

9. H-2191R - Columbia Scientific Industries Corporation
Title: Development of a Lead Detection and Analysis System
Awarded: 6/30/74 $ 83,724

The system to design and test three prototypes which are to be furnished to HUD for further evaluation and field testing.

10. H-2192R - Princeton Gamma-Tech, Inc.
Title: Development of a Lead Detection and Analysis System
Awarded: 6/30/74 $ 110,000

System to be designed and tested and then three prototypes to be furnished to HUD for further evaluation and field testing.

11. 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.

12. H-2331 - Trustees of Columbia University
Title: Aversive Coatings
Awarded: 6/30/75 $ 100,030

Using aversive coatings, testing the aversion efficacy vs. concentration of bitter agent.

13. PDR-225-74 - HEW/Center for Disease Control
Title: Development of Comprehensive Lead-Based Paint Program Models
Awarded: 4/1/74 $ 50,000

Models were developed for demonstration programs to upgrade capabilities of screening programs. Demonstrations (actual) to be funded in FY 76.

14. RT-245-73 - Nasa/Office of Industry Affairs and Technology Utilization
Title: Development of a Low-Cost Lead Detector
Awarded: 6/1/73 $ 35,999

Research and development studies on a portable instrument to detect lead.

15. H-2283R - DeBell & Richardson
Title: Innovative Methods for Lead Hazard Abatement
Awarded: 6/30/75 $ 67,077

To develop a spray-on barrier of fiber-glass reinforced polyester for use as a covering on lead painted surfaces.

16. H-2286R - IIT Research Institute
Title: Innovative Methods for Lead Hazard Abatement
Awarded: 6/30/75 $ 89,226

For developing a system using a chemical-backed film that can be applied to a lead-painted surface and then peeled off, removing the lead-based paint. The encapsulated materials on the sheet would be activated by heat or pressure.

17. H-2285R - International Magna
Title: Innovative Methods for Lead Hazard Abatement
Awarded: 6/30/75 $ 103,233

To develop and/or modify a line of handheld gas-fired infrared heat guns for use in paint removal, making them safer and easier to use in lead-based paint removal.

18. H-2284R - United Technologies Corporation
Title: Innovative Methods Development
Awarded: 6/30/75 $ 103,233

To develop a lead coordinating polymer coating for lead painted surfaces that will cause the child who eats lead-paint flakes coated with the product to excrete the lead before it can be absorbed into this system.

19. H-2261R - Johns-Manville Sales Corporation
Title: Innovative Methods
Awarded: 6/30/75 $ 247,880

Development of three different barrier systems for covering lead painted surfaces, making them inaccessible to children. Two coverings are of fiberglass and the third will utilize a mineral fiber sheet. All will be permanent coverings which can be painted.

20. H-2256R - Johns-Manville Sales Corporation
Title: Innovative Technique - Asbestos Cement Covering System
Awarded: 4/16/75 $ 64,146

Development of a covering system utilizing asbestos cement for woodwork and trim posing a lead-based paint hazard.

21. H-2399 - David Litter Laboratories
Title: Innovative Methods for Lead Hazard Abatement
Awarded: 1/8/76 $ 76,443

To develop lead paint softening technique using chemically-modified-steam system.

22. H-2400 - Alfred Daech
Title: Innovative Method for Lead Hazard Abatement
Awarded: 12/19/75 $ 80,000

To develop permanent system for covering lead paint by use of Fiber-Reinforcement in epoxy coating.

23. H-2404 - Yarsley Research Laboratory
Title: Innovative Method for Lead Hazard Abatement
Awarded: 6/17/76 $ 80,000

To develop a system for applying fusible coatings by means of heated spray to cover lead paint hazards

24. H-2567 - Johns-Manville Sales Corporation
Title: Innovative Methods for Lead Hazard Abatement
Awarded: 6/25/76 $ 140,000

To develop laminated paper-fiberglass wall coverings for covering lead paint hazards.

25. H-2568 - Battelle Memorial Institute
Title: Innovative Method for Lead Hazard Abatement
Awarded: 6/25/76 $ 81,000

To develop a system utilizing commercially available heat-shrinkable films to cover lead-based paint coated surfaces, particularly contoured surfaces, such as trim, to prevent child access to such surfaces.

26. H-2569 - Novatek, Inc.
Title: Innovative Method for Lead Hazard Abatement
Awarded: 6/24/76 $ 79,000

To develop a mechanical system which removes lead paint by an abrasive and collects both lead paint and abrasive for recycling the abrasive.

27. H-2563 - Environmental Sciences Associates
Title: Retrospective Study to Assess Environmental Variables Affected Blood Lead Levels
Awarded: 9/29/76 $ 100,000

To analyze data from local child screening programs to determine which factors contribute to higher blood lead levels. Rural and urban populations will be compared.

GRANTS

28. H-2550-RG - Louisville and Jefferson County Department of Public Health
Awarded: 6/30/76 $ 118,657

Cooperative program with CDC/HEW to measure and improve the efficiency of local lead poisoning control programs by establishing training center.

29. H-2549-RG - New Haven Department of Health
Awarded: 6/30/76 $ 124,526

Grant to analyze 5 year data base of health and housing data to determine those factors which contribute to incidence of elevated blood lead levels.

30. H-2548-RG - New York City Health Department
Awarded: 6/30/76 $ 509,648

Grant for the evaluation of alternative intervention and lead hazard abatement technique for the control of childhood lead poisoning.

APPENDIX D

REPORTS BY THE NATIONAL BUREAU OF STANDARDS

LEAD-BASED PAINT POISONING PREVENTION PROJECT

APPENDIX D

REPORTS BY THE NATIONAL BUREAU OF STANDARDS
LEAD-BASED PAINT POISONING PREVENTION PROJECT

Title	Issue Date	NBS Report #
The Nature of the Lead Paint Poisoning Hazard	11/2/71	10499
Identification of Previously Demonstrated Lead Paint Poisoning Hazard Elimination Methods	11/5/71	10622
Performance Attributes for Analytical Methodology for Lead Based Paint	11/5/71	10623
Preparation of Standard Lead Bearing Samples	11/11/71	10631
Identification of Potential Bldg. Material Sources of Lead Poisoning	11/11/71	10632
Collection Field Samples of Lead Based Paint	11/11/71	10633
Report on the Social Factors Concerned with Planning & Implementing a Lead Paint Hazard Elimination Program	12/2/71	10636
Report on Literature Review, Surveys, Conferences -- Lead Paint Poisoning Hazard Detection Methods	12/2/71	10649
National Estimates of Lead Based Paint Poisoning of Children	12/7/71	10651
Evaluation of Lead Paint Removal & Detoxification Methods-Milestone Report (7a)	12/7/71	10652
A model Estimate of the Incidence of Lead Paint Poisoning	12/7/71	10654
Effect of Data Aggregation in Modelling	12/7/71	10653
Data Collection & Assimilation for the Lead Paint Poisoning Model	12/7/71	10657
Procedures for Lead Paint Removal & Detoxification: Guidelines and Attributes	12/10/71	10658

80-178 O - 78 - 10

Title	Issue Date	NBS Report #
Report on Lead Based Detection Methods Chosen for Evaluation (Milestone Report 1c)	12/28/71	10667
Experimental Evaluation of Analytical Methods for Determining Lead in Paint & Building Materials	1/6/72	10674
Interim Report on Cost Analysis of Lead Paint Hazard Elimination Methods	1/72	10679
Lead Paint Detection in Residential Dwellings--A cost analysis	2/72	10680
Testing the Validity of Models to Predict the Incidence of Lead Paint Poisoning	9/19/72	10917
Final Report, Phase I, Lead Paint Survey Sampling Plan & Preliminary Screening	11/22/72	10958
Comparison of Laboratory Methods for Determining Lead in Dried Paint Films	12/15/72	10966
Estimates of the Nature and Extent of Lead Paint Poisoning in the United States	12/72	NBS TN 746
The NBS Lead Paint Poisoning Project: Housing and Other Projects	2/73	NBS TN 759
Evaluation of Lead Paint Hazard Elimination Methods, Part II Milestone Report (7b)	3/73	NBSIR 74-127
Hazard Elimination Procedures for Leaded Paints in Housing	5/73	NBS TN 770
Pilot Demonstration of Lead Based Paint Hazard Elimination Methods Report on Field Study No. 1	6/73	NBSIR 73-242
Analytical Methods for the Detection of Toxic Elements in Dry Paint Matrices--A Literature Survey	7/73	NBSIR 73-251

rt #	Title	Issue Date	NBS Report #
	Report on a Pre-Test of a Survey Plan for Estimating Incidence of Lead Based Paint	12/73	NBSIR 73-407
	Survey Plans and Data Collection and Analysis Methodologies: Results of a Pre-survey for the Magnitude and Extent of the Lead Based Paint Hazard in Housing	1/74	NBSIR 74-426
	The Demonstration of Experimental Lead Paint Hazard Abatement Methods in Washington, D.C.	6/75	NBSIR 75-761
	The Demonstration of Experimental Lead Paint Hazard Abatement Methods in Atlanta, Georgia	12/75	NBSIR 75-974
	Statistical Analysis of Blood Lead Levels of Children Surveyed in Pittsburgh, Pennsylvania: Analytical Methodology and Summary Results	4/76	NBSIR 76-1024
	Survey Manual for Estimating the Incidence of Lead Paint in Housing	9/76	NBS TN 921
	Economic Analysis of Experimenta Lead Paint Abatement Methods: Phase I	9/76	NBS TN 922

APPENDIX E

LETTER TO ENVIRONMENTAL PROTECTION AGENCY ON NEW YORK CITY FINDINGS

OCTOBER 6, 1977

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, D. C. 20410

OFFICE OF THE ASSISTANT SECRETARY
FOR POLICY DEVELOPMENT AND RESEARCH

OCT - 6 1977

IN REPLY REFER TO:

Mr. Ernst Linde
Science Advisory Board (A-101)
U.S. Environmental
Protection Agency
Room 1018, Crystal Mall
Building 2
1921 Jefferson Davis Highway
Arlington, VA 20460

Dear Mr. Linde:

We would like to communicate some preliminary research findings to EPA, and its Science Advisory Board Subcommittee on Scientific Criteria for Environmental Lead, for consideration at the October 7 meeting. Analysis of venous blood lead data collected by the New York City, Bureau of Lead Poisoning Control, was carried out by the Office of Policy Development and Research, U.S. Department of Housing and Urban Development, Dr. Anita Curran, New York City Department of Health and Dr. Douglas Shier, National Bureau of Standards. Our study has been discussed with the EPA staff responsible for the preparation of the Criteria Document and two of the consultants who the Science Advisory Board requested give assistance to the staff in the document preparation. All those consulted felt the results were of sufficient importance to the document and the SAB deliberations, that they be presented to the SAB, even in preliminary form and at this late date.

Our study analyzed a data base of over 300,000 records of first venous blood lead levels of children in New York City for the period from March 1970-December 1976. Out of the entire population, 25,305 samples were for confirmation of micro blood screening data, 178,588 were positively identified as first screening samples and 140,619 were not identified as either, but, probably are for first screening testing. Analysis was of the subsample positively identified as first screening tests.

In addition to blood lead values, the records contained other identifying data about the child tested. Included are date of sampling, date of birth, ethnic group and sampling location.

The data first was disaggregated into groups characterized by ethnic origin, bimonthly sampling date and age in years. Some additional grouping also was made by sampling location. Analysis showed that log normal statistics provide an adequate description of the distribution of blood lead levels for the populations in these subgroups. Figures 1 and

2 show the cumulative distribution curves and the probability graphing for the log of the blood lead levels of 25-36 months old, Black children sampled in July and August of 1971 and 1976. These curves are typical of the other population groups and illustrate not only the log-normal behavior but the pronounced shift to lower lead levels with time. Values for the geometric mean (GM) and the standard geometric deviation were calculated for each of the characterized population subgroups.

Analysis shows that the mean blood lead level is dependent upon ethnic group, age, month and year of sampling. Figure 3 is a typical plot of mean blood lead level vs. sampling date for the sample of Black and Hispanic children, 25-36 months old. Plots for the other age groupings, 1-12, 13-24, 37-48, 49-60, 61-72 and 72+ months are similar but are vertically displaced depending on age. The data for Whites are close to and slightly lower than Hispanics.

The mean blood lead level exhibits a cyclic seasonal behavior with a general downward trend with time. The seasonal peak in mean level almost always occurs in July and August. In all cases the mean blood level for Hispanics is lower than that for Blacks, with the difference between them decreasing with year. An interesting observation which is common to all of the age groups is the unusually large rise in the mean blood lead level in the summer of 1973.

The overall downward trend of the blood lead levels with time is more apparent in the variation of yearly averages of the mean blood lead level with year. The yearly average used is the arithmetic mean of the bimonthly geometric means for a given calendar year. Figure 4 shows the yearly average for 25-36 month old children. The graphs for other age groups are similar.

The variation of the mean blood lead level with age can be seen in Figure 5. The data plotted are the average mean blood lead vs. age for the three ethnic groups, Blacks, Whites and Hispanics in 1971. Data of the other years are similar and as would be expected from the results reported above are vertically displaced according to year.

The age dependence is similar for all years; the 1-12 month group is the lowest and generally with a maximum between 2 and 4 years but usually at 3. The graph again illustrates the difference in mean lead level with ethnic group. Blacks have the highest mean lead level, Hispanics lower and Whites the lowest but close to Hispanics.

The final variable investigated was location, as indicated by the New York Health District where the blood sample was taken. It might be assumed that a child would most likely go to a health facility near where he lived and those children going to the same health district would have similar environments. A problem with the analysis by location is that at this level of disaggregation the number of subjects in a given time, age, ethnic and location group is rather small. In order to increase the sample size the analysis was carried out on the 18-36

month age group and several Health Districts combined. The Health Districts analyzed were selected for various mixes in ethnic composition and size of sample. Combination of Health Districts was on the basis of geography and approximate constant ethnic mix. The locations are (11, 12) Central and East Harlem, (15,16,17) Lower West Side, Riverside and Washington Heights, (33) Brownsville, and (36,38,39) Williamsburg - Greenpoint, Red Hook and Sunset Park.

The results are consistent with those presented earlier in that the Hispanics show a lower mean blood lead level and there is a similar cyclic variation with a downward trend with sampling date. Figure 6 compares the variation of the yearly averages for the different locations, for Blacks and Figure 7 shows the same data for Hispanics. It is difficult to arrive at firm conclusions about influence of location from these data. The most outstanding feature appears to be the more rapid decrease of the mean blood lead level with time in Brownsville, for both Blacks and Hispanics. The other observation which may be drawn, at least prior to 1973, is that the mean blood lead levels in Manhattan were lower than those in Brooklyn.

A major finding of our study is the yearly decrease of mean blood lead levels for all groups. Preliminary investigation has not identified significant decreases in possible sources of environmental lead with the exception of air lead. Air lead data for New York City unfortunately is sparse. We were able to identify only one source of continuous air lead levels for the period covered by the blood lead data.

The Energy Research and Development Agency has measured air lead on a monthly basis at a single location on the West Side of Manhattan, at an elevation of 56 meters, since 1963 (ERDA Environmental Quarterly - July 1, 1977, HASL-321). Figure 8 plots the bimonthly levels of lead in air for the same period as the blood lead data. Superposition of the air lead and blood lead data indicates similarity in the cyclic behavior and overall decline.

It would be unwise to assume that the air lead level as measured at one location in New York would be the same at all locations and that it is the level to which the population is exposed. Location variations in sources, traffic patterns, and meteorology, for example, would be expected to change the local ambient levels. However, it is not unreasonable to assume that the measured ambient levels could be used as a general indicator of trends for the entire city. Using this assumption we calculated the linear regression equation

$$\log(\text{yearly GM blood}) = A + B\,(\text{yearly air lead})$$

and found high correlations. Table 1 summarizes the values for A and B found. Figures 9 and 10 are plots of log (mean blood lead) variation with air lead for Blacks and Hispanics at 3 ages. The lines were drawn using the data from Table 1. These preliminary data show the long term trends of lead levels for various population groups and the apparent correlation

with air lead levels. We are now in the process of preparing the analysis for publication and wish to emphasize its preliminary nature. However, since our results provide significant findings which are absent from the Draft Criteria Document, we feel that they should be brought to the attention of the SAB.

Sincerely,

Irwin H. Billick

Irwin H. Billick, Ph.D.
Program Manager
Lead-Based Paint Poisoning
Prevention Research Program
Division of Housing Research

Attachments

Table I

Linear Regression

Log (Yearly GM Blood Lead) = A + B (Air Lead)

Ethnic Group	Age (Years)	A	B	Coefficient of Determination
White	1	1.100	0.145	0.47
	2	1.059	0.221	0.75
	3	1.075	0.232	0.60
	4	1.104	0.193	0.70
	5	1.052	0.228	0.76
	6	1.005	0.266	0.77
	6+	1.046	0.217	0.75
Blacks	1	1.020	0.283	0.84
	2	1.068	0.292	0.92
	3	1.070	0.295	0.98
	4	1.076	0.277	0.98
	5	1.050	0.288	0.99
	6	1.052	0.274	0.95
	6+	1.008	0.301	0.99
Hispanic	1	1.020	0.164	0.63
	2	1.102	0.194	0.75
	3	1.098	0.216	0.86
	4	1.052	0.264	0.79
	5	1.112	0.199	0.93
	6	1.040	0.246	0.94
	6+	1.057	0.228	0.94

Figure 1

CUMULATIVE DISTRIBUTION OF BLOOD LEAD LEVELS BLACKS, 25-36 MONTH AGE GROUP JULY AND AUGUST SAMPLING

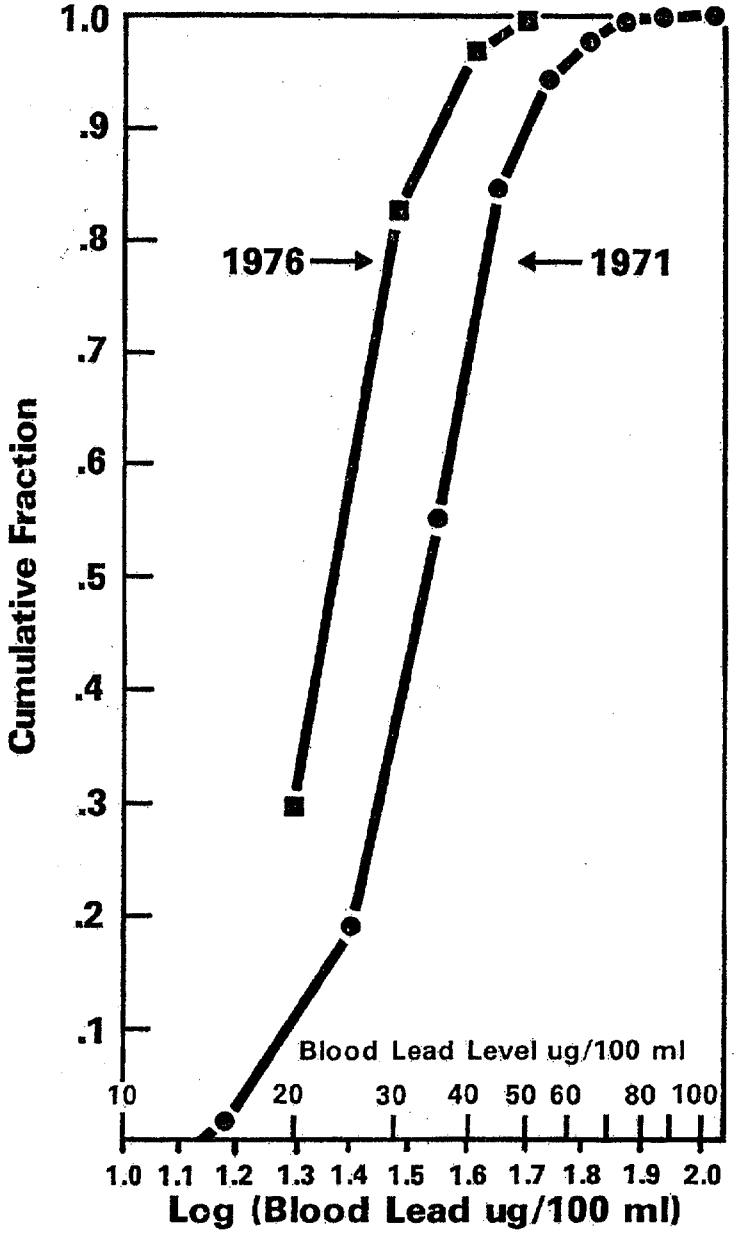


Figure 2

DISTRIBUTION OF BLOOD LEAD LEVEL BLACKS, 25-36 MONTH AGE LEVEL JULY AND AUGUST SAMPLING

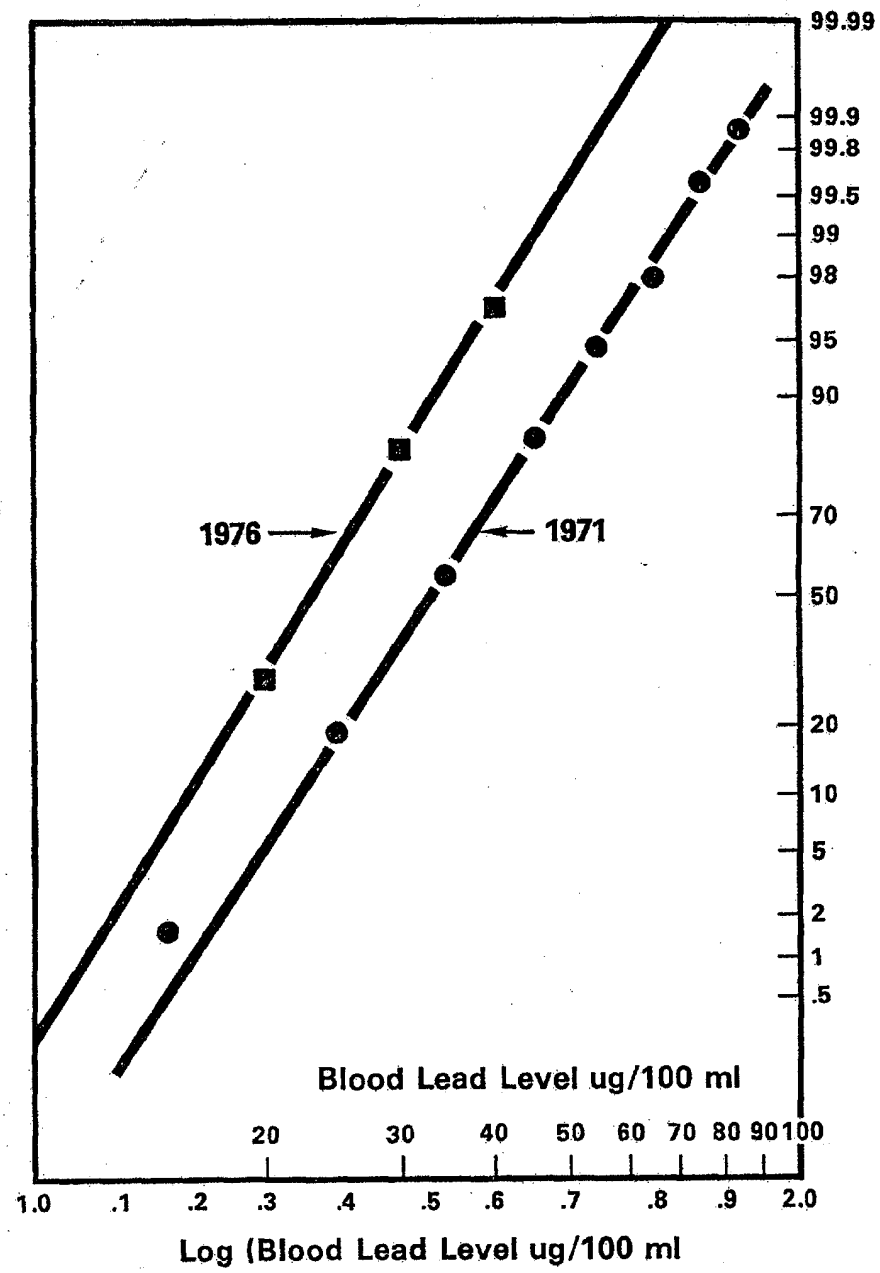


Figure 3

MEAN BLOOD LEAD LEVEL vs. TIME
25-36 MONTHS AGE GROUP

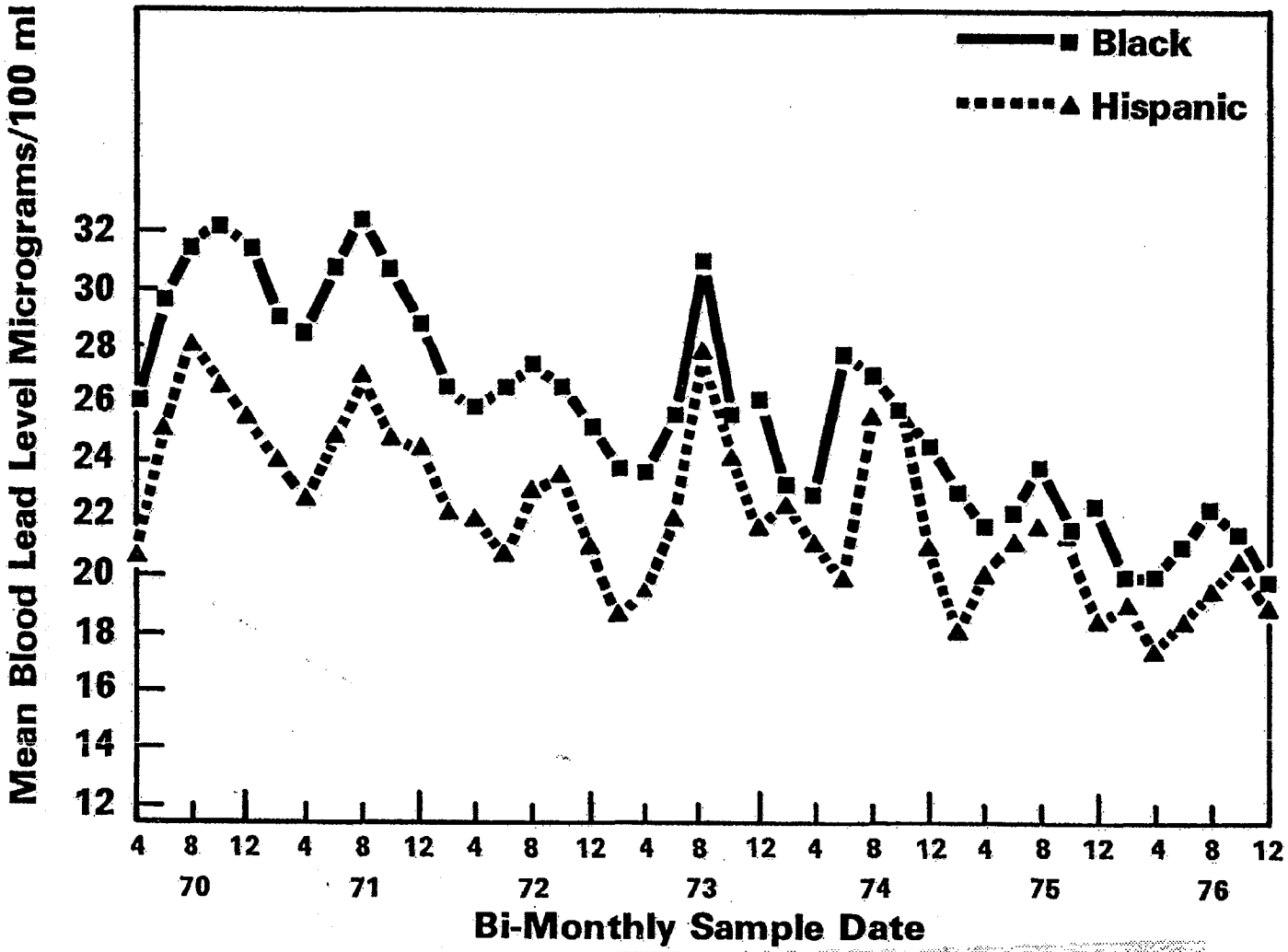


Figure 4

YEARLY MEAN BLOOD LEVEL vs. YEAR
25-36 MONTH OLD

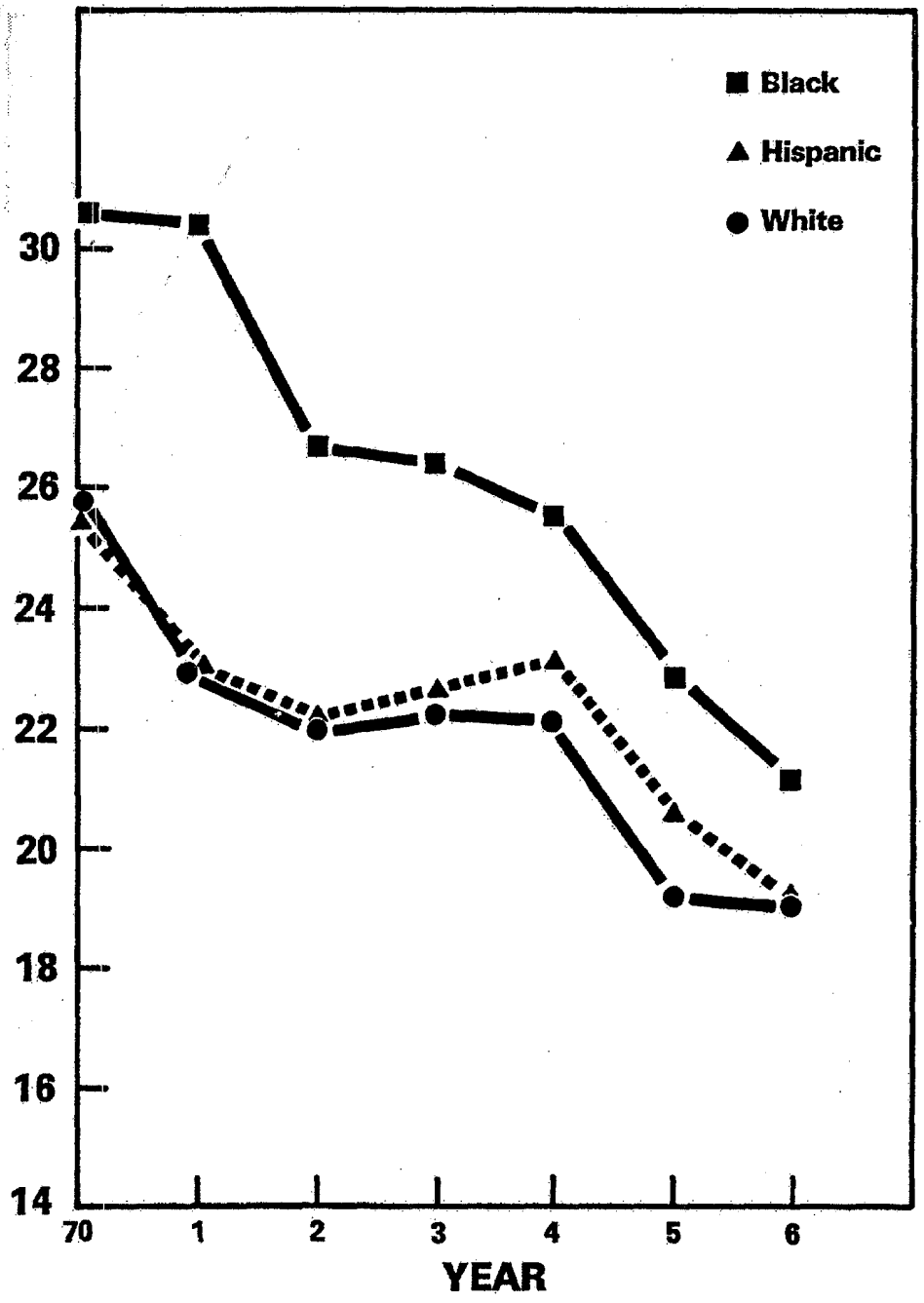


Figure 5

AVERAGE MEAN BLOOD LEVEL vs. AGE
1971

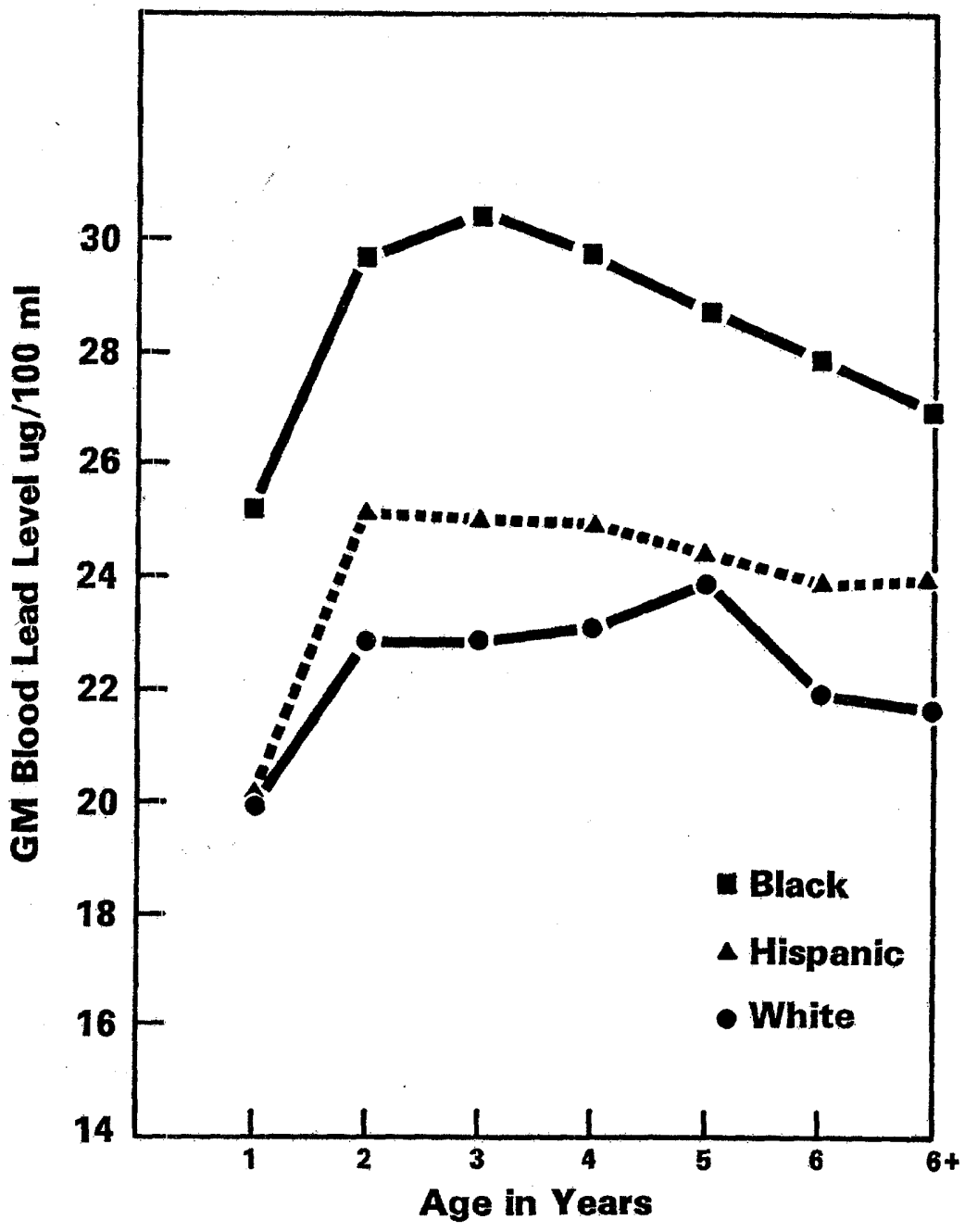


Figure 6.

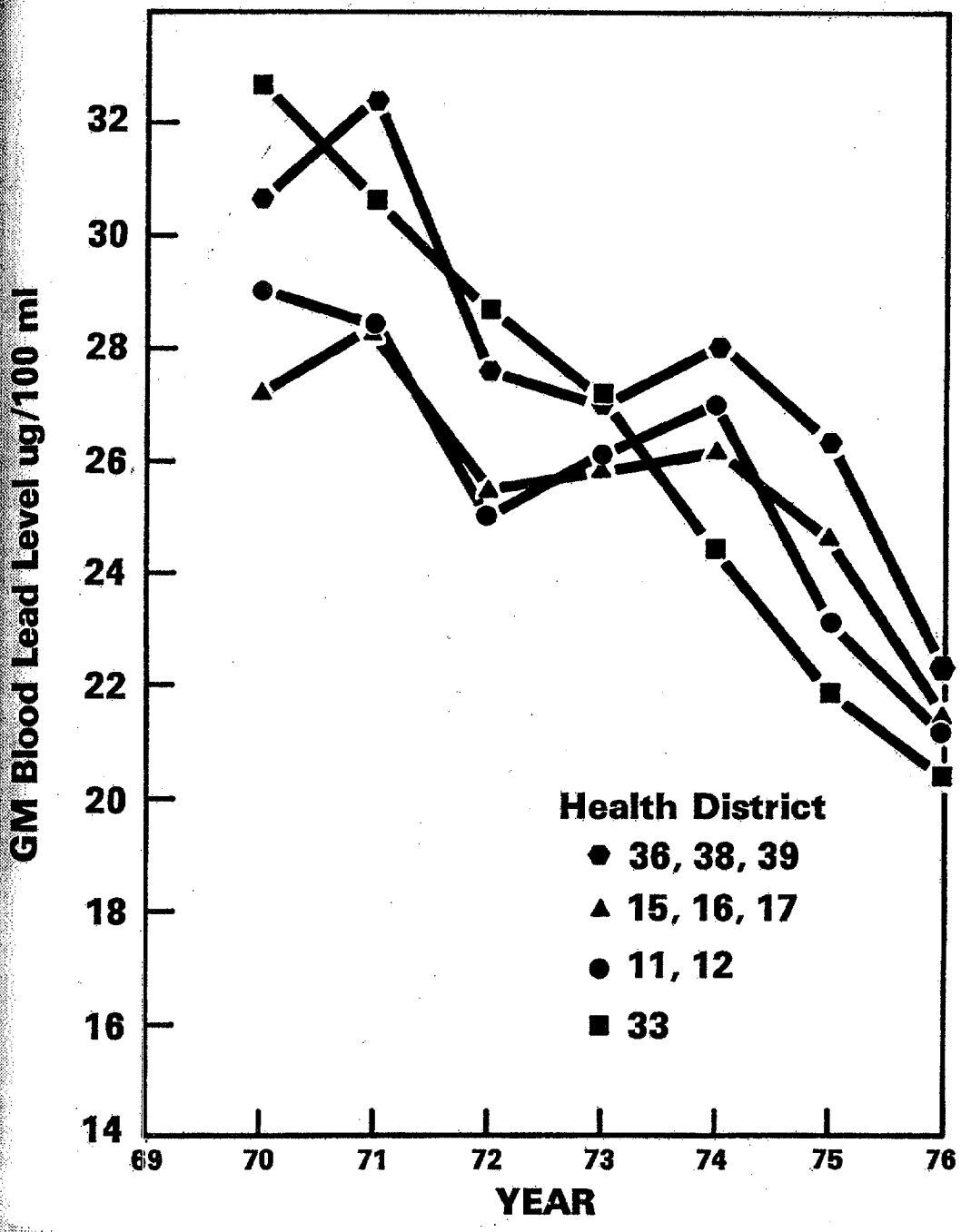


Figure 7

HISPANICS 18-36 MONTHS VARIATION BY HEALTH DISTRICTS

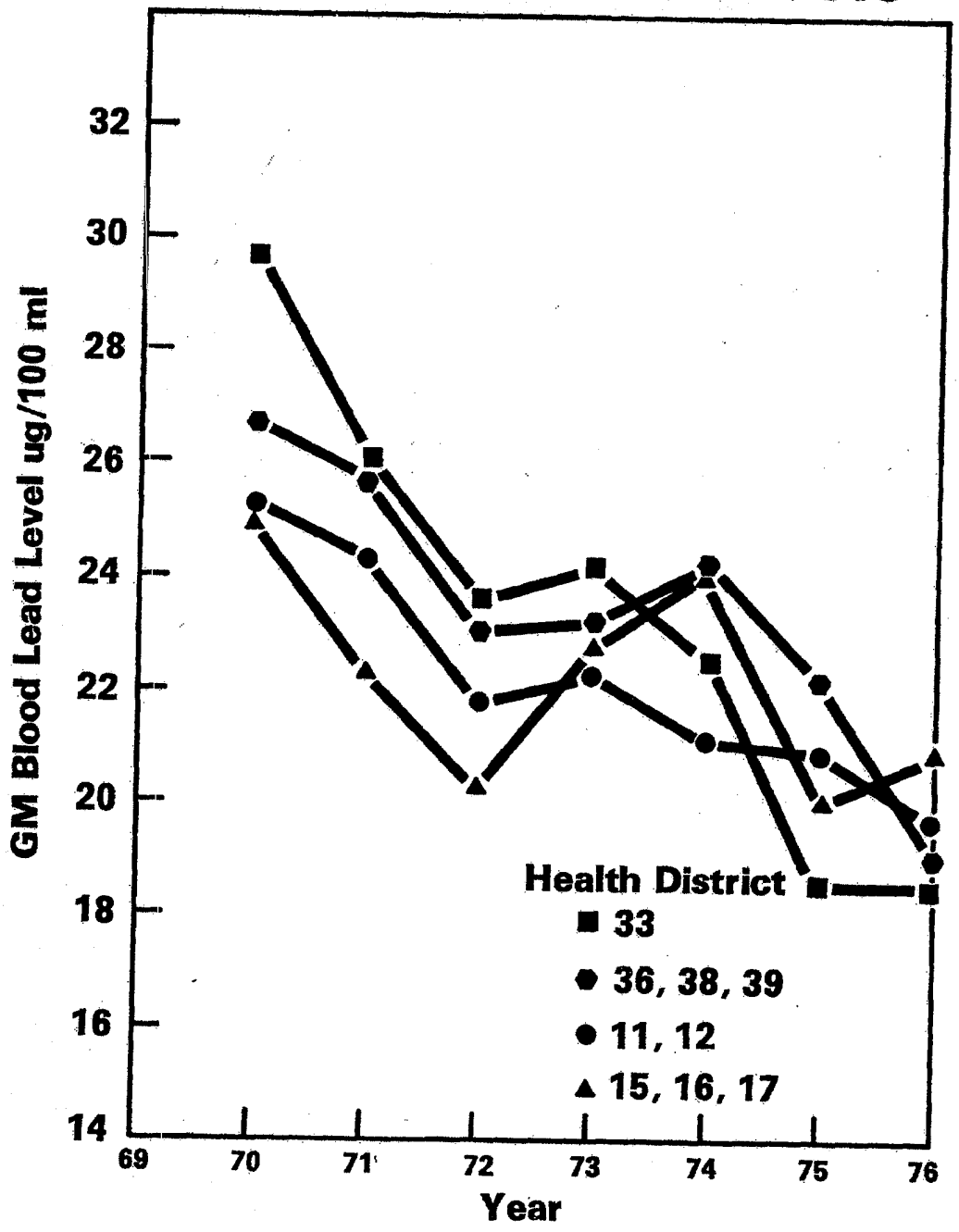


Figure 8

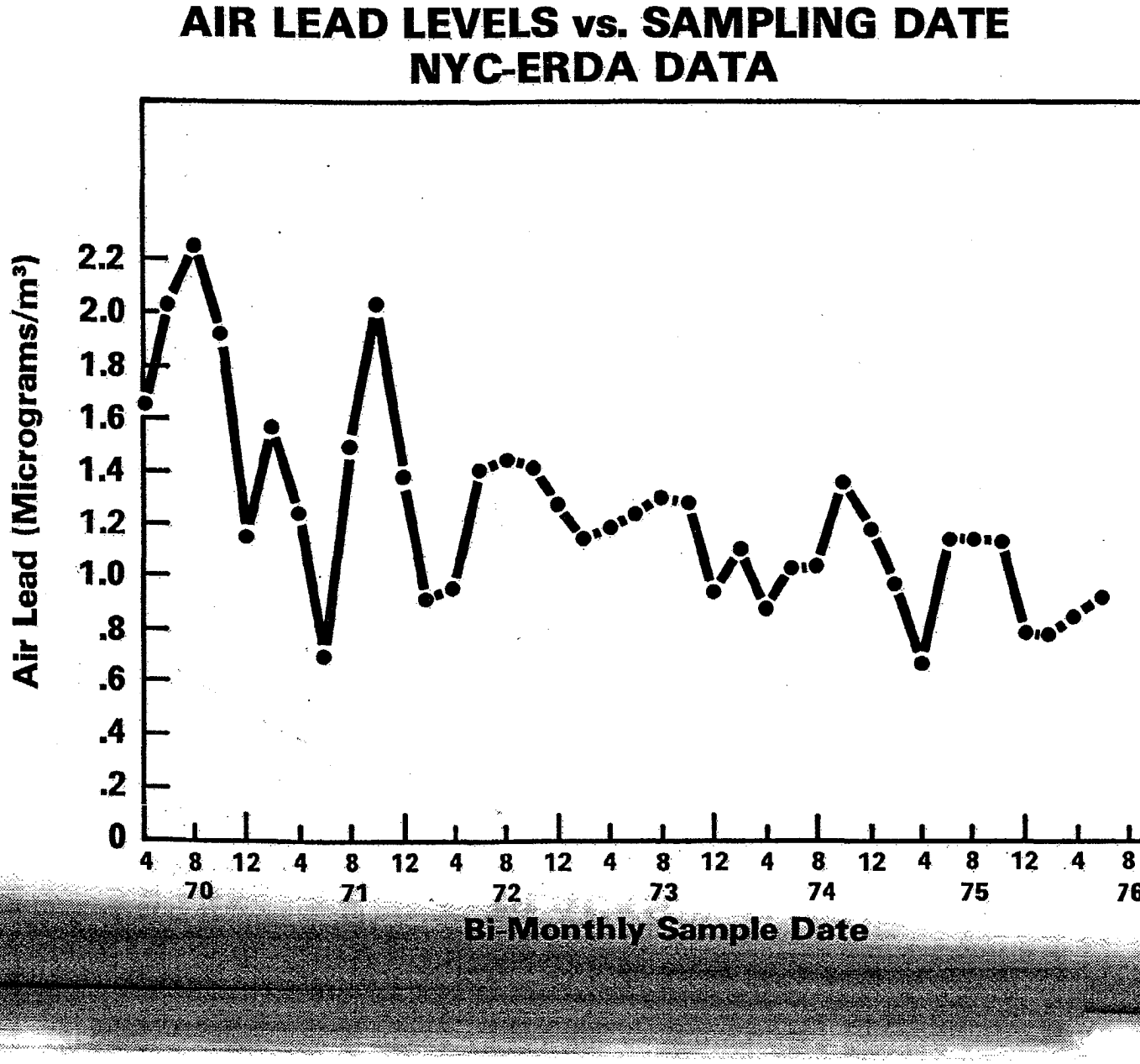
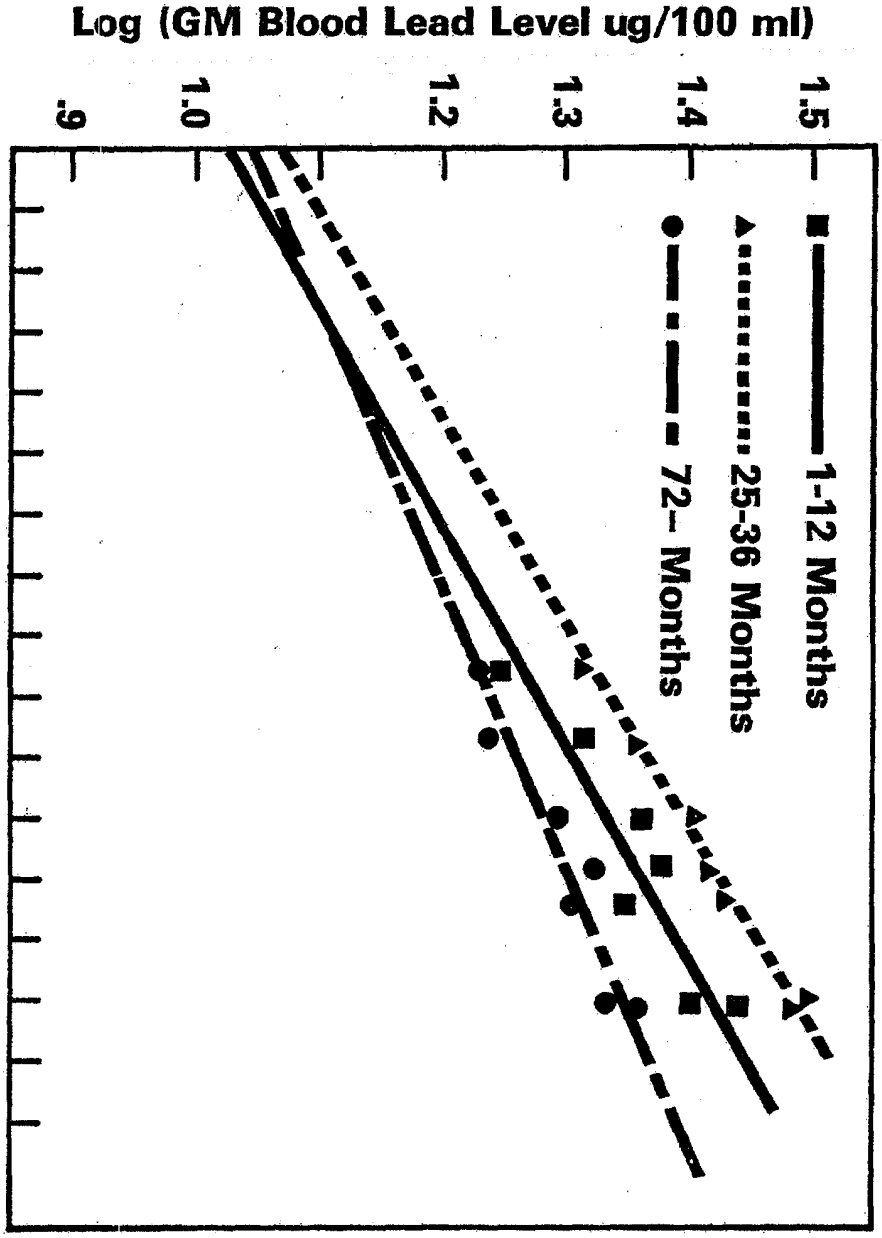
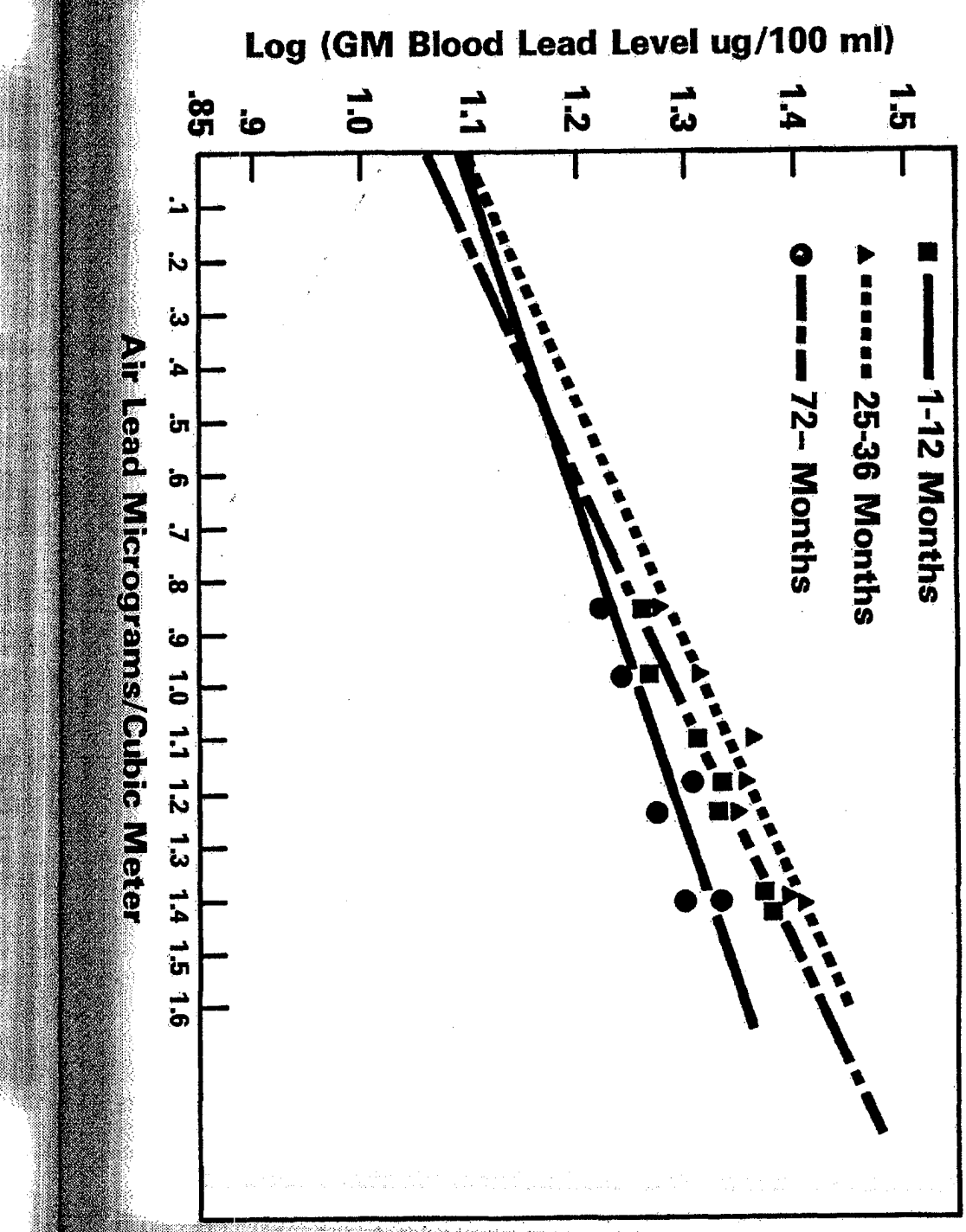

AIR LEAD LEVELS vs. SAMPLING DATE
NYC-ERDA DATA
Air Lead (Micrograms/m³)
2.2
2.0
1.8
1.6
1.4
1.2
1.0
.8
.6
.4
.2
0
4 8 12 4 8 12 4 8 12 4 8 12 4 8 12 4 8 12 4 8
70 71 72 73 74 75 76
Bi-Monthly Sample Date

Figure 9



Air Lead Micrograms/Cubic Meter

Figure 10



APPENDIX F

Taken from

LEAD PAINT ABATEMENT COSTS: SOME TECHNICAL AND THEORETICAL CONSIDERATIONS

Robert E. Chapman and Joseph G. Kowalski
Applied Economics Program
Building Economics and Regulatory
Technology Division
National Bureau of Standards
Washington, D.C. 20234

Sponsored by the:
Department of Housing and Urban Development

December 1977

DETAILS OF THE NATIONAL COST ESTIMATES

Combining the results of this report with those of two recent publications,[1,2] has created an opportunity for estimating the national cost of lead paint abatement. The two reports by Shier and Hall report information on the percentage of dwelling units (by age and building type) which contain lead painted surfaces; they also provide information on the average number of surfaces per dwelling unit which contain a given level of lead in paint. Such detailed information on the distribution of lead in dwelling units was not available before the two reports by Shier and Hall were published. It is important to recognize that such data is necessary if a meaningful national cost estimate is to be made. (A comparison of the results of the Pittsburgh survey to other cities is also necessary if the housing data is to be projected onto cities in other regions.) The results of the Pittsburgh survey and the cost estimation procedures of this report, provide a means for converting quantities of lead-based paint per dwelling unit into an estimate of the deleading costs for that dwelling unit. This information may then be projected onto regional and national scales. To do this, census data on the number of housing units by region, by age, and by building type is used.

In Chapter 1 of the companion report Guidelines for Cost-Effective Lead Paint Abatement, we asserted that it would cost between $28 and $35 billion to abate the lead-based paint hazard from the interiors of the Nation's housing stock.[3] These figures are based on a set of assumptions detailing the amount of deleading work to take place and prevailing supply and demand conditions in the regional markets for labor and materials.

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1 Douglas Shier and William Hall, Analysis of Housing Data Collected in Lead-Based Paint Survey in Pittsburgh, Pennsylvania Part I, National Bureau of Standards, Interagency Report 77-1250, May 1977.

2 Douglas Shier and William Hall, Analysis of Housing Data Collected in a Lead-Based Paint Survey in Pittsburgh, Pennsylvania Part II, National Bureau of Standards, Interagency Report 77-1293, June 1977.

3 No estimate was made on the cost of abating the lead-based paint hazard from the exterior surfaces of a dwelling unit due to a general lack of information on the appropriate techniques for abatement, the cost of abatement, and the distribution of lead levels on exterior surfaces. It is important to point out that these figures do not include the costs of administering a nationwide lead paint abatement program. It will be shown in Section A.4 that including administration costs in the national estimate will increase the cost figures cited above by approximately 30 percent.

The purpose of this appendix is to describe our method and assumptions with respect to our manipulation of (1) the Pittsburgh lead-based paint survey data, (2) the EHEP Phase II cost models as applied to the results of (1), and (3) the Census of Housing data. This appendix will also present a summary of the national cost estimate broken down by region and type/age of housing.

A.1 LEAD-BASED PAINT SURVEY DATA

The second Shier and Hall report is based on housing data collected in a sample of approximately 3300 dwelling units during 1974 and 1975 in Pittsburgh, Pennsylvania. The findings of this report are summarized in three sets of tables. The first set of tables provides (for specified lead levels) by age and building type (singlefamily or multifamily) data on the number and fraction of dwelling units, rooms, and surfaces that equal or exceed the specified lead level. Table A.1 was derived from the Pittsburgh survey results. The values of the dwelling unit specific characteristics associated with each age/type category may be thought of as characterizing a "statistical" dwelling unit of that age/type category. The percent at risk (dwelling units with lead levels equal to or exceeding the specified lead level, 2.0 mg/cm^2 or 1.5 mg/cm^2) columns in Table A.1 are calculated directly from the Pittsburgh survey data. The number of square feet of wall area is based on the average number of surfaces per dwelling unit at risk times an assumed value of 96 square feet per surface (12' by 8'). The number of linear feet of doors needing deleading is based on the average number of door surfaces needing deleading at the specified lead level times 8 linear feet. (A four-foot abatement height was assumed.) The number of linear feet of windows reported in Table A.1 is based on the average number of window surfaces per dwelling unit at risk at the specified lead level times an assumed value of 7 linear feet per window.

Finally the number of linear feet of baseboard trim assumes that baseboards follow the lead distribution of windows and that the average number of rooms with lead painted windows will also contain lead paint on the baseboard trim. Forty-four linear feet of baseboard trim per room was assumed. This last mentioned procedure was necessary because the tables presented in Shier-Hall report do not contain data on baseboards. (The 44-foot figure is based on empirical data established during EHEP.) In using the data in Table A.1 to compile average deleading costs per dwelling unit, it was assumed that the smaller sets at risk (in percentage terms) were subsets of the larger sets at risk and that the largest percentage at risk for the three trim components held for all three of the trim components. Thus, for example, at the 1.5 mg/cm^2 lead level, 78 percent of all dwelling units had lead painted doors, windows and baseboards.

All dwelling units (72 percent of the total) with lead painted walls were a subset within the 78 percent at risk for trim. This procedure maximizes the cost estimate per dwelling unit. A natural concern is whether the Pittsburgh survey results generalize to different regions in the country. While it would certainly be desirable to have survey results as reliable as those from Pittsburgh for different regions, there is some evidence that the Pittsburgh results will not prove to be anomalous. Evidence of this is contained in the first Shier-Hall report. A much smaller lead-based paint survey (100 dwelling units) was undertaken in Washington, D.C. It was found that "in most instances the distributions for Pittsburgh and Washington follow quite similar shapes. [This] suggests that there

TABLE A.1

DISTRIBUTION OF LEAD-BASED PAINT IN HOUSING BY TYPE AND AGE[a]

Dwelling Unit Type/Age	mg Lead Per cm^2	% at Risk (b)	Square Feet Walls	% at Risk	Linear Feet Doors	% at Risk	Linear Feet Windows	% at Risk	Linear Feet Base-boards
Single	2.0	62	450	71	33	71	31	71	116
Pre40	1.5	72	469	78	34	77	33	77	122
Multi	2.0	61	454	68	32	68	26	68	102
Pre40	1.5	73	447	72	33	73	27	73	107
Single	2.0	37	359	27	21	27	24	27	93
40-59	1.5	50	353	45	24	34	24	34	93
Multi	2.0	21	384	29	14	29	15	29	73
40-59	1.5	29	381	46	15	28	15	28	76
Single	2.0	21	268	23	18	23	21	23	101
60-75	1.5	33	278	49	23	27	19	27	91
Multi	2.0	8	408	10	18	10	9	10	55
60-75	1.5	11	328	26	19	12	10	12	63

(a) The upper set of numbers are associated with lead reading of 2.0 mg/cm^2 while the lower set are associated with lead reading of 1.5 mg/cm^2.

(b) This column refers to the percent of all the building elements at risk listed in the column on the right. Source in Douglas Shier and William Hall, Analysis of Housing Data Collected in a Lead-Based Paint Survey in Pittsburgh, Pennsylvania Part II, National Bureau of Standards Inter-agency Report 77-1293, June 1977, Appendix A.

is very little difference in the wall lead levels for the two cities; the most pronounced difference occurs for doors in pre 1940 units."[1] Figures A.1 through A.4 are taken from the Shier-Hall report. Because of the close correspondence between Pittsburgh and Washington case results, we believe that assuming the Pittsburgh results projected onto other regions will not produce distorted cost estimates.

[1] Douglas Shier and William Hall, Analysis of Housing Data Collected in a Lead Based Paint Survey in Pittsburgh, Pennsylvania Part I, pp. 61-62.

Figure A.1

Cumulative Distributions (Pittsburgh and Washington) for Interior Wa

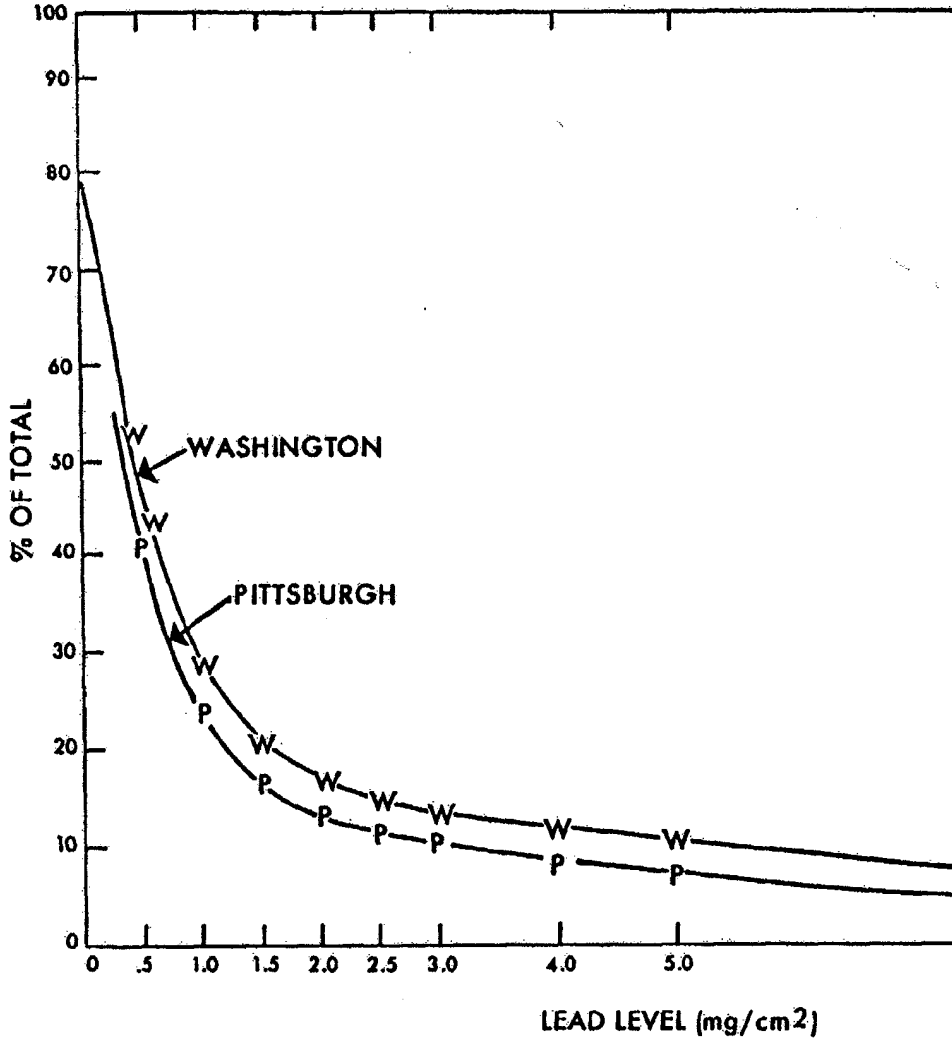


Figure A.2

Cumulative Distributions (Pittsburgh and Washington) for Interior Walls in 1940-1959 Units

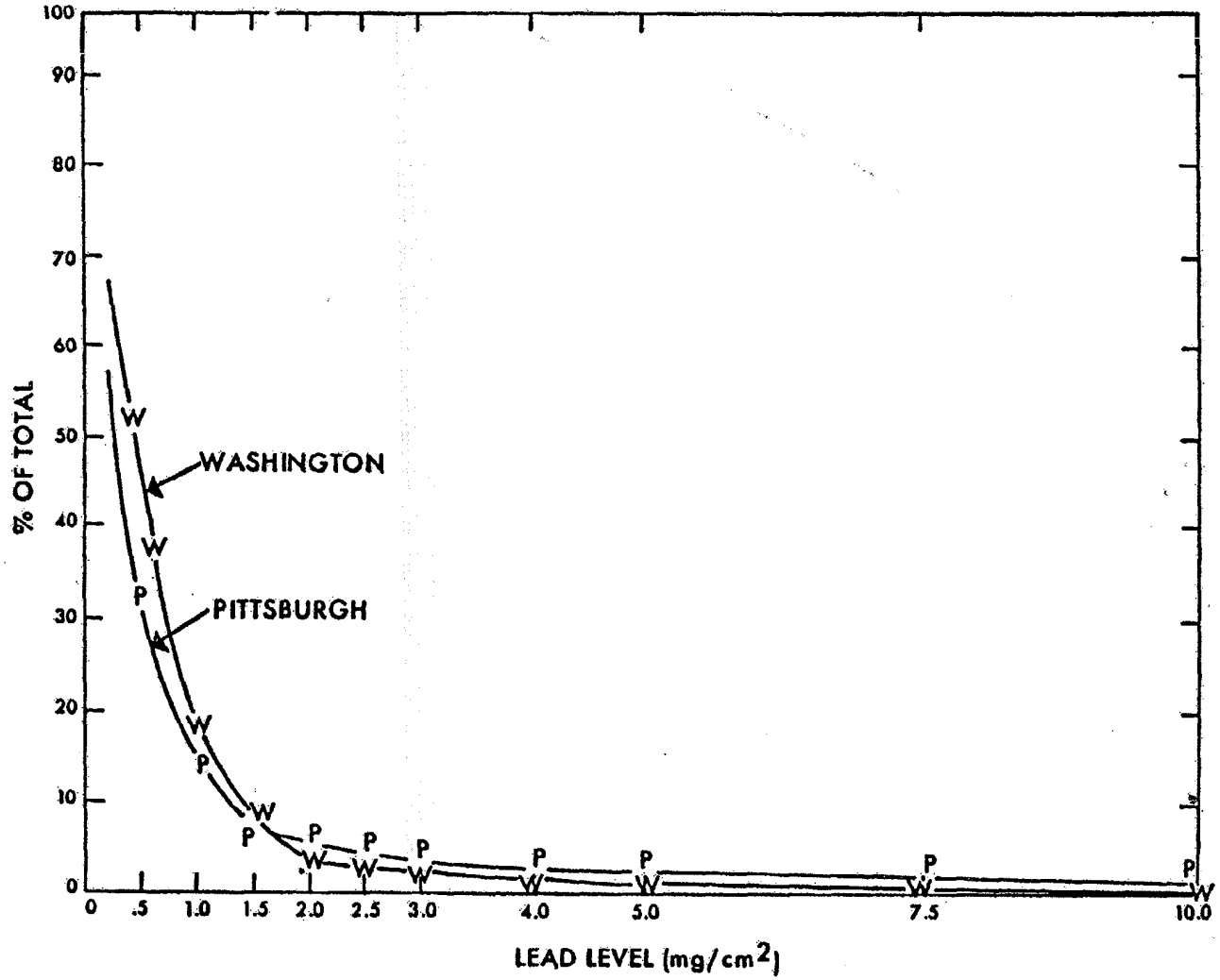


Figure A.3

Cumulative Distributions (Pittsburgh and Washington) for Interior Doors in

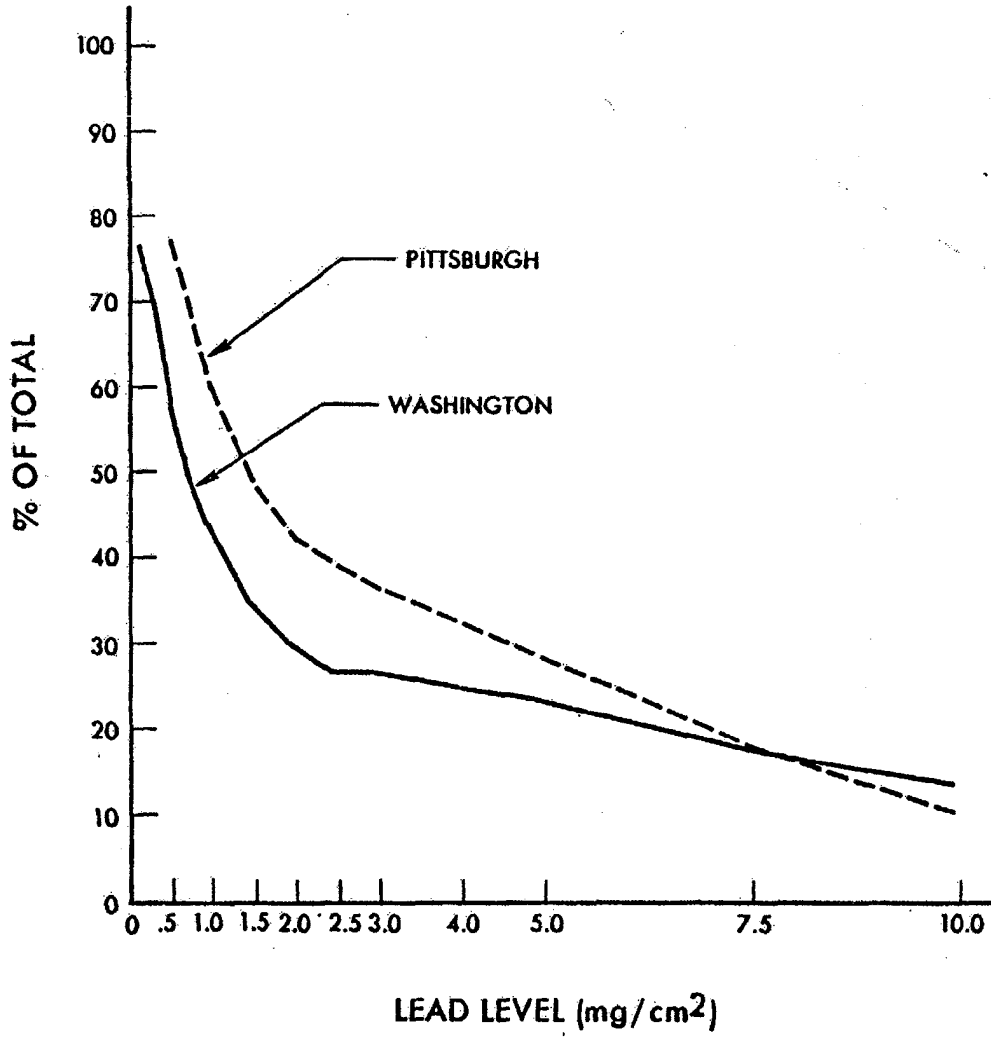
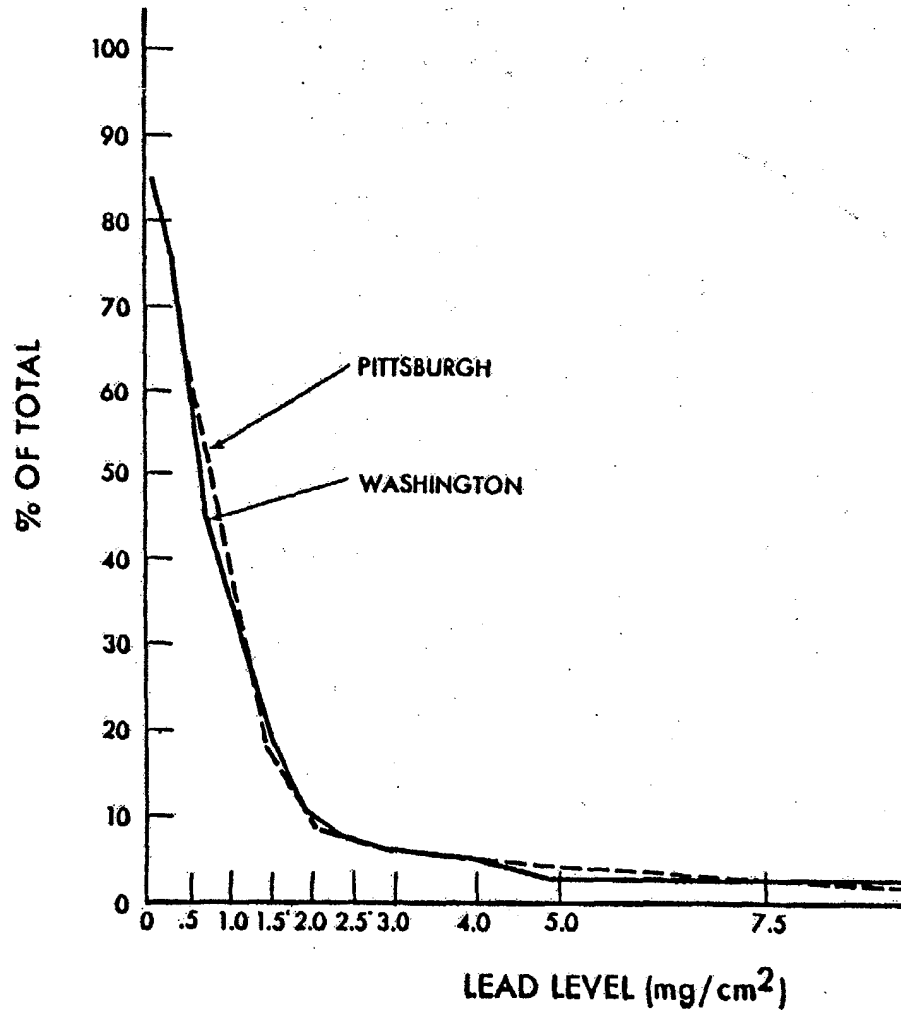


Figure A.4

Cumulative Distributions (Pittsburgh and Washington) for Interior D



A.2 DWELLING UNIT COST COMPUTATIONS

Table A.1 of the previous section provided the basic information necessary to exercise the EHEP/Phase II cost models. Several supplementary steps were required however, in order to fulfill the data requirements of the EHEP models. In this section we shall describe these steps.

Since the national cost estimate is based on the aggregation of regional estimates, variations between regions in wage rates and material prices had to be introduced. Utilizing the cost indices found in Building Construction Cost Data, 1977[1] for labor and materials, it was possible to construct weighted average (weighted by the percent of the regions population found in a given State) regional cost indices. All weights were computed using Boston, Mass. as the base point. The indices were then used to inflate or deflate the actual values of wages and material costs found in Boston for each technique in order to arrive at regional estimates for wages and material costs.

Data on the "statistical" dwelling unit by age/type category (See Table A.1) were then used in conjunction with regional estimates of wage rates and material prices to generate an estimate for deleading the "statistical" dwelling unit. All estimates were calculated using the "policy analysis" routine of a computer time-sharing program based on the EHEP/Phase II cost models. This routine calculates the direct costs for each wall and trim technique based on the representative ("statistical") values of the key factors. These direct cost figures are then averaged. A markup ratio based on the representative values of the key factors is also calculated. (The markup ratio calculated assumes that, on the average, three dwelling units will be in each contract.) The markup ratio is then used to calculate the total cost (i.e. the sum of direct costs, overhead costs, and profit) of deleading the "statistical" dwelling unit. Figure A.5 shows the regional breakdowns used in making the national cost estimate. Tables A.2 through A.5 summarize the expected cost per dwelling unit for each region for selected building types and ages.

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[1] Robert S. Godfrey, ed., Building Construction Cost Data, 1977, Robert S. Means, Inc., Duxbury, Massachusetts, 1976.

FIGURE A.5 REGIONAL BREAKDOWN USED IN NATIONAL COST ESTIMATE

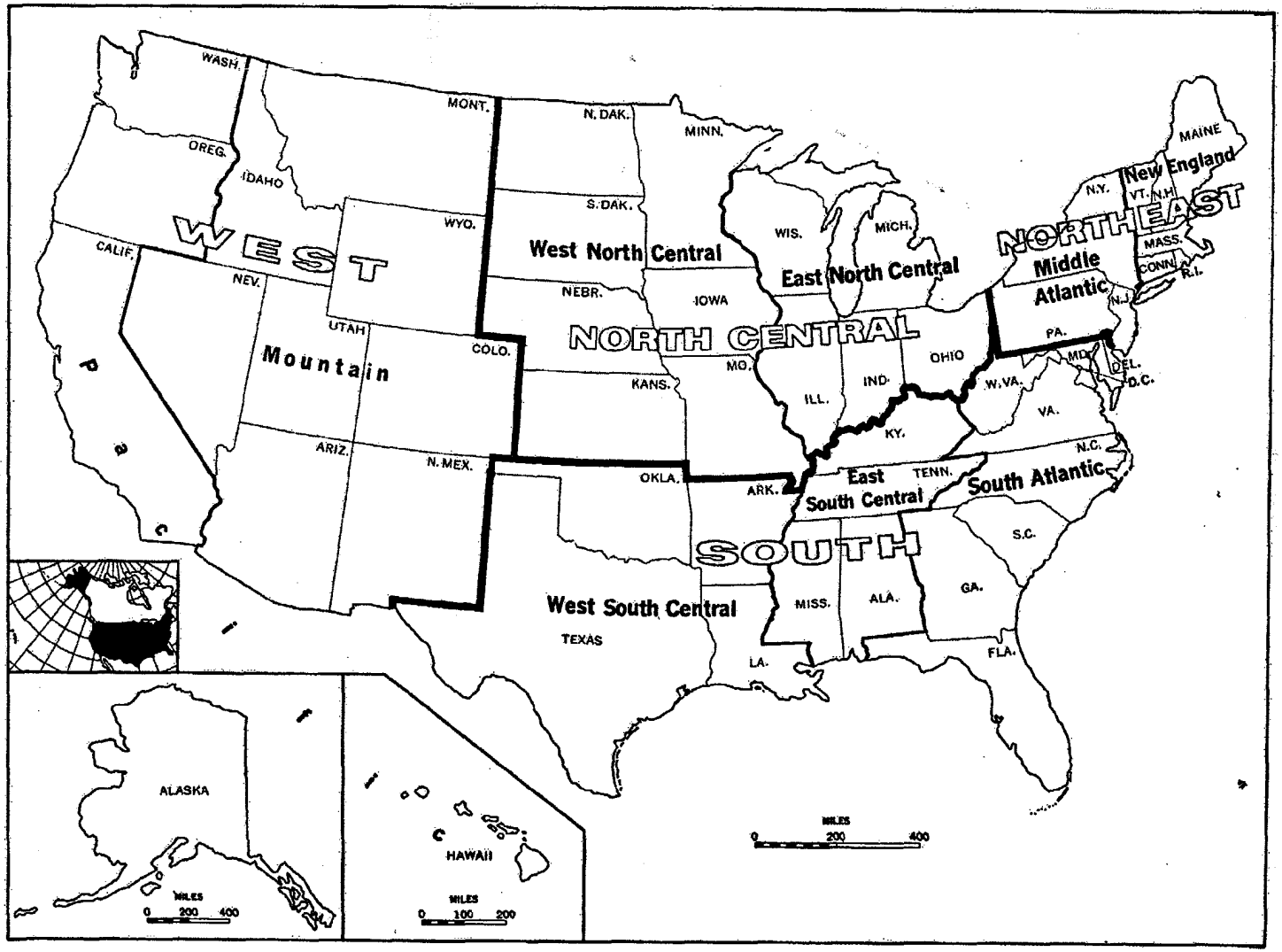

TABLE A.2

DWELLING UNIT ABATEMENT COSTS IN 1976 DOLLARS INCLUDING MARKUP FOR PRE 1940 MULTIFAMILY DWELLING UNITS (WALLS ONLY -- 2.0 mg lead/cm^2)

Region	Gypsum Wallboard	Plywood Paneling	Cementitious Coating	Veneer Plaster	Cement Fiberglass	Vinyl Fabric	Average[a]
New England	676	658	513	556	813	834	675
Mid Atlantic	701	679	591	638	873	834	719
East North Central	695	675	567	614	855	836	707
West North Central	657	645	475	515	783	830	651
South Atlantic	566	594	425	453	744	791	596
East South Central	576	598	425	453	744	795	599
West South Central	513	567	430	450	747	764	579
Mountain	618	626	479	514	786	810	638
Pacific	649	656	613	655	890	805	711

[a] The simple average of the six barrier techniques

TABLE A.3

DWELLING UNIT ABATEMENT COSTS IN 1976 DOLLARS INCLUDING MARKUP FOR PRE 1940 MULTIFAMILY DWELLING UNITS (ALL TRIM -- 2.0 mg lead/cm^2)

Region	Heat Gun	Hand Scraping	Solvent Strip	Infra-Red	Average[a]
New England	363	466	500	396	431
Mid Atlantic	413	516	573	451	488
East North Central	398	502	551	435	471
West North Central	338	442	464	369	403
South Atlantic	299	402	411	326	359
East South Central	300	403	411	327	360
West South Central	297	400	410	324	358
Mountain	337	440	464	368	402
Pacific	421	526	590	462	500

[a] The simple average of the four paint removal techniques

TABLE A.4

DWELLING UNIT ABATEMENT COSTS IN 1976 DOLLARS INCLUDING MARKUP FOR PRE 1940 SINGLE FAMILY DWELLING UNITS (WALLS ONLY -- 2.0 mg/cm^2)

Region	Gypsum Wallboard	Plywood Paneling	Cementitious Coating	Veneer Plaster	Cement Fiberglass	Vinyl Fabric	Average[a]
New England	691	665	512	557	824	847	683
Mid Atlantic	716	686	591	641	885	847	728
East North Central	710	682	567	616	867	849	715
West North Central	672	651	473	516	794	843	658
South Atlantic	579	600	423	452	755	804	602
East South Central	589	604	422	453	755	808	605
West South Central	525	572	427	450	757	776	585
Mountain	633	632	477	515	797	823	646
Pacific	663	663	614	658	902	818	720

[a] The simple average of the six barrier techniques

TABLE A.5

DWELLING UNIT ABATEMENT COSTS IN 1976 DOLLARS INCLUDING MARKUP FOR PRE 1940 SINGLE FAMILY DWELLING UNITS (ALL TRIM -- 2.0 mg lead/cm^2)

Region	Heat Gun	Hand Scraping	Solvent Strip	Infra-Red	Average[a]
New England	387	517	561	441	477
Mid Atlantic	444	576	645	505	542
East North Central	427	559	620	486	401
West North Central	358	489	519	409	444
South Atlantic	312	443	457	360	393
East South Central	313	444	458	360	394
West South Central	310	440	457	357	391
Mountain	356	487	519	408	443
Pacific	455	586	664	517	555

[a] The simple average of the four paint removal techniques

A.3 HOUSING CENSUS DATA

The 1970 Census of Housing contains data on occupied dwelling units which cross tabulate for each tenure category the number of dwelling units by age and region.[1] However, since the tenure data does not correspond to the single-family/multifamily classification used in the Pittsburgh survey, it was necessary to convert the tenure data by relying on data found in the census volume on Metropolitan Housing Characteristics.[2] Table B-6 of that report contains for each of the four major regions cross tabulated data which report for each occupancy category the number of single-family units and multifamily units by age of dwelling unit. This data was used to establish percentage distributions of single and multifamily units for each occupancy category by age which was then used to convert the subregional age/tenure data into age/building type data. Tables No. 1261 and 1262 of the Statistical Abstracts[3] were utilized in a similar manner to derive estimates by region of the number of single and multifamily units constructed between 1970 and 1975. These data were added to the 1960-1970 data that were available in the 1970 Census of Housing. This permitted the most recent age category corresponding to the Pittsburgh survey data results to be included. Table A.6 resulted from these procedures. It was used to provide the basis of the estimates of the number of dwelling units at risk by region and age for each of the specified lead levels. Table A.7 presents the number of dwelling units at risk for walls with lead readings equal to or greater than 2.0 mg/cm^2.

The last step was to multiply the number of units at risk by the cost (including markup) of deleading the "statistical" dwelling unit. In order to arrive at a single cost figure per unit, the results from tables like Tables A.2 and A.4 were used to compute the weighted average cost per unit based on all of the six wall techniques and four of the trim techniques.(Component replacement was not used in these calculations because of its extreme cost.) Thus the product of the weighted average cost per dwelling unit for walls and trim (at a specified lead level) times the number of dwelling units at risk enabled us to arrive at regional estimates of the total cost of deleading walls and trim. Table A.8 is representative of these calculations. For both the 1.5 and 2.0 mg/cm^2 lead levels, there are six of these tables, one for each age/building type category.

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1 U.S. Bureau of the Census, Census of Housing: 1970 Detailed Housing Characteristics Final Report HC(1)-B1, United States Summary, Table 22.

2 U.S. Bureau of the Census, Census of Housing: 1970 Metropolitan Housing Characteristics Final Report HC, United States Summary, Table B-6.

3 U.S. Bureau of the Census, Statistical Abstracts of the United States: 1976, U.S. Department of Commerce, 97th ed., July 1976.

TABLE A.6

DISTRIBUTION OF DWELLING UNITS[a] BY AGE AND REGION
USED IN MAKING NATIONAL COST ESTIMATES

Region	Pre '40 Single	'40-'59 Single	'60-'75 Single	Pre '40 Multi	'40-'59 Multi	'60-'75 Multi	Regional Total	PCT All Dwellings
NE	975.5	684.0	680.1	1083.4	231.5	453.0	4107.5	06.
MA	3007.0	2245.3	1693.6	3457.8	1088.1	1322.8	12814.6	17.
ENC	3517.7	3115.1	2567.2	2334.3	412.1	1482.0	13428.4	18.
WNC	1674.4	1031.1	1072.8	981.5	367.0	594.0	5720.8	07.
SA	2146.8	2901.5	3675.0	527.2	791.7	1646.0	11688.2	16.
ESC	1061.0	1150.8	1164.8	241.0	303.4	421.1	4342.1	06.
WSC	1319.6	2045.0	1864.7	299.4	550.8	781.6	6861.1	09.
MT	518.2	890.0	921.7	205.7	199.8	612.3	3347.7	04.
PAC	1507.1	2905.9	2385.8	735.9	870.9	1865.3	10270.9	14.
NATIONAL TOTAL	15727.3	16968.7	16025.7	9866.2	4815.3	9178.1	72581.3	

[a] In Thousands

TABLE A.7

NUMBER OF DWELLING UNITS[a] WITH A LEAD CONTENT
ON WALLS OF 2.0 mg lead/cm^2 OR MORE

Region	Pre '40 Single	Pre '40 Multi	'40-'59 Single	'40-'59 Multi	'60-'75 Single	'60-'75 Multi	Regional Total
NE	604.8	660.9	253.1	48.6	142.8	36.2	1746.4
MA	1864.3	2109.3	830.8	228.5	355.7	105.8	5494.4
ENC	2181.0	1423.9	1152.6	86.5	539.1	118.6	5501.7
WNC	1038.1	598.7	381.5	77.1	225.3	47.5	2368.2
SA	1331.0	321.6	1073.6	166.3	771.8	131.7	3796.0
ESC	657.8	147.0	425.8	63.7	244.6	33.7	1572.6
WSC	818.1	182.6	756.6	115.7	391.6	62.5	2327.6
MT	321.2	125.5	329.3	42.0	193.6	49.0	1060.6
PAC	934.4	448.9	1075.2	182.9	501.0	149.2	3291.6
NATIONAL TOTAL	9750.7	6018.4	6278.5	1011.3	3365.5	734.2	27158.6

[a] In Thousands

TABLE A.8

COST OF DELEADING PRE 1940 SINGLE FAMILY DWELLING UNITS[a]

Region	Wall Cost	Trim Cost	Total Cost	Fraction Pre '40 Nat. Cost
NE	412.9	329.9	742.8	.062
MA	1356.6	1158.3	2514.9	.211
ENC	1559.8	1306.2	2866.0	.241
WNC	683.4	527.3	1210.7	.102
SA	801.3	599.0	1400.3	.118
ESC	398.1	296.6	694.7	.058
WSC	478.2	366.5	844.7	.070
MT	207.5	162.9	370.4	.031
PAC	672.5	594.6	1267.1	.106

[a] In millions of 1976 dollars

A.4 THE NATIONAL COST ESTIMATES BY REGION, AGE, AND TYPE OF HOUSING

The tables presented in this section represent the end product of the previous three sections. They summarize, for the 1.5 mg/cm^2 (Table A.10) and 2.0 mg/cm^2 (Table A.9) levels, the national cost by region, age, and building type of deleading housing which contains lead-based paint.

In addition to the costs of physically installing the lead-based paint abatement techniques, (Tables A.9 and A.10) there will be costs associated with administering a lead-based paint program (Tables A.11 and A.12). In principle the costs of administering such a program must also be included in any assessment of the cost to the Nation of a program or plan to eliminate the lead-based paint hazard from housing.

Administrative costs per dwelling unit are dependent upon the nature of a lead-paint abatement program. A program whose purpose is primarily aimed at identifying dwelling units with lead-based paint hazards and then attempting to achieve voluntary compliance to local health requirements will be quite different, in terms of administrative costs, from a program which pursues a more active policy of undertaking the actual installation of the abatement technique when voluntary compliance cannot be achieved. In the latter case administrative costs will also include the costs associated with administering the abatement contracts involving the installation of specific abatement techniques.

A large number of administrative scenarios are possible. Each scenario will have associated with it different levels of administrative costs per dwelling unit.

In order to achieve some order of magnitude estimate of administration costs we shall make the following assumptions: First, we shall not attempt to estimate the costs associated with any litigation that may be required to enforce compliance with a local housing code which specifies some hazardous level of lead-based paint in dwelling units. The liability problem has posed some difficult legal questions regarding the responsibilities of building owners and occupants and consequently will not be dealt with in this report. The reader interested in the legal implications of lead paint abatement policies is referred to the articles by Tepper[1] and Sarb[2]. Secondly, we shall assume that the primary administration costs are those associated with detecting lead-painted units, determining what corrective actions are called for, finding and selecting contractors, getting bids, and administering the actual contract.

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[1] R. Bruce Tepper, Jr., "Lead Paint Poisoning: The Response in Litigation," St. Louis University Law Journal, Vol. 19, Winter 1974.

[2] Thomas B. Sarb, "Lead Paint Poisoning: Remedies for the HUD Low-Income Homeowner When Neglect is No Longer Benign," University of Michigan Journal of Law Reform, Vol. 8, Spring 1975.

Since little reliable data is available on the costs of administering what amounts to small rehab jobs in residential dwelling units, we have relied on the experience of the Boeing team which administered the Experimental Hazard Elimination Program and on conversations with contracting officials from local housing authorities in the Washington, D.C. area who have responsibility for administering rehabilitation contracts in residential units.

The per dwelling unit administrative cost estimates of installing lead-based paint abatement techniques ranges from $250-$450 per dwelling unit. This range estimate includes the following administrative tasks: surveying dwelling units for the presence of lead-based paint, preparing specifications, making preliminary cost estimates, contacting contractors and advertising for bids, conducting prebid conferences, reviewing bids, inspecting work in progress, administering progress payments, writing reports, and other miscellaneous administrative tasks.

Table A.11 presents estimates of the national administrative costs associated with deleading dwelling units with a lead content on walls of 2.0 mg lead/cm^2 or more. The estimates are broken down by the age of the dwelling unit and are estimated for the end points of the range and for the mid-point. As seen in Table A.11, administrative costs would run from $6.8 billion to $12.25 billion. Another way of putting it is that when administrative costs are included, the cost of deleading the Nation's housing stock (2.0 mg lead/cm^2) would range between 35 and 41 billion dollars.

Estimates of the national administrative costs associated with the 1.5 mg/cm^2 abatement criterion are presented in Table A.12. Administrative costs range from $8.7 billion to $15.6 billion. Total abatement costs are thus expected to range between $44 billion and $51 billion.

TABLE A.9

EXPECTED COST IN 1976 DOLLARS[a,b] OF DELEADING THE NATION'S HOUSING BY REGION AND AGE/TYPE OF HOUSING -- 2.0 mg lead/cm^2

Region	Pre '40 Single	Pre '40 Multi	'40-'59 Single	'40-'59 Multi	'60-'75 Single	'60-'75 Multi	Regional Total	Percent National Cost
New England	742.8	763.8	207.7	44.0	120.1	29.6	1908.0	6.7
Mid Atlantic	2514.9	2665.0	739.3	224.6	326.0	93.5	6563.3	23.1
East North Central	2866.0	1754.9	1002.8	83.1	482.3	102.5	6291.6	22.1
West North Central	1210.7	658.7	299.5	66.6	180.8	37.1	2453.4	8.6
South Atlantic	1400.3	320.4	768.7	131.1	566.3	94.0	3280.8	11.5
East South Central	694.7	147.0	306.0	50.4	180.1	24.1	1402.3	4.9
West South Central	844.7	178.5	531.2	89.5	283.3	43.7	1970.9	6.9
Mountain	370.4	136.4	255.4	35.9	154.0	37.8	989.9	3.5
Pacific	1267.1	569.3	958.1	180.3	462.5	131.9	3569.2	12.7
NATIONAL TOTAL								
	11,911.6	7194.0	5068.7	905.5	2755.4	594.2	28,429.4	100
(Percent)	(41.2)	(25.3)	(17.8)	(3.2)	(9.7)	(2.1)		

[a] In millions

[b] Administrative costs are not included

TABLE A.10

EXPECTED COST IN 1976 DOLLARS[a,b] OF DELEADING THE NATION'S HOUSING BY REGIONS AND AGE/TYPE OF HOUSING -- 1.5 mg lead/cm^2

Region	Pre '40 Single	Pre '40 Multi	'40-'59 Single	'40-'59 Multi	'60-'75 Single	'60-'75 Multi	Regional Total	Percent National Cost
New England	865.8	883.5	305.3	55.9	178.4	40.1	2329.0	6.6
Mid Atlantic	2932.7	3080.1	922.8	284.6	482.4	126.9	7829.5	22.3
East North Central	3341.8	2028.9	1357.2	105.4	714.5	138.9	7686.7	21.9
West North Central	1410.7	762.3	405.3	84.7	269.1	50.3	2982.4	8.5
South Atlantic	1629.1	370.9	1040.5	166.8	844.6	127.5	4179.4	11.9
East South Central	808.4	170.2	414.3	64.2	268.6	32.7	1758.4	5.0
West South Central	981.9	206.6	719.2	113.9	421.8	59.5	2502.9	7.1
Mountain	431.4	157.9	345.6	45.6	229.0	51.3	1260.8	3.6
Pacific	1476.7	657.8	1297.0	228.2	682.9	179.5	4522.1	12.9
NATIONAL TOTAL								
	13,878.5	8318.2	6807.2	1149.3	4091.3	806.7	35,051.2	100
(Percent)	(39.6)	(23.7)	(19.4)	(3.3)	(11.7)	(2.3)		

[a] In millions

[b] Administrative costs are not included

TABLE A.11

ESTIMATED COSTS OF ADMINISTERING A NATIONWIDE PROGRAM TO DELEAD THE NATION'S HOUSING -- 2.0 mg lead/cm^2

Administrative Costs per Dwelling Unit	National Costs[a] By Age/Type of Housing						
	Pre '40 Single	Pre '40 Multi	'40-'59 Single	'40-'59 Multi	'60-'75 Single	'60-'75 Multi	Total
$250	2,440	1,500	1,570	250	840	180	6,780
$350	3,410	2,110	2,200	350	1,180	260	9,510
$450	4,390	2,710	2,830	460	1,510	330	12,230

[a] In millions

TABLE A.12

ESTIMATED COSTS OF ADMINISTERING A NATIONWIDE PROGRAM TO DELEAD THE NATION'S HOUSING -- 1.5 mg lead/cm^2

Administrative Cost per Dwelling Unit	National Costs[a] By Age/Type of Housing						
	Pre '40 Single	Pre '40 Multi	'40-'59 Single	'40-'59 Multi	'60-'75 Single	'60-'75 Multi	Total
$250	2,830	1,800	2,120	350	1,320	250	8,670
$350	3,960	2,520	2,970	490	1,850	350	12,140
$450	5,100	3,240	3,820	630	2,380	450	15,620

[a] In millions

A.5 CONCLUSIONS

The installation of barrier materials or the removal of paint from trim surfaces are tasks which light rehabilitation or remodeling contractors have the capability of doing. Installing a barrier material is fundamentally a remodeling task, e.g., installing gypsum wallboard or covering a wall with a vinyl fabric material. Paint removal from trim surfaces is also a task which remodeling contractors are called on to do on occasion. Because of the great differences in housing characteristics throughout the Nation, and because the amount of deleading required varies between units, the cost of deleading a dwelling unit will vary widely from region to region and among techniques. In order for a national cost estimate to be reliable, it must be based on a method of estimation which is sensitive to the diversity of conditions discussed above.

A credible estimate of the cost of deleading the Nation's housing stock can be made if we know how much lead paint exists and how much it will cost to delead specific dwelling units. Evidence on the quantity of lead paint in housing is contained in the Pittsburgh survey while information on the cost of deleading is contained in this report.

Our results from the national cost estimates reported in this appendix are as follows:

1. The "incremental cost" of meeting a 1.5 mg/cm^2 abatement criterion versus a 2.0 mg/cm^2 abatement criterion is approximately $9.25 billion. In relative terms this represents an increase in national cost of almost 25 percent.

2. Almost half of the Nation's deleading cost burden is concentrated in eight States. Furthermore, this relationship holds both for the 1.5 mg/cm^2 and 2.0 mg/cm^2 abatement criteria. The eight States are located in the Middle Atlantic and East North Central regions. (See Figure A.6 for a detailed breakdown of the regional deleading cost burdens.)

3. The amount of deleading work required in any given dwelling unit remains fairly constant when the minimum abatement criteria is reduced from 2.0 mg/cm^2 to 1.5 mg/cm^2. The substantial increase in regional and national deleading costs experienced in going from the 2.0 mg/cm^2 to the 1.5 mg/cm^2 abatement criterion is therefore due almost entirely to additions to the stock of dwelling units "at risk."

4. The proportions of the Nation's deleading cost burden associated with the pre 1940 dwelling units declines only slightly (from 65 percent to 61 percent) when the minimum abatement criterion is reduced from 2.0 mg/cm^2 to 1.5 mg/cm^2. This is true because the number of pre 1940 dwelling units "at risk" and the amount of deleading work they require exceed that of all post 1940 dwelling units.

5. The order of magnitude of deleading costs ($30-$50 billion) is roughly equivalent to the 1976 level of output of the remodeling and alteration construction sector.

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APPENDIX G

ALTERNATIVE HAZARD-REDUCTION METHODS DEVELOPED OR EVALUATED BY HUD RESEARCH

1. Asbestos-Cement Flexible Covering (H-2256R)

This product is an inexpensive material suitable for lead hazard abatement particularly on wood trim. However, because of the current concern for the long-term hazards of asbestos this system is not being considered as a viable alternative.

2. Fiber Glass Barrier (H-2261R)

Development of two of the three potential systems has been completed. The first system, that of mineral-fiber sheet, has been dropped from further consideration. The mineral used was again asbestos and the matrix for mat sheet is polyvinyl chloride. In addition to the environmental hazard due to the asbestos, the potential of polyvinyl chloride to produce toxic fumes during a fire made this system unsatisfactory.

The second system, a glass mat saturated with a resin binder (vinyl-ethylene emulsion and a carboxy-modified vinyl chloride - vinylidene chloride-acrylic terpolymer) was developed through the laboratory stage and installation techniques were developed by trial installations in older housing. The system meets the technical specifications but further development and evaluation was discontinued because the third barrier system being developed under this same contract appears to be more versatile and the projected installed costs are lower.

3. Spray-on Barrier of Fiber Glass (H-2283R)

Five polyester-fiber glass systems were investigated, of which one could be selected as the most suitable. Tests in the HUD evaluation of the system indicated that the coating costs were not expensive and that the installed coatings were a suitable barrier for lead-based paint hazards. However, further development of the system is not being considered for the following reasons

a. Application technology is too complicated for the labor normally used for hazard abatement or housing renovation.

b. The spray equipment is too expensive for the limited market for hazard abatement and, therefore, the small contractor who typically does such work could not afford the capital investment.