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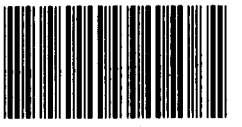
United States General Accounting Office

Report to the Chairman, Subcommittee on Health and the Environment, Committee on Energy and Commerce, House of Representatives

May 1992

# TOXIC SUBSTANCES

# Federal Programs Do Not Fully Address Some Lead Exposure Issues







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**United States**
**General Accounting Office**
**Washington, D.C. 20548**

**Resources, Community, and**
**Economic Development Division**

B-248463

May 15, 1992

The Honorable Henry A. Waxman
Chairman, Subcommittee on Health
and the Environment
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

Millions of children in the United States have enough lead in their blood to cause long-term negative effects on intelligence and behavior, according to the Centers for Disease Control (CDC). Lead poisoning occurs through exposure to lead in air, dust, dirt, water, food, and certain commercial products, such as paint and automotive batteries. Exposure to lead can harm every system in the body. Because lead is harmful to the developing brain and nervous system, lead exposure is especially dangerous to fetuses and young children.

As you requested on October 3, 1991, we are reviewing the overall federal strategy for reducing lead exposure and eliminating lead poisoning. Our work at the federal level has focused on the three agencies with the most extensive activities to reduce lead exposure and poisoning: the Environmental Protection Agency (EPA), the Department of Housing and Urban Development (HUD), and CDC. In March 1992, you requested that we provide you with an interim report to assist in your deliberations in late May 1992 on pending legislation that would establish a number of federal programs aimed at reducing children's exposure to lead. As agreed with your office, this interim report provides information on (1) the principal ongoing federal activities to reduce lead exposure, (2) how these activities compare with the actions CDC identified as needed to eliminate childhood lead poisoning, and (3) our work to date on state and local lead-poisoning prevention programs. We have not evaluated the effectiveness of these programs. In a later report, we will provide you with additional information on federal, state, and local lead reduction activities.

## Results in Brief

Federal lead reduction programs address some, but not all, of the most serious aspects of the lead-poisoning problem. EPA, which has the most extensive activities, uses its regulatory authorities to reduce lead in air, water, soil, and other media. HUD's efforts focus on eliminating lead-based

paint hazards in housing. CDC focuses on identifying and treating children with high levels of lead in their blood.

Federal programs provide funds to state and local agencies that can be used to (1) test young children for lead poisoning, (2) identify and eliminate health hazards from lead-based paint in housing, and (3) temporarily relocate children and families during the abatement of lead-based paint in homes. However, these programs apply to only a relatively small portion of the children in the United States that CDC and EPA believe are at risk from exposure to lead. In addition, there is only limited information on the extent to which the funds provided under these programs are actually used for lead-poisoning prevention purposes. Furthermore, federal programs do not provide funds for eliminating other potential sources of lead exposure such as (1) lead-based paint in schools; (2) products containing lead that are discarded rather than recycled, such as automotive and industrial batteries; and (3) lead-contaminated soil around housing, schools, playgrounds, and other urban areas, which EPA has identified as the second-greatest source of lead exposure for children.

To date, we have obtained detailed information on the lead-poisoning prevention programs of only two states. With the support of the Department of Health and Human Services, the Alliance to End Childhood Lead Poisoning—a national educational, policy, and advocacy organization—compiled data indicating that most states have lead-poisoning prevention programs. However, these data show that the nature and extent of these programs vary. According to these data, only a few states, such as Maryland and Massachusetts, have extensive lead-poisoning prevention programs.

## Background

Lead poisoning is the most common and most devastating environmental disease affecting young children, according to CDC. Poisoning occurs through exposure to lead in air, dust, dirt, water, food, and certain commercial products, such as paint and automotive batteries. Young children are particularly vulnerable to physical and developmental damage from exposure to lead. CDC estimates that lead poisoning in children costs billions of dollars in medical and special education expenses and decreased future earnings.

The primary cause of the most severe cases of lead poisoning in children is exposure to lead in paint. Lead-based paint is widespread in housing in the United States. HUD estimates that 57 million, or about three-fourths, of the

77 million privately owned and occupied homes built before 1980 contain lead-based paint. Almost 10 million of these homes are occupied by families with children under 7 years of age, who are the most vulnerable to lead poisoning.

The health hazards associated with lead have long been known. The most recent data compiled by the Agency for Toxic Substances and Disease Registry of the Department of Health and Human Services indicate that in 1984, between 3 and 4 million children under the age of 6 in the United States had blood-lead levels high enough to adversely affect intelligence and behavior. The federal government began to address the lead-poisoning problem in 1971. However, it was not until the last few years, when new research demonstrated serious health effects at lower and lower blood-lead levels, that the federal government began to take coordinated, multi-agency action to eliminate lead poisoning.

In December 1990, at the direction of the Congress, HUD developed a plan for inspecting and removing lead-based paint hazards in privately owned housing. Similarly, in February 1991, EPA developed a strategy to combat lead poisoning with particular emphasis on children. EPA intended the strategy to consolidate ongoing lead-related initiatives across the agency. Also in February 1991, CDC developed its own strategic plan for eliminating lead poisoning. Unlike the other strategies, CDC's plan presented a "model" program of all activities it considered necessary to eliminate childhood lead poisoning.

## Federal Activities Do Not Fully Implement the Program Recommended by CDC

In its 1991 strategic plan, CDC concluded that childhood lead poisoning is a major public health problem and identified a number of steps needed to eliminate the disease. These include (1) establishing a national surveillance system to test and identify children with elevated levels of lead in their blood, (2) establishing a nationwide program to increase lead-based paint abatements, (3) increasing lead-poisoning prevention activities, and (4) reducing exposures from other lead sources, including contaminated soil. While a wide range of federal activities are addressing various sources of lead exposure, these activities are addressing the steps recommended by CDC in only a limited way. Budget constraints are a major obstacle to expanding federal activities to address these issues.

### Federal Activities Are Extensive

Federal activities to reduce lead exposure include enforcing environmental standards to prevent further lead pollution and undertaking

research and providing financial assistance to identify and facilitate the removal of existing lead hazards. EPA's lead reduction activities are the most extensive and varied. EPA is coordinating its activities across program lines and simultaneously using its regulatory authorities to reduce lead in air, drinking water, soil, waste, products, and processes.

HUD is the principal federal agency responsible for addressing residential lead-based paint hazards. In December 1991, as required by the Congress, HUD established the Office of Lead-Based Paint Abatement and Poisoning Prevention to provide overall direction to its lead-based paint activities. HUD administers a number of programs that provide funds to state and local agencies for housing renovation. Within that context, these funds can be used to (1) identify and eliminate lead-based paint hazards and (2) provide shelter for families during paint abatement activities. CDC's activities focus primarily on providing assistance to state and local governments to identify children with elevated levels of lead in their blood. These three agencies' lead reduction activities are discussed in appendix I.

## Federal Programs Do Not Fully Address Some CDC-Recommended Actions

Despite ongoing federal activities to reduce lead pollution and exposures, some areas identified by CDC as ones needed to eliminate lead poisoning are not being fully addressed on a national scale. Other such areas are not being addressed at all at the federal level.

### Lead-Poisoning Screening and Treatment

Existing federal programs that support the testing of children for lead poisoning do not constitute the coordinated national approach that CDC envisioned for identifying lead-poisoned children. Although CDC guidelines recommend screening for lead poisoning for all children under 3 years of age, federal programs do not provide for the nationwide screening of children for elevated blood-lead levels. In addition, the programs do not ensure follow-up medical treatment for those requiring it. According to CDC, screening is critical for identifying people with lead poisoning, obtaining medical treatment for them, identifying geographic areas that need further evaluation or abatement, and tracking progress in eliminating the disease.

CDC administers a grant program that provides funds to state and local governments for testing lead levels in children's blood. However, because of limited funds these grant programs target geographic areas where the risk of lead poisoning is highest. As a result, children with elevated

blood-lead levels in other areas may not be identified. Furthermore, the number of grant recipients and the dollar amounts provided through this program are small relative to the national scale of the problem. In fiscal year 1991, 13 states and 2 cities received CDC grants totaling about $5.6 million for lead-poisoning testing. CDC is currently working to compile data on the number of children screened under its grant program.

CDC is currently reviewing applications from 25 states and 8 local agencies for fiscal year 1992 grants, and it expects to award a total of $15 million in grant funds. CDC plans to fund 15 new grant recipients with $5 million; the remaining $10 million would renew grants awarded to previous recipients. CDC expects to announce the awards in June or July 1992.

A number of other federal grant programs also provide funds that can be used for lead screening as well as other health-related activities. The Maternal and Child Health Block Grant Program, administered by the Health Resources and Services Administration; Medicaid's Early and Periodic Screening, Diagnostic, and Treatment Program, administered by the Department of Health and Human Services; the Supplemental Food Program for Women, Infants, and Children, administered by the Department of Agriculture; and the Head Start Program, administered by the Department of Education—all provide federal funding for state and/or local general health-screening programs. However, according to the CDC strategy, under these programs state and local agencies can use the funds for many activities other than lead screening, and these agencies do not report how the funds are spent. Consequently, the federal agencies responsible for these programs have little or no information on the extent to which funds are used to test for lead poisoning or for other allowed uses. Furthermore, within the established program guidelines, states decide how to use the funds, and the extent to which states use the grants for lead screening may vary. Because of the limited data on the extent to which these existing federal programs fund lead-poisoning screening, if at all, the programs do not provide the information required to monitor progress in reducing blood-lead levels or to direct other lead-poisoning prevention efforts—such as ensuring medical treatment and abating sources of lead exposure—to the areas with the greatest need.

## Residential Lead-Based Paint Abatement and Relocation

HUD administers a number of programs that provide funds to state and local agencies to renovate and rehabilitate housing. These programs provide funds that state and local entities can use for a number of renovation activities—including lead-based paint abatement—in some

public and low- and moderate-income housing.[1] These programs, however, have limitations in that only certain types of housing are eligible to receive assistance, and under some programs state and local entities may decide not to use grant funds for lead-based paint abatement.

HUD's Comprehensive Improvement Assistance and Comprehensive Grant programs, which provide funds for modernizing public housing, require that authorities test for and abate lead-based paint as part of the modernization. In addition, other HUD programs designate lead-based paint abatement as one of the many activities eligible for grant funding. These programs include

- the Community Development Block Grant Program for, among other purposes, rehabilitating low- and moderate-income housing;
- the HOME Program to assist state and local governments in acquiring, rehabilitating, and under certain conditions constructing housing, and providing tenant-based rental assistance; and
- the Homeownership Opportunities for People Everywhere Program I, which provides grants to help individual families purchase, rehabilitate, and renovate public and Indian housing units.

These programs allow—and in the case of public housing modernization, require—grant funds provided under the programs to be used for lead-based paint testing and, if warranted, abatement.

HUD's programs have a number of limitations. First, only certain types of housing are eligible to receive assistance. HUD's Comprehensive Improvement Assistance and Comprehensive Grant programs apply only to public housing, the Homeownership Opportunities for People Everywhere Program I applies only to public and Indian housing, and the Community Development Block Grant Program applies only to low- and moderate-income housing. Second, only two of HUD's ongoing programs, the Comprehensive Improvement Assistance and Comprehensive Grant programs, require lead-based paint testing and, if warranted, abatement. Under HUD's other programs, grant funds can be used for renovation activities other then lead-based paint abatement. Third, HUD distributes the program funds to state and local entities, which determine—except in the case of public and Indian housing—if any of the funds will be used for lead-based paint abatement. Therefore, the extent to which the grants are

[1]At the request of the Chairman, Subcommittee on Toxic Substances, Environmental Oversight, Research and Development, Senate Committee on Environment and Public Works, we are reviewing federal agencies' efforts to identify and abate lead-based paint hazards in housing.

used for that purpose may depend on the perceived needs and priorities of each state and local agency.

Finally, the state and local programs that receive HUD grants and loans do not report to HUD in sufficient detail to allow the agency to determine the total amount spent on lead-based paint abatement. Furthermore, HUD does not have a comprehensive system across all programs for collecting these data. The Deputy Director, Office of Lead-Based Paint Abatement and Poisoning Prevention, said that such a system would be difficult and expensive to implement, and it would not provide entirely accurate data on the amount of funds spent for abatement. Consequently, HUD does not know how much of the total funds provided under its existing programs is being spent for abatement, and so it cannot determine the full extent to which housing that contains lead-based paint has been abated or still needs to be abated.

HUD is in the early stages of initiating a new grant program to provide funds to state and local governments and Indian Tribes specifically for abating significant lead-based paint and lead dust hazards. Under this program, abatement would occur in low- and moderate-income owner-occupied units and low-income privately owned rental units. The Congress appropriated $50 million for this program for fiscal year 1992, and HUD expects to award grants in September 1992.

Although the HUD programs described above also allow grant funds to be used for temporary relocation during abatement operations, the same factors limiting the extent of abatement also limit the amount of temporary shelter provided. It is important to remove people from housing during abatement because dust and other debris generated would increase the risk of exposure and may further poison residents. Under HUD's programs, providing temporary shelter is mandatory only with regard to the modernization of public housing, and only if lead-based paint abatement in public housing takes more than 8 hours. Other HUD programs allow, but do not require, state and local agencies to use grant funds to provide temporary shelter for residents of low- and moderate-income housing undergoing lead-based paint abatement. In these latter cases, state and local entities decide whether to use the funds for providing temporary shelter. The state and local agencies do not report the amounts spent for temporary shelter under any of these HUD programs.

## Lead-Based Paint Abatement in Schools

CDC's strategy states that beyond abating lead-based paint from housing, abatement of facilities frequented by children should be a high priority.

However, no federal program requires, encourages, or provides assistance for abatement of lead-based paint in schools, where children spend significant amounts of time.

According to the Coordinator of EPA's Lead Cluster Program, there are no federal programs to abate lead paint from schools because children of school age are not considered to be among those most vulnerable to the adverse health effects of exposure to lead-based paint. The majority of children poisoned by lead paint are infants and toddlers, who are more likely than older children to ingest lead paint chips and paint dust because of their tendency to place objects in their mouths until the age of 6 or 7. It is assumed that these children spend most of their time at home, so housing is the focus of lead-based paint abatement efforts. According to the coordinator, by the time children reach school age they are less likely to exhibit this mouthing behavior and therefore less likely to be at risk of poisoning from lead-based paint in school facilities.

Although evidence indicates that preschool children are most vulnerable to lead poisoning and experience the most severe developmental problems from the disease, CDC states that older children and adults can also experience severe adverse health effects from exposure to lead-based paint. Children spend a substantial portion of their day in classrooms and school facilities and therefore may be further exposed to the hazards of lead-based paint in these buildings.

## Lead Recycling

No federal program requires or encourages lead recycling. Recycling of lead in products such as lead-acid automotive batteries and brass and bronze products helps to prevent further pollution and limit the amount of new lead introduced into the environment. Disposing of products that contain lead in landfills and municipal dumps may allow lead to leach into the soil and groundwater, posing further risks of exposure. Incinerating products that contain lead creates hazardous lead air emissions.

In its lead strategy, EPA detailed its plans to encourage environmentally sound recycling of products containing lead—in particular, lead-acid batteries. According to EPA's strategy, these batteries accounted for 80 percent of the total domestic consumption of lead in 1989. EPA stated that although 80 to 95 percent of all used batteries are currently recycled, 65 percent of all lead found in municipal solid waste in 1988 consisted of lead-acid batteries. On this basis, EPA's strategy stated that the agency was considering developing regulations to increase the rate of battery recycling.

EPA has since concluded that there is no need for a federal lead-recycling regulation. In 1991, EPA found that many states have battery recycling programs and that industry is voluntarily recycling 85 percent of the batteries manufactured in the United States. On this basis, EPA concluded that little benefit would be gained by requiring an increase in the recycling rate; the incremental benefits of a federal regulation would likely be small. For this reason, EPA decided against developing a regulation to increase recycling.

EPA estimated in its strategy that in 1989, over 1 million metric tons of lead went into lead-acid batteries. Assuming that 85 percent of these batteries were recycled, over 150,000 metric tons of lead were not recycled. If not recycled, this lead could have been discarded directly into the environment, disposed of in a landfill or municipal waste site, or incinerated. Such disposal could pose further risks of soil, groundwater, and/or air pollution from lead.

## Lead-Contaminated Soil

No federal program exists to remove or treat lead-contaminated soil around housing, schools, and playgrounds because, according to CDC and EPA, there is insufficient information available on which to base such a program. CDC's strategic plan states that soil contaminated by lead from gasoline exhaust, by exterior lead-based paint that deteriorated, by used oil, and by industrial sources is probably a significant source of elevated blood-lead levels for many children. EPA's lead strategy states that after lead-based paint, urban soil and dust are believed to be the most significant sources of lead exposure for children in many urban residential areas. According to EPA, far less is known about the hazards of lead in urban soil—and how to address those hazards—than about either paint or drinking water. Data are limited on the location and severity of the problem, on the extent to which abatement is required, and on the best abatement procedures. EPA states that more information is needed to better characterize the problem, determine pathways of exposure, determine effective remediation methods, and develop methods to identify areas of severe contamination. CDC states that the research needed to resolve the lead-in-soil issues will take years.

In an attempt to expand the base of knowledge on the hazards of lead-contaminated soil, EPA is conducting a pilot project to address lead exposure from soil and evaluate the effect that removing contaminated soil and dust would have on reducing children's blood-lead levels. This project is intended to determine whether a soil abatement program would significantly reduce risks from this source. EPA expects to complete this

project by the end of 1992. EPA is also analyzing lead-in-soil data to determine the extent of the lead contamination problem.

## State Lead Poisoning Prevention Programs

To date, we have performed only limited work relating to state and local lead-poisoning prevention programs. We discussed Maryland's lead-poisoning prevention activities with representatives of the state's Department of the Environment, Department of Health and Mental Hygiene, and Department of Housing and Community Development. These officials told us that Maryland's lead-poisoning prevention activities include blood-lead testing and referral for follow-up treatment, paint abatement, family sheltering, and public education. However, they said that because of limited funds, the program has to target geographic areas and population sectors that are considered to be most at risk. These officials told us that state budget reductions severely limit the amount of funds that can be spent on lead-poisoning prevention activities, and so the program does not have the funds to undertake many of the actions needed to address the lead-poisoning problem within the state. According to these officials, existing state lead activities cannot be fully funded, and new or expanded initiatives cannot be undertaken, because of the state's fiscal situation.

Although we have not visited other states, data compiled by the Alliance to End Childhood Lead Poisoning, which was supported in that effort by the Department of Health and Human Services, indicate that 47 states currently have state and/or local lead-poisoning prevention programs.[2] These data show that only a few of these states, such as Maryland and Massachusetts, have aggressive state lead-poisoning prevention programs as well as local programs. These two states' efforts include testing children's blood-lead levels, abating lead-based paint, providing public education and outreach, and sheltering families displaced during abatement. Three states have neither state nor local lead-poisoning programs.

According to the data compiled by the Alliance, the nature and extent of lead-poisoning prevention activities vary from state to state. For example, some states have lead-screening programs but have no programs for abating lead-based paint. An Alliance representative told us that many states limit their programs to targeted groups or areas, and therefore leave other groups and areas unaddressed. Moreover, even the most aggressive

[2]We did not attempt to verify these data. The Alliance to End Childhood Lead Poisoning is a national educational, policy, and advocacy organization formed in 1990 by national leaders in pediatrics, public health, environmental protection, housing, education, minority rights, and children's welfare.

state lead-poisoning prevention programs are limited by scarce financial resources at the state and local levels.

## Observations

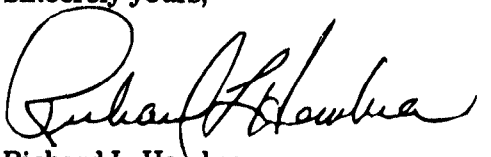
Although there are a number of federal programs to reduce lead pollution and eliminate lead poisoning, these programs only partially address some lead reduction issues. The federal programs do not fully address (1) testing children for elevated blood-lead levels, (2) abating lead-based paint from housing and schools, (3) relocating families during abatement, (4) recycling lead, and (5) abating lead-contaminated soil. For example, some programs are limited in scope and targeted to only certain population or housing sectors. Information on the extent to which these issues are being addressed is limited. In addition, data compiled by the Alliance to End Childhood Lead Poisoning indicate that state and local lead-poisoning prevention programs vary in the nature and extent of their activities and therefore in the extent to which they address lead-poisoning prevention issues. In our later report to you, we will further develop these and other issues relating to the federal lead strategy.

Our work was conducted between October 1991 and April 1992 in accordance with generally accepted government auditing standards. Appendix II contains more information on the scope and methodology of our review. We discussed the information in this letter with EPA, HUD, and CDC officials responsible for administering, and/or knowledgeable about, these programs. These officials generally agreed with the facts presented, and their views have been incorporated in the letter where appropriate. As requested, we did not obtain official agency comments on this interim report.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the Administrator, Environmental Protection Agency; the Secretary of Housing and Urban Development; and the Secretary of Health and Human Services. We will make copies available to others on request.

Please contact me at (202) 275-6111 if you or your staff have any questions. Major contributors to this report are listed in appendix III.

Sincerely yours,



Richard L. Hembra
Director, Environmental Protection Issues

# Contents



**Abbreviations**

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| CDC | Centers for Disease Control |
| EPA | Environmental Protection Agency |
| GAO | General Accounting Office |
| HUD | Department of Housing and Urban Development |

# Activities Under the Federal Lead Strategy

## EPA's Ongoing Activities

EPA's activities under the federal lead strategy are more extensive and varied than those of other federal agencies. EPA is coordinating its efforts across program lines and simultaneously using its regulatory authorities to reduce lead in air, drinking water, soil, waste, products, and processes. In this regard, as well as other activities, EPA is providing research and technical support for HUD's lead-based paint abatement program. EPA's support activities focus on improving lead-based paint measurement and abatement techniques. These efforts include developing low-cost field-test kits for detecting lead; establishing a program to accredit laboratories to measure lead in paint and elsewhere; and developing and standardizing improved laboratory analytical techniques for lead to improve their accuracy. EPA is also studying the long-term effectiveness of various abatement techniques, preparing a model plan for states to use in certifying abatement contractors, and developing training programs for lead abatement and remediation professionals. EPA has also selected a number of universities to serve as regional lead training centers and is providing grants to labor organizations and other non-profit groups to conduct lead remediation training.

In addition to addressing lead-based paint hazards, EPA is undertaking a number of activities aimed at reducing lead in drinking water. In June 1991, EPA revised its National Primary Drinking Water Regulations, reducing the permissible levels of lead in drinking water and establishing testing, monitoring, public education, and treatment requirements for water suppliers. In conjunction with these revisions, EPA prepared information on the hazards of lead in drinking water and on the regulation's requirements to be distributed by water systems that supply water with high concentrations of lead to customers. In addition, EPA prepared and distributed (1) guidance for states to implement the regulation, (2) guidance for utilities to monitor and treat water systems, and (3) materials for training and public education on compliance and corrosion control. Under the Lead Contamination Control Act, EPA has prepared and distributed to schools fact sheets on water coolers containing lead, materials to educate school officials about testing for lead in drinking water, and drinking water testing protocols and guidance.

EPA is in the process of establishing a national lead poisoning information clearinghouse and hotline to disseminate lead information to the public. EPA is gathering available material on lead from all federal agencies to facilitate the exchange of information, assess its adequacy, and identify needed additions. EPA has developed informational pamphlets for parents

and homeowners outlining lead hazards in the home, and the agency is conducting other public education and outreach efforts.

In July 1991, EPA filed civil and administrative enforcement actions against 12 major sources of excessive lead emissions. This was EPA's first cross-media, pollutant-specific enforcement initiative. At the same time, the Justice Department filed 24 judicial actions against companies thought to be violating regulations to reduce lead exposures.

EPA is sponsoring 36 research projects pertaining to such lead-related issues as lead testing, lead-contaminated soil abatement, the effectiveness of abatement methods in reducing or eliminating lead hazards, laboratory methods for analyzing lead in paint and other sources, accreditation of laboratories for measuring lead, and exposure assessment.

## HUD's Lead-Based Paint Abatement Programs

HUD is the principal agency responsible for federal efforts to eliminate lead-based paint hazards from housing in the United States. HUD has estimated that 57 million, or about three-fourths of the 77 million privately owned and occupied homes built before 1980, contain lead-based paint. Almost 10 million of these homes are occupied by families with children under 7 years of age, who are most at risk of lead poisoning. Of these homes occupied by children, 3.8 million pose serious hazards, such as peeling paint and/or excessive amounts of dust that contains lead.

HUD's Comprehensive Improvement Assistance and Comprehensive Grant programs provide funds for modernizing public housing. These two programs require that units to be modernized are tested for lead-based paint. If lead-based paint is found in high enough concentrations, it must be abated as part of the modernization. In addition, a number of HUD loan and grant programs designate lead-based paint abatement as one of many activities eligible for funding under the programs' criteria. The HUD programs that provide grant and loan funds that can be used for lead-based paint abatement include:

- the Community Development Block Grant Program, which makes funds available for rehabilitation of housing for low- and moderate-income families, among other activities;
- the HOME Program, which will provide assistance to state and local governments to acquire and rehabilitate housing, provide tenant-based rental assistance, and under certain specified conditions, construct new housing; and

- the Homeownership Opportunities for People Everywhere Program I, which provides grants to eligible organizations to help individual families purchase units in public and Indian housing properties and to rehabilitate and renovate this housing.

A number of HUD programs also provide insurance for housing rehabilitation activities which could include, among other activities, lead-based paint abatement. These programs provide insurance to primarily moderate- and middle-income families.

In December 1991, at the direction of the Congress, HUD established an Office of Lead-Based Paint Abatement and Poisoning Prevention to provide overall direction to its lead-based paint activities. The office also develops guidelines and regulations, monitors research, and coordinates with other agencies.

HUD is in the early stages of initiating a new grant program to provide funds to state and local governments and Indian Tribes specifically for abating significant lead-based paint and lead dust hazards in low- and moderate-income owner-occupied units and low-income privately owned rental units. HUD expects to issue a notice of availability of funds under the program in mid-May 1992, and award grants in September 1992. For Fiscal Year 1992, $50 million was appropriated for this program.

In April 1990, HUD produced interim guidelines for identifying and abating lead-based paint hazards in public and Indian housing, and in the fall of 1990, it completed a lead-based paint abatement demonstration project. In addition, HUD is planning and conducting a number of research efforts that are related to lead-based paint. One such project is a public housing abatement demonstration. In this project, HUD has begun to test alternative methods of abatement in the context of modernization, to measure the cost of abatement, and to study the effectiveness of control methods in containing dust spread during abatement within multi-family buildings. HUD expects to complete this project in October 1992. By the end of 1992, HUD also plans to complete a "comprehensive and workable plan" for abating lead-based paint in public housing.

In addition to these projects, HUD has negotiated interagency agreements with the National Institute of Standards and Technology to (1) develop a uniform means of checking the accuracy of portable x-ray fluorescence analyzers that measure the lead content of paint, (2) determine the actual lead content in paints currently on the consumer market, (3) finalize the

lead-based paint abatement guidelines, and (4) perform a study on lead dust in rugs and forced air-heating and air-conditioning ducts.

HUD is also establishing a hotline to answer questions relating to HUD's lead-based paint programs and conducting a public awareness program on lead poisoning.

## CDC's Grant and Other Programs

CDC's activities focus primarily on the health aspects of lead poisoning. The Lead Contamination Control Act of 1988 required CDC to establish a childhood lead-poisoning prevention grant program to screen large numbers of high-risk children and identify those with lead poisoning; to identify possible sources of exposure for lead poisoned children; to ensure appropriate medical and environmental management of lead poisoned children; to provide information to public citizens, health professionals, and policy- and decision-makers on childhood lead poisoning, its prevention, and its management; and to encourage community action programs directed at eliminating childhood lead poisoning. Through its childhood lead-poisoning prevention grant program, CDC provides funds to eligible state and local agencies to screen children for lead poisoning and educate high-risk communities about lead-poisoning prevention. In fiscal year 1990, six states and New York City received grants for childhood lead-poisoning prevention programs totalling $2.8 million. In fiscal year 1991, 13 states and 2 cities received CDC funds totalling about $5.6 million. According to CDC, many of the recipients used their funds for community screening programs and related efforts.

In addition to its grant program, CDC is conducting a number of activities to address some of the data and infrastructure needs for lead-poisoning prevention activities. CDC is also involved in a number of projects with other agencies, and provides technical and management assistance upon request to state and local lead-poisoning prevention agencies on programmatic, laboratory, and epidemiology issues.

CDC is working to develop a system for national testing and monitoring for elevated blood-lead levels. This is essential for identifying communities in the greatest need of intensive interventions and for tracking progress made in eliminating childhood lead poisoning. In fiscal year 1990, cooperative agreements were awarded to five states to develop surveillance for elevated lead levels in both workers and children.

CDC is also working with private industry to develop improved instruments for blood lead measurements to be used in screening programs. In addition, CDC is sponsoring several research efforts relating to lead-poisoning issues, including effectiveness of abatement in lowering blood-lead levels; risk assessment; health effects of lead exposure; blood-lead screening and analysis; laboratory and field analysis methods for screening; accreditation of laboratories for blood-lead measurement; and other concerns pertaining to occupational safety and health.

# Scope and Methodology

Our work was performed from October 1991 to April 1992 in accordance with generally accepted government auditing standards. Our objectives were to (1) identify the principal federal lead activities, (2) compare them to the actions identified by CDC as needed to eliminate childhood lead poisoning, and (3) provide some general information on state and local lead poisoning prevention activities. We did not evaluate the programs' effectiveness. To determine the nature and extent of EPA, HUD and CDC lead programs, we reviewed the principal documents which set out each agency's lead strategy and/or activities: EPA's U.S. Environmental Protection Agency Strategy for Reducing Lead Exposures; HUD's Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing; and CDC's Strategic Plan for the Elimination of Childhood Lead Poisoning. In addition, we interviewed officials within each agency responsible for administering or overseeing various aspects of their agency's lead-related programs. We also reviewed numerous internal agency documents detailing the nature and status of individual elements of the agencies' overall programs.

To develop information on lead poisoning prevention programs at the state and local levels, we obtained documents relating to state and local programs from lead poisoning prevention agencies in Maryland, from the Alliance to End Childhood Lead Poisoning, and from the National Council of State Legislatures.

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