

Action Plan to Make High-Risk Housing Lead-Safe

Alliance to End Childhood Lead Poisoning

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Preface

Purpose of the Action Plan to Make High-Risk Housing Lead-Safe

Most of the almost one million young children now suffering from lead poisoning live in the oldest and most deteriorated housing in a relatively few neighborhoods. However, traditional lead hazard control methods and mechanisms, which work relatively well in more economically viable neighborhoods, have not been effective in the communities where the problem is concentrated. This Plan builds on our current understanding of childhood lead poisoning and experience in prevention to present innovative strategies for identifying and making high-risk housing lead-safe by the year 2010. This Action Plan also makes the case for focusing the necessary attention and resources on highest-risk housing by illustrating how lead safety is an essential first step in giving millions of children opportunities for good school performance now, and good jobs and incomes later in their lives.

The primary audience for this Action Plan is policymakers at the national, state, and local levels who seek new and innovative strategies for improving high-risk housing and preventing the associated hazards for lead poisoning and other environmental health problems. The strategies and case studies included in the Plan are also instructive for advocates; housing providers; and state and local health, housing, code enforcement, and other agency staff interested in incorporating lead safety into their work.

Scope and Organization of This Action Plan

The Executive Summary provides an overview of the problem, discusses the new perspectives and macro shifts in approach that need to occur to address it effectively, and makes the case for the urgent need to act now to address lead hazards in high-risk housing.

Section I, the Introduction, puts the problem in perspective by defining the dimensions of the high-risk housing stock and describing its characteristics.

Section II, The Need for Shifts in Perspective, summarizes the changes in perspective that need to take place at the national level in order to increase awareness of housing as a priority and to target the necessary resources to improving housing conditions in high-risk communities.

Section III, New Strategies for Controlling Lead Hazards in High-Risk Communities, provides specific recommendations for maximizing resources targeted to high-risk housing and implementing prevention. It also provides case studies from across the country to illustrate how these strategies, or variations of them, have been implemented.

Appendix A provides a list of resources for readers interested in obtaining additional information on lead poisoning, the history of policy solutions, and the current state of prevention.

Appendix B provides contact information for programs responsible for implementing case studies highlighted in the Action Plan.

Executive Summary

Overview of the Problem

Despite major gains in the fight against childhood lead poisoning in the United States – especially due to the elimination of lead in gasoline – victory over this completely preventable disease is not yet in our grasp. Almost one million children in this country continue to suffer from elevated blood lead levels, resulting in reductions in IQ, learning disabilities, behavior problems, and consequent lost productivity and reduced quality of life. Although lead poisoning is a disease that affects children of all races and socioeconomic levels, the most recent data collected by the Centers for Disease Control and Prevention confirm that low-income children of color living in economically distressed communities are at substantially higher risk for lead poisoning.

The primary cause of this remaining core of the problem is deteriorating lead-based paint and paint-contaminated dust in privately owned pre-1950 housing that is poorly maintained (public housing has been largely made lead-safe through federally-funded programs). Intact lead-based paint on non-friction surfaces rarely poses a hazard. However, when paint is allowed to deteriorate, it contaminates household dust and presents a high risk to occupants. This report therefore stresses recommendations to increase the level of maintenance in high-risk housing, including the need to incorporate lead safety measures, especially lead dust removal, into ongoing maintenance work. Strategies to accomplish this range from strict housing code enforcement to targeted subsidies.

The challenge of encouraging widespread housing maintenance and lead safety in low-income communities is complicated by larger community-wide factors. For example, high-risk communities typically face pervasive poverty and unemployment, which limits the housing choices of its residents and contributes to the deterioration of neighborhoods. Owners are often unwilling to invest in property maintenance and improvements, particularly in declining and deteriorated communities. Therefore, this Action Plan also focuses on strategies that revitalize neighborhoods, build community capacity, provide jobs to residents, and address other community problems.

The Challenge at Hand Requires New Perspectives and Shifts in Approach

The distinguishing characteristics of the lead poisoning problem in high-risk communities makes clear that continuation of current strategies and approaches will not achieve prevention in high-risk housing. New perspectives, strategies, and resources are needed to solve lead poisoning once and for all. First and foremost, high-risk communities, properties, and populations must receive priority attention for lead hazard control. Community-wide needs and resources assessments are required to identify lead poisoning “hot spots” (areas at particularly high-risk for lead hazards and poisoning); identify properties in need of priority attention; and identify community-based groups, businesses, and programs that can participate in implementing prevention.

Lead safety and other environmental health concerns also need to be integrated into other decisions related to housing, ranging from whether to rehabilitate or condemn a particular property, through housing rehabilitation specifications, to allocating discretionary funds to lead poisoning

hot spots. Addressing lead hazard control in the course of related housing activities maximizes lead safety and reduces the additional cost of lead hazard control.

The Need to Act Now

Experience in city after city has taught the painful lesson that the housing that is poisoning children today will continue to poison future generations unless lead hazards are controlled or the housing is condemned and demolished. There is a natural rate of retirement of older, more dilapidated units from the housing stock over time. However, as these units leave the housing stock, new units slip into distress and risk poisoning children. Relying on natural retirement of units to solve this problem will mean a continuation of poisoning indefinitely. We cannot afford to continue to poison generation after generation of children.

The importance of housing to larger social concerns is not generally recognized by the public, policymakers, and the press. Success in school, crime, unemployment, health care, and other community concerns are interrelated with housing, making safe, decent, and affordable housing an unrecognized national priority. Children who are lead-poisoned cannot perform well in school or, later, on the job. Our economy is becoming increasingly dependent on the intellectual capacity of our workers. Not only will lead-poisoned children be permanently left behind, but our society as a whole suffers when a large segment of our workforce cannot perform at the level required.

The booming U.S. economy provides an unprecedented opportunity to solve the problem of lead poisoning in low-income communities. In this environment of budget surpluses at the federal, state, and local levels and renewed private interest in inner-city investments we can solve this problem once and for all.

I. Introduction

While significant gains have been made in preventing childhood lead poisoning nationally over the past decade, progress in controlling housing-related hazards in high-risk communities has not kept pace. Since properties that are well maintained with lead-based paint intact rarely poison a child, the dominant and most challenging scenario of lead poisoning among U.S. children today is in older, poorly maintained housing. Children living in this housing, who tend to be low-income and of color, are chronically exposed to peeling paint and lead-contaminated dust in their homes. The latest national health data demonstrate the disproportionate impact of lead poisoning on economically distressed communities; low-income children are eight times more likely to be lead-poisoned than children from well-to-do families and African-American children are at five times higher risk than white children.¹

While properties at high risk for lead hazards may exist anywhere, they tend to be concentrated in economically distressed communities, a pattern confirmed by health data documenting the existence of lead-poisoning “hot spots” in many cities. Some low-income neighborhoods have elevated blood lead (EBL) prevalence rates exceeding 50%.²

Protecting children from lead poisoning in these communities presents special challenges. Low-income units in economically distressed communities typically are not financed in the mainstream market and thus are unaffected by lender requirements for maintenance and lead safety. The non-traditional sources of financing available to property owners in distressed communities often entail high interest rates and accelerated payment schedules, further reducing funds available for property maintenance and improvements. In the absence of property and casualty liability insurance, whether because coverage is unaffordable, unavailable, or deemed unnecessary, this housing also is unaffected by insurance underwriting standards. Moreover, even the threat of a lawsuit by the family of a lead-poisoned child is of no economic concern if there is little equity remaining in the property or owners have shielded themselves from recourse through a corporation without seizable assets.

The characteristics of this segment of the housing stock make clear that the continuation of current approaches, tools, and strategies is unlikely to address the deep-seated problem of lead poisoning in high-risk communities. Stabilizing and upgrading high-risk housing and making these properties lead-safe requires fresh perspectives, bold new strategies, and additional resources.

Putting the Problem in Perspective

Historically, efforts to prevent childhood lead poisoning have been overwhelmed and often paralyzed by the enormity of the problem. The presence of lead-based paint in more than half of all U.S. housing seemed to present an insurmountable challenge. At the same time, health departments in most major cities have struggled for decades to manage large caseloads of lead-poisoned children with insufficient resources. Reductions in environmental lead exposures in the

¹ U.S. Centers for Disease Control and Prevention, “Update: Blood Lead Levels – U.S., 1991-1994,” *MMWR Morb Mortal Wkly Rep*, 46 (1997): 141-146.

² For example, one neighborhood in Milwaukee has an EBL prevalence rate of 66%. See, Ordinance Relating to a Pilot Project for Lead-Based Paint Hazard Control in Residential Rental Properties, § 66-41-7-b.

past two decades combined with the recognition of the relationship between property maintenance and lead safety now set the stage for a more targeted and tailored approach to the problem.

Identifying High-Risk Housing

It is necessary to identify clearly the segment of the housing stock at highest risk for lead hazards and understand its significant characteristics in order to design and implement appropriate prevention strategies. A combination of factors relate to and reflect elements of properties' risk of lead poisoning, including physical condition, economic viability, and amount of lead in the paint. The most useful criteria for defining the dimensions of highest risk housing are a composite of four measures of a housing unit's economic and physical duress: housing age; physical condition; household income; and housing cost burden. Housing age is a useful proxy for the presence of lead-based paint and physical condition is a strong predictor of the presence of deteriorated paint. While poverty does not cause lead poisoning *per se*, data have revealed that low household income is highly correlated with risk for lead poisoning. A high housing cost burden indicates that owner-occupants will not be able to invest in lead hazard control or even routine repairs and tenants will not be able to pay more rent to either access a better unit or support a property owner's investment in the unit.

Based on these criteria, there are approximately 10 million distressed and marginal units in the United States (approximately 10% of the entire U.S. housing stock).³ Eight million of these units are estimated to contain lead-based paint and thus are at high-risk for lead hazards. These 8 million units should be priority targets for lead hazard control activities. The approximately one million distressed or marginal units that contain lead-based paint and a young child present the most immediate threat of lead poisoning and the highest priority for monitoring and hazard control. Figure 1 represents the 99 million U.S. housing units occupied in 1997, and highlights the frequency of lead-based paint, highest risk for lead hazards, and occupancy by a young child.

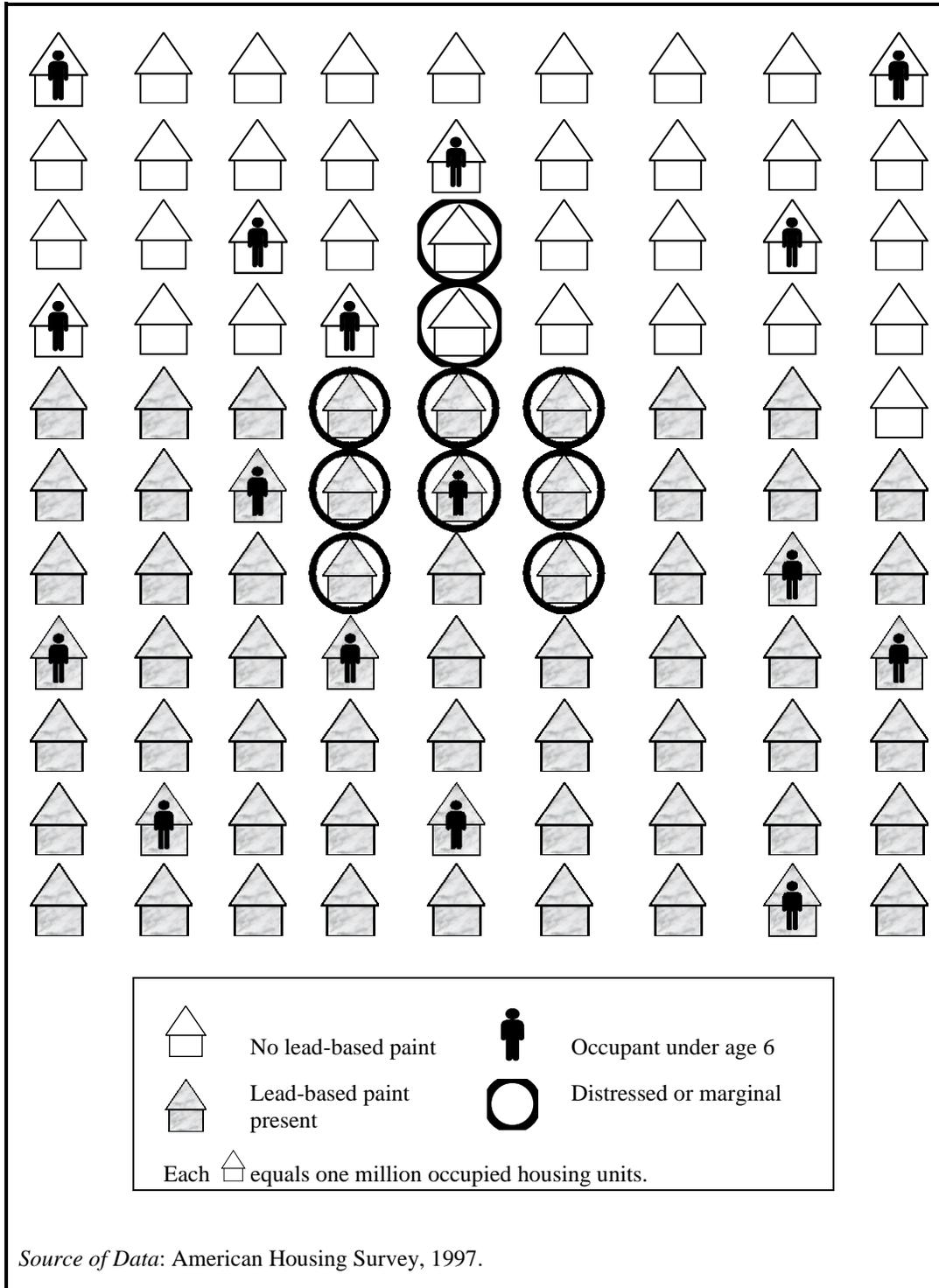
Nevertheless, the other seven million distressed or marginal housing units with lead-based paint cannot be ignored due to the dynamic nature of housing condition and occupancy. A property with lead hazards that is not occupied by a family may poison a new occupant's child in the future. Similarly, poor maintenance or unsafe work practices can create serious lead hazards where they don't currently exist.

Obviously, the units designated as being at highest risk for lead hazards fall along a continuum in terms of both economic viability and physical condition and include distressed units (those already *in extremis*) as well as marginal units (those suffering from poor maintenance or otherwise at high risk of falling into disrepair). This distinction is important, since the strategies developed to stabilize borderline properties are likely to differ from those designed to redeem or relinquish dilapidated ones.

³ For a detailed description of the analysis, see Alliance to End Childhood Lead Poisoning, *Analysis of the Housing Stock* (Washington, DC: Alliance to End Childhood Lead Poisoning, September 1999).

Figure 1

Segment of the U.S. Housing Stock at Highest Risk



Source of Data: American Housing Survey, 1997.

The overall trend is a gradual decrease in high-risk housing as the finite stock of older housing diminishes due to natural patterns of retirement (e.g., demolition, gentrification, and condemnation).⁴ For example, based on an analysis of changes in the housing stock, it is estimated that about 12% of units that were distressed in 1987 were retired permanently over the next ten years. However, remaining units are changing status continually (better or worse) as a result of rehabilitation, changes in neighborhoods or ownership, and other factors. In other words, high-risk housing is continually self-renewing: As historically distressed units are retired from use or improved, other properties slip into distress.

Understanding the Characteristics of Distressed and Marginal Housing

Table 1 provides an overview of the characteristics of the 10 million distressed and marginal housing units compared to the entire U.S. housing stock.⁵ While these characteristics are not used to define the universe of high-risk units, they are critically important to comprehending the size and nature of this segment of the housing stock and to designing effective prevention strategies. For example, strategies to control lead hazards in renter-occupied v. owner-occupied units will differ. Similarly, the occupant's income level affects strategy choice. These characteristics and how they affect the design of effective strategies will be discussed in more detail in Section III.

Table 1

<i>Occupants' Characteristics</i>	<i>Distressed and Marginal Units*</i>	<i>All Housing Units*</i>
Housing Costs More than 50% of Income	3,502,289 (35%)	12,147,978 (12%)
Family Income Below Poverty Level	4,765,439 (48%)	15,391,389 (15%)
<i>Renter and Below Poverty Level</i>	2,761,533 (28%)	8,950,284 (9%)
Elderly Single or Couple	3,101,269 (31%)	20,119,186 (20%)
Child Under Age 6 Present	1,486,873 (15%)	16,435,883 (17%)
<i>Renter and Child Under Age 6 Present</i>	1,052,242 (10%)	6,804,145 (7%)
Race and Hispanic Origin:		
White	6,266,422 (63%)	75,395,488 (75%)
<i>Renter and White</i>	2,846,757 (28%)	20,733,519 (21%)
Black	2,115,147 (21%)	11,847,414 (12%)
<i>Renter and Black</i>	1,357,077 (14%)	6,482,992 (6%)
Hispanic	1,319,937 (13%)	8,512,748 (9%)
<i>Renter and Hispanic</i>	954,154 (10%)	4,866,939 (5%)
Other	310,178 (3%)	3,731,349 (4%)
<i>Renter and Other</i>	6,266,422 (2%)	1,916,503 (2%)
Total Units	10,011,684 (100%)	99,486,998 (100%)

* Number shown in parentheses is the percentage of units in each category (distressed and marginal units and all units) that have each characteristic.

⁴ National Association of Home Builders, *Housing Market Statistics* (Washington, DC: National Association of Home Builders of the United States, June 1999), pp. 12, 38.

⁵ For more details, see Alliance, *Analysis of the Housing Stock*.

II. The Need for Shifts in Perspective

As a nation, we must ascribe greater importance to families having decent housing and change how we address lead hazards. Several fundamental, big-picture shifts in perception and approach are needed to raise the national priority of this issue and maximize our effectiveness in reaching high-risk communities. These are described below.

Make Safe, Decent, and Affordable Housing a National Priority

The remaining core of childhood lead poisoning cannot be solved without confronting its underlying causes – poverty and the steadily worsening housing crisis in the U.S. Real incomes (incomes compared to inflation and cost of living) of low-income families are declining, the supply of affordable housing is shrinking, low-income households are paying an exorbitant share of their income for housing, and their rents are often insufficient to cover operating expenses and preventive maintenance. These converging forces have trapped low-income families in a market with few choices. As a result, low-income children are much more likely to live in older, deteriorating housing that puts their health and well-being at substantially elevated risk.

The importance of decent housing to larger social concerns often is overlooked as specialists tend to focus on segmented issues (e.g., success in school, crime, employment, health, etc.). In addition to "shelter from the storm," housing provides a setting for parents to nurture their children, a place for children to do their homework, and a sense of community and belonging. Improving the nation's low-income housing stock is an investment that will reap multiple dividends, including jobs paying a living wage for community residents; increased property taxes; opportunities for business development; reduced health care and education costs; and improvements in health, the environment, and school performance. Recognition of these truths is crucial to winning widespread support for safe and decent housing as a national priority.

Adopt a Healthy Homes Approach

Lead and other housing-related health issues are interrelated, making it inefficient to address them separately from each other. For example, moisture and water damage, the primary causes of paint deterioration, also contribute to the growth of mold and mildew, which contribute to asthma and other respiratory diseases.⁶ In addition, repairing or replacing windows to reduce lead hazards reduces energy consumption. Therefore, correcting one problem, such as lead-based paint hazards, provides an opportunity to address other housing problems. In addition, taking a holistic approach to environmental health hazards in housing and addressing kindred problems simultaneously (e.g., lead, mold and mildew, pest control, carbon monoxide), reduces the overall cost and increases net benefits.

⁶ R. Rylander and R. Etzel, eds., "Indoor Mold and Children's Health," *Environmental Health Perspectives* 107, Supplement 3 (1999): 463-517.

Shift the Focus from Individual Housing Units to Communities

The national evaluation of the Department of Housing and Urban Development (HUD) lead hazard control grantees has shown much variability in lead hazards from community to community. While peeling paint is a ubiquitous problem, prevailing levels of lead in dust and soil vary significantly.⁷ Other variations among communities include construction type, building materials, housing density, historical traffic patterns, climate, and use of lead-based paint on exterior versus interior surfaces. These differences emphasize the need for strategies tailored to meet the specifics of local conditions.

In many cases, community-wide responses to hazards are more effective than a house-by-house approach. Community-wide risk assessments employing limited environmental sampling can help to focus resources to greatest effect by characterizing hazards and identifying highest risk properties and community hot spots for priority attention. For example, the soil and urban dust in some high-risk communities is broadly contaminated by lead, a problem that cannot be dealt with by treating individual houses.⁸ In some communities a single building component, such as windows, may be a priority hazard, in which case it would be much more efficient for crews specialized in window replacement or window hazard control to blanket a community rather than having certified contractors perform comprehensive lead hazard controls on one house at a time. In addition, focusing on solving community-wide problems rather than abating individual housing units can help revitalize neighborhoods, creating a climate conducive to continued maintenance.

Factor Lead Safety into Decisions and Activities Related to High-Risk Communities

Viewing lead safety as a separate problem and a specialized activity exempts lead from consideration in the multitude of policy, programmatic, project design, and execution decisions concerning high-risk communities. Lead safety clearly is only one of many important factors affecting decisions regarding high-risk communities. However, lead poisoning's pervasive nature and its integral relationship to a host of other important community concerns (e.g., housing condition, community health, elementary education, employment, and economic development) make it imperative for lead safety to be among the criteria weighed at all levels of decision making – from designating communities with priority needs, through targeting resources, to setting priorities for enforcing housing standards.

In some cases, the additional cost related to lead hazard control in obsolete properties of marginal value may tip the scales in favor of demolition, with permanent relocation to alternative housing opportunities provided for displaced families. Condemnation and demolition strategies can be used to accelerate the retirement of obsolete, heavily-leaded, and severely dilapidated housing units in appropriate circumstances. In tight housing markets, condemnation and demolition strategies must incorporate replacement strategies, so that low-income families are not made home-

⁷ National Center for Lead-Safe Housing and University of Cincinnati, *National Evaluation of the HUD Lead-Based Paint Hazard Control Grant Program: Fifth Interim Report* (Columbia, MD: National Center for Lead-Safe Housing, 1998).

⁸ National Center for Lead-Safe Housing, “National Evaluation of the HUD Lead-Based Paint Grant Program” [unpublished data].

less or made to bear unreasonable housing costs. Moreover, condemnation and demolition must not be undertaken in a way that disrupts the organic nature of a community, such as occurred in many urban renewal and redevelopment projects in the 1950's and 1960's.

In addition to factoring lead safety into decisions affecting high-risk communities, all activities carried out in these communities must integrate lead safety. Individuals with minimal training can utilize basic tools such as visual inspections, dust sampling, and safe paint repair to avoid and control hazards. While certain aspects of evaluating and controlling lead hazards do require extensive training or state credentials (e.g., conducting a lead inspection or risk assessment and performing a full-scale abatement project), many activities that improve lead safety are low-tech, common sense, and require neither extensive training nor special credentials in most states.

III. New Strategies for Controlling Lead Hazards in High-Risk Communities

Stabilizing and upgrading high-risk housing and making it lead-safe require new strategies to overcome the obstacles and take full advantage of the opportunities and resources in high-risk communities. In order to make high-risk housing lead-safe by 2010, all of these strategies need to be implemented in a comprehensive manner. Otherwise, we will continue to nibble at the edges of the problem, leaving the core of the crisis intact.

1. Set Priorities and Develop Targeting Strategies

Based on an analysis of available data, we know the dimensions and characteristics of the high-risk housing stock from a national standpoint. Because the nature of the lead problem varies so greatly from community to community, localities are well advised to identify neighborhoods, housing units, and populations at high risk and to develop and target the most appropriate lead poisoning prevention strategies to them.

Designating High-Risk Communities

While high-risk properties may exist anywhere, they tend to be concentrated in economically distressed communities. Although health risks heretofore have not been included as a measure of community distress or a criterion for priority designation, high risk for lead poisoning is a telling indication of distress – as well as an important obstacle to making these communities “livable” and their economic base sustainable.

Appropriate responses in high-risk communities range from ensuring that programs and projects already operating in these communities (e.g., empowerment zones, neighborhood revitalization, and housing rehabilitation) maximally advance lead safety, to prioritizing these communities for effective code enforcement and compliance efforts. At a larger level, lead poisoning needs to be one of the factors considered in allocating discretionary funds such as CDBG and HOME, with special emphasis on rehabilitating declining older properties and assigning high priority to neighborhoods that are lead poisoning hot spots.

HUD’s Consolidated Plan process, which requires state and local governments receiving federal funds to prioritize community and housing needs with input from affected communities, provides an ideal opportunity for localities to identify neighborhoods at highest risk for lead poisoning for targeted attention. In addition, HUD regulations require that the ConPlan include estimates of the number of low-income housing units at high risk for lead hazards, an outline of planned or current activities to evaluate and reduce hazards, and a description of how these activities will be integrated into existing housing policies and ongoing programs.⁹

⁹ 42 USC § 12705(b)(16).

Milwaukee Pilot Ordinance: Milwaukee has targeted two of the city's highest-risk communities with a three-year, proactive pilot project to prevent childhood lead poisoning and maintain housing. The project targets approximately 800 units in two areas of the city found to pose the greatest threat of lead hazards with multiple strategies: landlord outreach and education; code enforcement; lead-safe certification requirement; subsidies for lead hazard control; and a community registry for lead-safe housing. The communities were selected based on lead risk factors, including lead poisoning prevalence rates as determined by health department screening for elevated blood lead levels (66% in one community and 32% in the other), the high proportion of rental housing (75%), and the likely presence of lead-based paint (more than 99% of the properties were built prior to 1950).¹⁰

Target High-Risk Properties

Once high-risk communities have been designated, priority units need to be identified. An analysis of risk factors such as age of housing, code violations, and lead poisoning cases can help target problem properties. As a complement to the use of objective data and surrogate risk factors to establish priorities for lead hazard control, localities also should screen houses for lead hazards (in addition to screening children's blood) as part of an overall community needs and resources assessment. This screening need not employ an exhaustive risk assessment protocol intended to precisely and comprehensively characterize a unit's lead safety status. A visual inspection for deteriorated paint and limited dust wipe sampling can quickly and inexpensively identify houses with peeling paint, other code violations, and lead dust hazards for further investigation and remedial action. Staff of community-based organizations or residents who have been trained as sampling technicians¹¹ can collect these data. The data also can help inform the selection of properties for rehabilitation – or demolition.

Characteristics of the national high-risk housing stock can help guide priority-setting at the state and local levels. For example, the movement of housing between the categories of distressed, marginal, and viable makes it critical to focus attention and resources on both marginal as well as distressed housing, since properties that are marginal today may be distressed tomorrow. This phenomenon also illustrates the need to monitor signs of incipient decay, including outstanding taxes, unpaid utility bills, mortgages in arrears, and exterior physical deterioration, to identify marginal units that are in danger of becoming distressed and target them for proactive measures (such as code enforcement and receivership).

The dynamic nature of this segment of the housing stock suggests a three-fold strategy: (1) reverse the course of deterioration in marginal units; (2) rehabilitate distressed units; and (3) target condemnation and demolition to accelerate the retirement of severely distressed, lead-laden properties. The priorities will vary from locality to locality based on characteristics of the housing market, tenure, physical condition, and available resources. Many communities will desig-

¹⁰ Milwaukee, Wisconsin Code of Ordinances, ch. 66, subch. 3. For more information on the Milwaukee ordinance, as well as other case studies presented in this Action Plan, see Alliance to End Childhood Lead Poisoning, *Innovative Strategies for Addressing Lead Hazards in Distressed and Marginal Housing: A Collection of Best Practices* (Washington, DC: Alliance, 2000).

¹¹ The sampling technician discipline has been created to enable persons with practical training specific to visual inspection and sample collection to perform clearance examinations and thus expand the availability and reduce the cost of clearance testing.

nate distressed units as the initial focus of intervention because of the immediate hazard they pose to young children. Other communities may opt to focus on stabilizing marginal housing to stem the tide of distressed housing and to make a much larger segment of the low-income housing stock lead-safe with available resources. However, communities that opt to address marginal housing first may need to develop a relocation strategy for families living in distressed housing.

In either case, the presence of lead hazards deserves consideration in decisions on how to invest funds available for rehabilitation. In some cases, the existence of lead hazards should elevate a property's priority for rehabilitation funding. In other cases, consideration of the additional cost related to lead hazard control in an obsolete and unredeemable property of marginal value might tip the scales in favor of demolition – coupled with relocation and, in tight housing markets, one-for-one replacement.

Target High-Risk Populations

Occupant characteristics, including householder age, the presence of a young child (especially an already-poisoned one), race, and tenure (renter v. owner-occupied), should be taken into consideration when setting priorities and developing strategies for housing interventions. Obviously, units with young children are a higher priority for lead poisoning prevention than elder-occupied units. However, due to the high rate of mobility among low-income families, this strategy's effectiveness declines over time. Ultimately all high-risk units (both distressed and marginal) must receive attention, since even units currently occupied by elderly occupants often are frequented by young children and someday may be occupied by families with young children. In addition, race and tenure will affect decisions on strategies used, since low-income tenants, especially those of color, may have limited housing choices precluding them access to alternative lead-safe units. Strategies that do not take into account unintended consequences, such as gentrification, could result in the displacement and even homelessness of low-income tenants. Also, the use of code enforcement and financial incentives will differ depending on whether the unit is a rental or owner-occupied unit.

It is also important to target high-risk populations, such as pregnant women and children enrolled in Medicaid. Tailoring strategies to meet the special lead safety needs of families with young children can make a great difference. In particular, efforts are needed to match families with young children with units that have undergone lead safety treatments or passed clearance after extensive rehabilitation so as to maximize the health benefits realized from rehab investments. Targeting high-risk populations also can be a useful method for identifying high-risk housing units and prioritizing them for immediate action.

Conversely, it is vitally important that a unit that has already poisoned one child not be occupied by another family with a young child until all lead hazards have been controlled and its safety has been verified. The presence of an EBL child should be a trigger for code enforcement and lead hazard control, not just in the unit of the affected child, but in all units of a multi-unit building. This approach will benefit all building occupants, as well as visiting children and future occupants of the property.

Of course, this assumes that EBL children are being screened and identified. The health system's screening efforts also should target high-risk children, particularly those enrolled in Medicaid. Despite the fact that children served by Medicaid are at extremely high risk and a federal law requires that all Medicaid children are screened, poor lead screening rates and inadequate policies for responding to poisoned children prevail.

First-time homebuyers, often young families or couples planning children, are another high-risk population. Home-buying programs should make every effort to match families with lead-safe housing or provide them with the necessary information and resources to make them lead-savvy consumers.

2. Mainstream Lead Safety

The historical approach of addressing one housing-related health hazard at a time (first asbestos and now lead) is inefficient and reinforces overspecialization, encouraging other trades to believe, "Lead safety is not my job." The urgent need to address lead hazards in high-risk communities demands that lead safety be integrated into all activities that involve paint in older properties, such as turnover treatments, maintenance work, repainting, and rehabilitation projects. In addition to addressing millions more units than will ever be affected by stand-alone lead hazard control projects, integrating lead safety into ongoing activities often can be accomplished at relatively modest additional cost.

HUD already has overhauled its lead safety regulation covering virtually all federal housing and community development programs, including Section 8, CDBG, HOME, and numerous other programs. This regulation requires attention to lead safety in millions of properties receiving federal assistance. Because federal housing and community development assistance primarily benefits low-income housing, this regulation can substantially advance lead safety in communities at high risk. In addition, carrying out the regulation effectively requires building the capacity of painters and rehabilitation workers with basic training in lead safety, which also will increase the supply of these workers for non-federally subsidized housing. State and local governments, housing owners and managers, and those involved in painting and rehabilitation all share responsibility for quickly building the needed capacity. HUD must make capacity building and enforcement of these lead safety requirements a priority.

While the new HUD regulation will address lead safety in hundreds of thousands of units with lead-based paint affected by federal funding, this leaves millions of unsubsidized units untouched in high-risk communities. The challenge is to integrate lead safety into work being done in privately owned, non-federally-subsidized low-income housing. In most cases, maintenance is inadequate in this segment of the housing stock. However, there are indications that *some* repainting and maintenance is done in all but the most dilapidated rental units,¹² a circumstance that presents an opportunity for lead-safe paint repair and control of lead dust hazards.

Control, Contain, and Clean Up Lead Dust

Research and real-world experience now make clear the urgent need for all those whose work

¹² Bureau of the Census, *Property Owners and Managers Survey* (Washington, DC: Bureau of the Census, 1995).

involves disturbing or repairing painted surfaces in older housing to change their work practices to control, contain, and clean up lead dust. At the most basic level, these changes include avoiding unsafe practices that spread lead dust and fumes (e.g., open flame burning and uncontrolled power sanding); protecting occupants' belongings from contamination; keeping children and pregnant women out of the work area; covering the floor in work areas with plastic sheeting; using a HEPA vacuum instead of a regular vacuum or a broom to clean up visible debris at the end of each work day; and doing a wet cleanup at the end of the project, using a mop and good detergent and separate buckets for soapy and rinse water. To be sure that lead dust hazards are not left behind, clearance testing of the work area should be performed.

Integrate Lead Safety into Building Maintenance

Good maintenance prevents lead hazards by keeping paint intact and promptly addressing underlying conditions that lead to its deterioration. Integrating lead safety into maintenance work provides additional opportunities to monitor paint condition and control lead hazards in the course of repair work. Homeowners, rental property owners and managers, maintenance workers, and painters working in high-risk units need to take advantage of opportunities to control lead hazards in the course of regular maintenance work. In addition to preventing the creation of lead hazards by adopting lead-safe work practices, good property maintenance avoids lead hazards in the first place: doing annual visual checks for paint deterioration; promptly and safely repairing peeling paint and its underlying causes (e.g., water damage or moisture); making floors smooth and cleanable for removing lead dust; and using every opportunity to advance lead safety at unit vacancy. Rental property owners and managers need to take extra steps, such as requesting that tenants report peeling paint (and making it easy for them to do so), having their crews conduct visual inspections for peeling paint whenever they visit a property, and including lead-safe practices in contract specifications.

Vermont Essential Maintenance Practices (EMPs): Under Vermont law, rental property owners are required to carry out a number of measures to protect occupants from lead paint and dust hazards, including EMPs. Except in post-1978 properties and properties at which a certified lead inspector has documented that no lead-based paint is present, rental property owners and day care providers must perform an initial visual inspection for interior and exterior deteriorated paint and subsequently at unit turnover; complete specialized cleaning at unit turnover; install window well inserts in all units and common areas accessible to children; avoid unsafe work practices and follow recommended dust control procedures when disturbing paint; post a notice asking building occupants to report deteriorated paint to the property owner; and perform annual specialized cleaning of window wells/sills in units with children age six or younger.¹³

¹³ Vt. Stat., tit. 18, § 1759 (1997).

Address Lead Hazards During Building Rehabilitation

Rehabilitation and weatherization projects can contribute significantly to lead safety through their enlightened design and conduct. The design and specifications for these projects should recognize that certain building components and rooms deserve priority attention. For example, old windows are often a major concern for lead hazards.¹⁴ When other work is underway, window troughs can be capped with vinyl or aluminum coil stock at very low additional cost, which makes it easier to remove lead dust in the future. Similarly, windows and doors can be adjusted at relatively low cost to prevent friction, which crushes paint and generates lead dust. In many cases, lead safety considerations may tip the scales in favor of window replacement, which provides energy conservation and aesthetic benefits as well as long term lead safety.

St. Paul Weatherization Program: The St. Paul, MN, Health Department supplements the city's ongoing weatherization program by including targeted lead hazard control activities in high-risk housing with a child under age six. Window wells are capped and a thorough cleaning of windowsills and floors is completed using a wet wash and HEPA vacuum. Pre- and post-intervention dust samples are collected to verify that the unit meets dust clearance standards.

Encourage Widespread Visual Inspections and Dust Testing

Because lead-contaminated dust is invisible to the naked eye, dust testing is the only way to be sure that sufficient dust control and cleanup procedures were followed during maintenance, repainting, and rehabilitation work. The training, credentials, and judgment of a lead inspector or risk assessor is required to declare a property safe for legal purposes, to identify hazard control alternatives, or to evaluate an entire multifamily property's lead safety. However, a new discipline, the sampling technician, has been created to expand the availability and reduce the cost of clearance testing utilizing personnel equipped with practical training specific to visual inspections and dust sample collection. Demand will grow for this discipline in response to the HUD regulation, which requires clearance testing after almost all federally-funded painting and remodeling work. Sampling technicians can help to fill this niche at a reasonable cost. States will have to certify this discipline before sampling technicians will be widely available to provide clearance for federally-funded projects.

Development of an affordable, instantaneous, and simple test for lead-contaminated dust would dramatically simplify clearance testing and encourage its widespread implementation. If property owners and contractors could ascertain on the spot whether harmful levels of lead-contaminated dust were present it would increase the ease, availability, utility, and routine use of dust testing. Contractors would know whether more cleaning is needed in order to remove harmful lead dust before they leave the site. If the test is simple to administer, it could be performed by individuals with minimal training. HUD and/or EPA could aid the development of such testing through research and technical evaluation.

¹⁴ B.P. Lanphear and K.J. Roghmann, "Pathways of Lead Exposure in Urban Children," *Environ Results* 74(1) (1997): 67-73.

3. Make Housing Maintenance a Priority

Integrating lead safety into ongoing maintenance work is a step in the right direction, but much more needs to be done since high-risk units usually have other code violations and often have structural defects. The strong link between housing condition and the probability of lead exposure provides an opportunity to correct and prevent lead hazards by designing strategies to encourage and compel good maintenance. These include enforcing housing codes, providing financial incentives, and taking control of the property when all else fails.

Enforce Housing Standards

Effective legal interventions are a prerequisite for arresting housing deterioration and neighborhood blight. The development of housing codes and derivative remedies, such as the implied warranty of habitability, attests to the inadequacy of pure market-based solutions. Local governments have been reluctant to enforce housing codes and standards out of fear that the burden of meeting such standards would encourage property owners to “abandon” their properties. At the very least, the argument goes, enforcement could diminish the supply of affordable housing. However, this lack of enforcement has left low-income families with little hope of living in a safe and decent environment and relieved landlords of accountability for the condition of their properties. A recent revival of housing code enforcement programs addresses this problem. Some localities have mitigated unintended consequences by effectively combining enforcement efforts compliance assistance.

Los Angeles Systematic Code Enforcement Program: This program, run by the L.A. Housing Department, is designed to ensure that tenants have a safe and habitable place to live by improving the condition of distressed housing and preventing marginal housing from becoming distressed. Under this program, all rental properties containing two or more units in the City of Los Angeles are inspected at least once every three years. To achieve this objective, the city has hired 67 new housing inspectors, funded by a \$12.00 per unit annual fee paid by property owners.¹⁵ Low-income tenants and at least one large property owner association came together in support of the program. Reportedly, code compliance already has improved. (Unfortunately, the department has resisted advocates' pleas to specifically address lead hazards and other environmental health hazards in the housing code and enforcement efforts. For example, if these housing inspectors were to receive one-half day of training as sampling technicians, they could collect lead dust samples at low cost in the course of routine visits. The extra cost of training and dust sampling could be offset with a modest increase in the annual fee.)

Even in communities where housing codes are enforced, measures need to be taken to ensure enforcement efforts are effective. For example, often a notice of violation will lead to a vacancy – as long as the property is not occupied, compliance is not required. Once inspectors have turned their attention elsewhere, the owner is able to “sneak in” a new tenant. In addition, while enforcement programs will reduce the creation of lead hazards indirectly by improving overall maintenance, more needs to be done to address lead hazards specifically. For example, chipping and peeling paint (regardless of its lead content) is a code violation in most jurisdictions, but it is

¹⁵ Los Angeles, California Mun. Code, ch. XVI, art. 1, §§ 161.101 *et seq.*

normally viewed as an eyesore rather than a potentially serious health hazard and is rarely cited as a violation.

Code inspectors should give priority to neighborhoods at high risk for lead poisoning, to properties that have poisoned a child in the past, and to "problem landlords" who may own multiple high-risk properties throughout the community. Every code inspection visit, in addition to checking for other important code violations, should examine lead safety by routinely performing a visual check for peeling paint and taking limited samples for lead contaminated dust. To make this possible, all code inspectors should receive training on lead-based paint hazards and sampling techniques.

Provide Financial Incentives

One way to maximize the effectiveness of housing code enforcement is to couple it with financial incentives. These can range from direct subsidies, through loans with favorable terms, to tax benefits. To determine the incentive that will be the most effective, while minimizing the burden on governments and taxpayers, the economics of the property and the owner's ability to pay must be considered on a case-by-case basis.

Milwaukee Pilot Ordinance: This pilot ordinance induces rental property owners to conduct EMPs by using a combination of financial assistance stiff financial penalties for non-compliance. MHD will cover the cost of 100% of window abatement work or 50% of all necessary work, providing that lead hazard control work is conducted by certified contractors in accordance with MHD's scope of work, property taxes are current, there are no outstanding building code violations, and units are made available to low- or very low-income tenants.¹⁶ Non-complying owners are subject to fines up to \$5,000 per property. Six months into the program, this combination of strategies had achieved an impressive rate of compliance, with over one third of the target units already certified as lead-safe.

The fact that a high percentage (47%) of rental property owners report that they net less than \$100 per month in income and some owners report zero net income,¹⁷ points to the need for expanded subsidies to cover expenses and ensure habitability, including lead safety. At the same time, however, at least 40% of both tenants and homeowners living in distressed units spend more than \$500 on their monthly housing costs. Considering that the mean monthly operating cost for rental housing, including maintenance, is under \$300 per month,¹⁸ it appears that many tenants in high-risk units are not getting what they pay for. As a result, rent levels are one factor that should be taken into consideration when allocating and designing subsidies.

Borrower ability to pay is another factor that must be taken into consideration. Communities with very tight housing markets sometimes have surprisingly high rent levels and market values, even for substandard housing in severely economically distressed neighborhoods. In these cases, market financing may be sufficient to rehabilitate properties to meet code (and lead-safety) requirements. Even in communities with soft housing markets, low rents, and depressed property

¹⁶ Milwaukee, Wisconsin Code of Ordinances, ch. 66, subch. 3 and Analysis.

¹⁷ Bureau of the Census, *Property Owners and Managers Survey*.

¹⁸ *Ibid*.

values, some property owners may have either the ability to finance rehabilitation or sufficient equity to borrow.

In many cases, property owners use financial inability to pay as a defense against code enforcement actions. An apparent tendency exists to view the financial viability of landlords in terms of static income stream analysis. The burden of proof should be on the property owner to present verified accountings or certified audits to support such claims. In addition, a dynamic analysis must be applied to the property in question: What is its past, present, and future value? Moreover, scrutiny of financial inability claims should extend beyond the property in question and encompass the entire universe of a landlord's assets. Because many high-risk properties are held in corporate or partnership form, it is not always easy to identify responsible owners and managers. In cases where the landlord has sought to conceal his or her assets illegally – for example, through sham corporations¹⁹ – a relatively sophisticated analysis is required to “pierce the corporate veil” of ownership. Local rental licensing programs can help address the problem of absentee landlords and hidden ownership by requiring the designation of a local agent.

New Jersey Multiple Dwelling Registration and Inspection Program: Under New Jersey’s Hotel and Multiple Dwelling Law, owners of buildings containing three or more units must submit a certificate of registration and a \$10 fee for each building owned. If the property is owned by a corporation, the company must be registered to do business in New Jersey. Corporate owners also must indicate the name and address of the corporation’s registered agent and identify the corporate officers. If the property is owned by a partnership, the registration form must disclose the names of all general partners.²⁰ The Bureau of Housing Inspection has also used this information to identify and locate owners of multifamily properties with code violations and to help “pierce the corporate veil.”

Public Subsidies. Subsidies can range from loans with favorable financial terms (e.g., low interest rates, high loan limits, high debt to value ratio, and low down payment/security) to outright grants. In between are hybrids, such as deferred payment loans and grants repayable upon sale. The credit-worthiness and income of the borrower and the condition, cash flow, and value of the property will determine the appropriate subsidy. When designing subsidy programs, safeguards must also be taken to ensure that properties that benefit from such grants remain available to low-income families at affordable rents, by such methods as forgiving grants if owner-occupants sell to another low-income family or requiring rental property owners to enter into affordability agreements with terms commensurate with the amount of public subsidies provided. In some cases, rental assistance will need to be provided to low-income families who cannot afford to stay in the unit even at affordable rent levels. Providing subsidies in the form of tenant-based rental assistance, rather than property-based assistance, also gives renters more power in the low-income housing market, since they can use the subsidy to move to a better unit.

State Tax Credits. Some states have enacted laws that authorize taxpayer credits on state income taxes for implementing lead hazard control activities. Especially in times of budget deficits, tax credits provide a more politically palatable means of providing assistance (i.e., forgone revenues

¹⁹ For example, in Baltimore one super slumlord owns more than 1000 dilapidated properties, which are held by 70 corporations. See, “A Lord of the Slums Takes an Apprentice,” *Baltimore Sun* 19 December 1999.

²⁰ N.J.S.A. §§ 55:13A-1 *et seq.*

versus on-budget expenditures). However, all income tax credits face the serious and inherent limitation that they provide no benefits to owner-occupants and rental property owners who have no tax liabilities or who do not itemize deductions.

Massachusetts Tax Credit Program: Anyone who has an income tax liability, including owner-occupants, renter-occupants, or rental property owners, and pays for measures to control or abate lead hazards qualifies for Massachusetts' state income tax credit for up to \$1500 for abatement or up to \$500 for lead hazard control work.²¹ Some 4300 taxpayers claimed the credit in 1994 (the last year for which statistics are available). More than half of the households benefiting from the credit had an annual income of less than \$50,000, which demonstrates that the credit is likely benefiting occupants of marginal (and possibly even distressed) housing.

Property Taxes. State and local governments can encourage investments in lead safety or overall maintenance and property rehabilitation through granting exemptions, reductions, rebates, or forgiveness of property taxes, which represent a "bottom line" out-of-pocket cost to all property owners. For example, property owners that properly maintain their properties and keep units affordable could be given a tax break or charged no tax at all. State and local governments also need to review property tax rates regularly to ensure that tax valuations are accurate, since overly high taxes can prevent owners from realizing revenue adequate to cover maintenance costs. Some jurisdictions have sought to modify the practice of taxing based on assessed value, out of concern that the assessment process penalizes those who maintain or improve their homes through increased taxes, while rewarding those who let the value of their property decline.

Gain Control of Problem Properties

In many communities, owners of high-risk housing, especially smaller owners, could easily be encouraged to divest of their properties. Strategies need to be developed to make it easier for these owners to do so. Such strategies should be coupled with financial incentives to the new owners to correct hazards and maintain the affordability of the property.

When a landlord fails to correct code violations despite repeated notices and/or fines, strategies are needed to put the property back to publicly beneficial use. There are a variety of options: rent escrow/abatement, receivership, and condemnation. Which option will be most effective depends primarily on two considerations: (1) the condition of the building and (2) the current or potential cashflow generated by the property. Ideally governments would employ one of these options to gain control of the property and turn it over to the tenants, a nonprofit housing provider, or a private interest that has agreed to maintain the property and keep it available as low-income housing.

4. Build Community Capacity

To maximize their long-term effectiveness, lead poisoning prevention strategies should be designed to involve community members, build community capacity, and reap community-wide benefits.

²¹ Mass. Gen. Laws ch. 62, § 6(e).

Use Lead Safety to Galvanize Communities

Community-based organizations need to recognize that lead safety is an important need in most communities with an older housing stock and that, in city after city, lead poisoning has been demonstrated to be a galvanizing issue for organizing community members. Depending on community needs, lead poisoning prevention can offer a rich and diverse menu of organizing objectives, including, tenant rights, affordable housing, code enforcement, community health, environmental protection, education, civil rights, community revitalization, job training, employment, and business creation.

Milwaukee Coalition-Building: Wisconsin Citizen Action (WCA) led a successful 20-month campaign to pass a law which established a three-year pilot project that requires all pre-1950 rental units in two high-risk neighborhoods to meet mandatory lead safety standards. WCA was successful in mobilizing parents of lead-poisoned children and more than 30 local organizations to support the cause, including community groups, churches, health clinics, unions, teachers, nurses, the Black Health Coalition, lead abatement contractors, and others.

Create Community-Based Delivery Systems

Preventing lead poisoning also presents multiple opportunities for building long term capacity within high-risk communities. Increasing job training and employment opportunities for residents of high-risk communities brings multiple benefits, including improved skills for the residents involved; greater economic self-sufficiency; and reduced unemployment, delinquency, and crime. To realize these benefits, there must be a fundamental shift in how lead hazard control services are delivered – from reliance on outside contractors to creating community-based businesses that train and employ residents.

CLEARCorps: CLEARCorps was developed through an AmeriCorps grant to the National Paint and Coatings Association and the Shriver Center at the University of Maryland Baltimore County. CLEARCorps targets its efforts toward at-risk populations in about a dozen cities. The CLEARCorps approach includes community strengthening, community education, parent and landlord education, lead hazard control, and corps member development. By training individuals from the community and partnering with community-based groups in the cities where they work, CLEARCorps demonstrates how local communities can maximize resources and positive effects by relying on community participation. However, the effectiveness of the CLEARCorps approach in reducing dust lead levels in the long term (and thus blood lead levels of residents) has yet to be rigorously evaluated.

Community projects that train and utilize local residents to identify and document maintenance, deterioration, and lead hazards can evaluate more homes at lower cost than would be otherwise possible. Community watch programs could be engaged to identify and report signs of neighborhood decay to trigger follow-up code inspections. Community residents could be trained as sampling technicians to identify high-risk properties needing follow-up inspection and enforcement.

To achieve lead safety, there will be a continued need for certified individuals and businesses to provide lead hazard control services. There are many barriers to community contractors participating in the competitive bidding process for these jobs, such as training and insurance costs. State and local governments should take measures, utilizing Section 3,²² small business creation programs, and job training and employment programs, to support community-based lead hazard control businesses by helping them overcome barriers to entry and become competitive. As governments advertise for competitive bids, packaging projects in smaller scale will give small, community-based contractors a chance to compete with larger, better-established contractors.

The long-term advantages of a community-based approach are many. It helps create delivery systems that are more responsive to community needs. Employment in the community will rise, money spent on these projects will stay in the community, and overall economic viability of the community will improve as a result. In addition, training community members in lead safety creates a cadre of lead-savvy professionals in the community, helping to ensure that continued monitoring and lead-safe maintenance takes place.

Make Housing Information Available to Communities

Data collected in the course of housing code enforcement and lead hazard control activities should be documented and made publicly available. For example, inspection data and dust sampling results can provide the basis for a lead-safe housing registry. Information that portends neighborhood blight, such as code violations, tax delinquencies, and other problems can also help communities identify lead poisoning hot spots.

Neighborhood Knowledge Los Angeles (NKLA): NKLA, run by the UCLA Advanced Policy Institute, serves as an early warning system for deteriorating properties by tracking multiple data points for properties throughout the city and making the information publicly available on a website. The website concentrates on the types of information that indicate properties in danger of decline, such as code complaints, tax delinquencies, and utility liens. The project has sought to make the site widely accessible by translating it into Spanish; creating computer-equipped community technology centers; and providing free training to community development workers, neighborhood and tenant organizations, students, and legal services providers. The information has proven invaluable to tenants and community-based groups working to improve housing and neighborhoods. For example, Concerned Citizens of South Central Los Angeles uses the database to identify properties that are delinquent on taxes or subject to foreclosure, then purchases these troubled properties and assists first-time home buyers to acquire and improve them.

²² Section 3 of the *Housing and Urban Development Act of 1968* is a regulatory tool designed to create work and apprenticeship opportunities for public housing and other residents in the neighborhoods where HUD allocates housing and community development spending.

5. Develop Appropriate Educational Messages and Training Courses

Education plays an important role in advancing prevention by meeting multiple audiences' diverse informational needs. The purposes of education are to raise awareness and change attitudes, impart information intended to change behavior, and provide more formal training to build competency in particular skills.

Raise Awareness and Change Attitudes

Both the public at large as well as policy makers need a general understanding of key aspects of lead poisoning, its causes, its solutions, and why the prevention of childhood lead poisoning is a vital first step in achieving other important social goals. A broad-based national education campaign is probably the most effective means to increase awareness and enlighten attitudes. Broad appreciation of the following points will provide a foundation for more targeted and specific messages: young children are still at risk for lead poisoning, prevention is the solution, good maintenance is critical to controlling lead and other serious environmental health hazards in housing, peeling paint usually presents the most serious risk, lead dust is the foremost pathway of poisoning, modest changes in repainting and remodeling work practices can avoid lead hazards, and decent housing is key to the nation's social fabric due to its connection to other social problems (e.g., education and juvenile delinquency).

In order for systematic change to take place, educational efforts must inform the various stakeholders of their role in prevention activities. Examples of stakeholders include rental property owners and managers; parents, prospective parents, and care givers; homeowners; housing counselors; painters, remodelers, and maintenance staff; lenders and insurers; community-based organizations; health care providers; and policy makers.

Develop Appropriate Messages and Materials for High-Risk Families

Special efforts need to be made to reach high-risk populations with relevant messages. In addition to information about changing parental behavior on a day-to-day basis (e.g., hygiene and nutrition), parents need information to make them informed consumers in seeking lead-safe housing. Similarly, tenants need to be informed of their legal rights. Those families unable to find lead-safe housing need to know what steps they can take to protect their children, understand the importance of reporting paint deterioration to property owners, and how to complain to local agencies if the landlord fails to respond. Reaching families at highest risk requires educational materials that are easily understandable to parents with low literacy and/or for whom English is their second language.

Another critical need is educational materials for families transitioning from tenants to homeowners. The risk of lead poisoning for first-time homebuyers remains significant if they purchase older homes, especially if they intend to perform maintenance and remodeling work themselves. It is therefore critical to inform these families about lead hazards, including how to identify and safely control lead hazards, how to protect children during the work, and the availability of financing. Housing counseling services and home buying programs would offer a logical channel

through which to disseminate this information, and these services should consider providing training in lead-safe work practices to buyers of older properties. In addition, lenders making loans to first-time home buyers should provide lead-safety educational materials to borrowers.

Develop and Provide Training Courses to Build Necessary Skills

Delivering specific, detailed knowledge about working safely with lead paint and collecting environmental samples requires more intensive training. One important purpose of training is to broaden the array of individuals available to deliver lead safety to high-risk communities beyond the traditional certified lead services. Strategies are needed to make training courses widely available at low or no cost and to provide incentives to owners to get their workers trained. Making practical information and basic training in lead safety widely available through various media (including conventional training courses of one day or less and virtual training through the Internet) would facilitate reaching maintenance workers, painters, and others. In addition, job training and employment programs (e.g., Job Corps, Youthbuild) geared toward welfare-to-work and other low-income populations should include lead safety in any construction-related training and provide more advanced training on essential maintenance practices and lead hazard control.

Professional associations (e.g., property managers, painters, remodelers), state and local government agencies, community colleges, and nonprofit organizations should provide training courses in the disciplines discussed below. Incentives should be developed to encourage property owners and contractors to get their workers trained, including legislative and/or regulatory requirements for painters and remodelers to have basic training in lead safety, if necessary.

Sampling Technician. The Environmental Protection Agency (EPA) sampling technician course trains individuals to conduct post-activity clearance testing (visual inspection as well as environmental dust sampling). In addition to conducting clearance dust testing, sampling technicians can help to screen high-risk properties in distressed and marginal communities to identify properties for more intensive evaluation and hazard control. To increase the availability of people qualified to perform clearance dust testing, it would be useful to train as sampling technicians a broad array of individuals, including health department, housing agency, and code enforcement staff; Housing Quality Standards inspectors; nonprofit housing providers; appraisers; home inspectors; tenants; rehabilitation supervisors; staff and volunteers of community-based organizations; homeowners; and consumers.

Lead-Safe Work Practices and Safe Repainting Courses. The federal guide, *Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work*, provides easy-to-understand information about integrating lead safety in painting, maintenance, and renovation work. Another training need is for instruction in Essential Maintenance Practices. An example of such a course is a one-day training course in lead safety for rental property maintenance supervisors and their staff (now available through HUD User). Painters, remodelers, and maintenance workers need sufficient understanding of lead hazards to recognize when the scope of the job exceeds their skills and requires calling in an abatement contractor or other lead expert.

Vermont Training Course: Vermont law requires rental property owners, day care providers, or a representative from their maintenance staff to attend the EMP course developed by the Health Department (VHD).²³ Three years into implementation, over half those affected by the requirements have attended the three-hour course. A VHD evaluation of the training documented that the vast majority of students retained key information at least six months after taking the course, which bodes well for lead-safe work practices being integrated into maintenance work in the long term.

6. Increase Resources

Implementing the strategies recommended in this plan, from providing training to enforcing housing codes, will require additional resources. Public resources should be coupled with appropriate affordability agreements so that the benefits of public resources will continue to flow to at-risk families. Otherwise, there is a danger that at-risk families will lose their housing as a result of increased rents or neighborhood gentrification – two potential unintended consequences of improved maintenance and lead hazard control investments. One way to avoid this negative outcome is to find new sources of funds to cover the cost of lead hazard control. This section offers strategies for securing additional resources for preventing lead poisoning in high-risk communities.

Manufacturers' Liability

Working with attorneys involved with successful asbestos and tobacco suits, state and local governments, as well as classes of individuals, are now suing the lead industry, including the manufacturers of lead-based paint products, for alleged wrongful marketing of lead-based paint in the face of compelling evidence of its harmful effects. While outcomes of this potential litigation cannot be foreseen, it is vital that any proceeds be dedicated to controlling lead hazards in high-risk housing.

Secure Hazard Control Resources from Health Insurance Programs

Reducing a child's exposure to lead is the universal "prescription" for lead-poisoned children. In addition, addressing sources of lead in the environment and preventing further exposure reduces health care costs for poisoned children as well as future occupants. Therefore, it is in the best interest of health insurance programs (including Medicaid, Children's Health Insurance Programs, and private health insurance) to fund the costs of treating the illness by identifying and controlling lead hazards in the child's home, in addition to financing conventional clinical care. Billing private health insurance plans for services currently being provided by health departments at no charge (such as environmental investigation or emergency intervention) to enrolled children also frees up resources for highest risk housing and families, who are unlikely to be enrolled in private insurance plans. Pending national legislation, which would authorize bonus funds for lead

²³ Vt. Stat., tit. 18, § 1759 (1997).

hazard control to states that achieve high levels of screening for lead poisoning among children enrolled in Medicaid, is another potential source of funding.

Rhode Island (RI) Medicaid-Funded Window Replacement Program: Under this program, window replacement – the most common lead hazard – is a Medicaid-reimbursable service in units where poisoned children have been identified. Rhode Island was able to request permission to add the window replacement benefit as part of a Health Care Financing Administration program provision known as the 1115 waiver, which encourages states to develop demonstration programs to reduce Medicaid costs and allows them to apply cost-savings to innovative health strategies. The state anticipates spending an average of \$1830 per unit in 100 to 200 units in which a child's EBL is linked to lead-painted windows.

Expand and Target Existing Federal Grant Programs

HUD should expand its Lead Hazard Control and Healthy Homes grant programs to reach many more housing units than is possible at existing funding levels. In addition, programs that are geared toward housing rehabilitation, job and business creation, and other related issues should be expanded and adjusted, as necessary, to maximize lead hazard control in high-risk communities. For example, HUD, EPA, the Department of Health and Human Services, the Department of Labor, the Department of Agriculture, and other federal agencies should incorporate lead poisoning risk as a selection criterion for priority designation. State and local governments and the private sector, which have broad discretion and flexibility in allocating resources, need to consider lead risk when they allocate discretionary funds such as CDBG and HOME, particularly in jurisdictions that have lead poisoning "hot spots." HUD and state and local governments also should consider allocating a portion of HOME and CDBG funds to programs that promote essential maintenance practices and turnover treatments.

Special Enforcement and Compliance Mechanisms

Supplemental Environmental Projects. In the process of negotiating civil remedies for the violation of environmental laws and regulations, EPA may accept as partial settlement an agreement by the violator to conduct voluntary initiatives that provide larger community-wide prevention benefits. For example, in enforcing Title X's disclosure requirements, EPA could negotiate consent orders authorizing community-based prevention projects funded by the defendants, rather than merely securing compliance with the Act's reporting requirements.

Contaminated Site Cleanup Agreements. Agreements between federal and state environmental agencies and "responsible parties" for the cleanup of contaminated Superfund and hazardous waste sites sometimes include funds to address community-wide environmental problems. Funds for lead hazard control could be included in such agreements if this is a community priority and acceptable to both the enforcement agency and responsible party. Additionally, the federal government could create a national fund using proceeds from environmental settlements to address worst-case lead poisoning risks and pay emergency relocation costs.

EPA's Project XL. Over the past several years, EPA has adopted a more flexible approach to enforcing its regulations and standards in cases in which alternative measures can be shown to pro-

vide greater environmental and health benefits than strict compliance. Project XL offers a vehicle for compelling municipalities, utilities, and corporations that fail to comply with environmental laws to address lead hazards in high-risk communities.

Encourage Lenders to Contribute to Lead Hazard Control

The Community Reinvestment Act encourages financial institutions to reach underserved constituencies (typically residing or invested in distressed and marginal communities). Financial institutions which tailor loan products, investments, and services to advance the goal of lead poisoning prevention are participating in an activity that qualifies for CRA credit. State and local governments can further encourage private lenders to invest in lead hazard control through Incentive-Deposit and Linked Deposit programs. Incentive-Deposit programs direct public funds to specific banks based on their performance in meeting specific local credit needs (e.g., below-market interest rate loan products for lead hazard control). Conversely, deposits may be withdrawn or withheld from banks that fail to support identified priorities. Linked Deposit Programs enable states and localities to earmark a portion of government deposits to serve pressing credit needs by accepting a lower interest rate for these deposits.²⁴

Municipal Bonds, Earmarked Appropriations, and Dedicated Revenue Streams

Funds can be allocated for lead hazard control on bond issues approved by voters and in state and local appropriations. Lead hazard control could be included either as a separate category or as part of a larger bond issue for environmental protection, affordable housing, or children's welfare. For example, funds can be dedicated for window replacement, which is often the most expensive part of lead safety interventions.

²⁴ Alliance to End Childhood Lead Poisoning, *Innovative Financing Sources for Lead Hazard Control* (Washington, DC: Alliance, 1996).

IV. Conclusion

The causes of and solutions to lead poisoning are well understood. We know the dimensions and characteristics of the housing stock at highest risk for lead hazards, the sources and pathways of exposure, and the most effective methods to control sources. At the same time, the characteristics of high-risk communities across the country (and even within localities) vary considerably in terms of construction type, housing market conditions, housing standards and enforcement, climate, mobility and turnover, and similar indicators that affect housing durability and condition. This variation combined with the multitude of problems these communities face (crime, failing schools, unemployment, poverty, etc.) makes it impossible to identify a universally-applicable strategy that will solve the remaining core of the lead poisoning problem by the year 2010. Successfully protecting children at highest risk for lead poisoning instead will require both bold shifts in perspective and a combination of innovative strategies.

This Action Plan identifies the big picture changes that need to take place as well as the wide range of strategies that could be brought to bear in high-risk communities. As the Plan demonstrates, communities around the country have developed and successfully implemented replicable programs. Each locality will have to determine which measures make sense given local conditions and how the strategies will have to be adapted to meet local circumstances and needs. It is our hope that this Plan serves as a useful blueprint for the dedicated individuals working to prevent lead poisoning at all levels.

Appendix A Key Resources

This section contains selected key resources that may provide useful background information to the reader. It is not intended to be an exhaustive list of all documents related to lead poisoning prevention.

Alliance to End Childhood Lead Poisoning. *Analysis of the Housing Stock*. Washington, DC: Alliance, 1999.

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Centers for Disease Control and Prevention. *Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials*. Atlanta, GA: CDC, 1997. www.cdc.gov/nceh/programs/lead/guide/1997/guide97.htm

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Dixon, Sherry; Tohn, Ellen; Rupp, Ron; and Clark, Scott, "Achieving Dust Lead Clearance Standards After Lead Hazard Control Projects: An Evaluation of the HUD-Recommended Cleaning Procedure and an Abbreviated Alternative," *Applied Occupational and Environmental Hygiene* 14 (1999): 339-344.

National Center for Lead-Safe Housing and University of Cincinnati. *National Evaluation of the HUD Lead-Based Paint Hazard Control Grant Program: Fifth Interim Report*. Columbia, MD: National Center for Lead-Safe Housing, 1998.

National Research Council. *Measuring Lead Exposure in Infants, Children, and Other Sensitive Populations*. Washington, DC: National Academy Press, 1993.

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U.S. Bureau of the Census. *Property Owners and Managers Survey*. Washington, DC: Bureau of the Census, 1995.

U.S. Department of Housing and Urban Development; U.S. Environmental Protection Agency; and Centers for Disease Control and Prevention. *A Field Guide for Painting, Home Maintenance and Renovation Work*. Washington, DC: HUD, 1999. www.hud.gov/lea/LBPguide.pdf

US Department of Housing and Urban Development. *Putting the Pieces Together: Controlling Lead Hazards in the Nation's Housing*. Publication HUD-1547-LBP. Washington, DC: HUD, 1995. www.hud.gov/lea/leadwnlo.html#reports

U.S. Department of Housing and Urban Development. *Report to Congress: Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing*. Washington, DC: HUD, 1990.

Appendix B

Case Study Contact Information

For additional information on the case studies highlighted in this Action Plan, visit the Alliance's website at www.aeclp.org/5/bp.html or contact the implementing program:

CLEARCorps/USA

The Shriver Center at UMBC
1000 Hilltop Circle
Baltimore, MD 21250
410-455-2493
www.clearcorps.org

Los Angeles Systematic Code Enforcement Program

Los Angeles City Housing Department
111 North Hope Street
Los Angeles, CA 90012-2607
213-367-9278

Massachusetts Tax Credit Program

Lead Paint Tax Credit Program
Department of Revenue
Commonwealth of Massachusetts
P.O. Box 7010
Boston, MA 02204
617-887-6261

Milwaukee Coalition-Building

Wisconsin Citizen Action
152 West Wisconsin Avenue, Suite 308
Milwaukee, WI 53203
414-272-2562

Milwaukee Pilot Ordinance

City of Milwaukee Health Department
Milwaukee Childhood Lead Poisoning Prevention Program
1230 West Grant Street
Milwaukee, WI 53215
414-225-LEAD

Neighborhood Knowledge Los Angeles

UCLA Advanced Policy Institute
3250 Public Policy Building
Box 951656
Los Angeles, CA 90095-1656
310-825-5435
nkla.sppsr.ucla.edu

New Jersey Multiple Dwelling Registration and Inspection Program

New Jersey Department of Community Affairs
Division of Codes and Standards
Bureau of Housing Inspection
Housing Code Administration Section
Post Office Box 810
Trenton, New Jersey 08625-0810
609-633-6219

Rhode Island Medicaid-Funded Window Replacement Program

Rhode Island Department of Human Services
600 New London Avenue
Cranston, RI 02920
401-462-3392

St. Paul Weatherization Program

St. Paul-Ramsey County Lead Hazard Control Program
Department of Public Health
555 Cedar Street
St. Paul, MN 55101-2260
651-292-6525

Vermont Essential Maintenance Practices
Children's Environmental Health
Vermont Department of Health
108 Cherry Street
P.O Box 70
Burlington, VT 05402-0070
802-863-7206