VIEWPOINT

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The Promise of Environmental Sampling and Right-to-Know Laws for At-Risk Communities

IN THE SUMMER OF 1997, CONCERNED ABOUT STEADILY INCREASING asthma rates in the Hunts Point section of the Bronx, a group of young adult volunteers from a community-based organization called The Point decided to do some research. Knowing that trees help reduce air pollution, these young activists set out to count the trees in their neighborhood. The results of their research were startling: Hunts Point had only one tree per acre. Just as startling was the powerful impact of this modest survey. By presenting "hard numbers" to the City Council and private foundations, Hunts Point advocates won the planting of 1,000 new trees, a visible step toward revitalization of the community.[1]

Prior to the survey, Hunts Point's barren landscape had been readily apparent. But until conditions were documented, quantified, and presented to policy makers, no one was moved to act. By research standards, the Hunts Point survey would have to be dismissed as exceedingly simple. But this example illustrates how members of distressed communities can document problems themselves and use limited data to bring about corrective action.

Researchers seek to expand *knowledge*. Residents of environmentally at-risk communities want *action*. While certainly not mutually exclusive, these goals are sufficiently different to guarantee a healthy tension between researchers and community members. Over the past several years, environmental health researchers and funders have sought to increase the involvement of community residents in designing and implementing research studies.[2] In this Viewpoint, we discuss opportunities for community residents to play more active roles in documenting housing-related environmental health hazards and using right-to-know laws to spur corrective measures.

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Housing-Related Environmental Hazards Demand Attention

Scientists have long observed that indoor environmental health hazards tend to pose far greater risks to human health than outdoor toxic exposures, a function both of the higher levels of toxics associated with confined spaces and the significant time spent indoors.[3,4] Older properties in poor physical condition typically pose the severest health hazards.[5] For example, inadequate ventilation increases the concentration of indoor air pollutants such as radon and carbon monoxide and exacerbates moisture and humidity problems.[6] Moisture causes paint deterioration, which leads to children being exposed to lead dust and lead-contaminated paint chips,[7] and encourages growth of mold, mildew, dust mites, and microbes, which contribute to asthma and other respiratory diseases.[8]

Because they are much more likely to live in substandard housing,[9] low-income families and families of color are at dramatically elevated risk for adverse health effects associated with indoor environmental hazards.[10,11] For example, in 1991–1994, low-income children were eight times as likely as high-income children to be lead poisoned.[10] Because young children spend more time indoors than adults,[12] this population—already most vulnerable biologically[13]—is at special risk from indoor health hazards. (Children from middle- and upper-income households are also at risk for lead poisoning, particularly as a result of exposure to lead dust during remodeling and repainting projects.)

Nevertheless, housing-related environmental hazards are often overlooked by researchers, regulators, policy makers, advocates, and the media. A scarcity of data about housing-related environmental risks is partly responsible for this lack of attention. In sharp contrast to the wealth of data publicly available on ambient exposures and emissions from point sources large and small, almost no property-specific information is available about housing-related environmental health hazards.

In addition to the direct human cost to victims and their families, environmental diseases related to poor housing conditions impose substantial costs to society. For example, lead poisoning not only reduces children's cognitive abilities, shortens attention span, and interferes with learning and success in school,[14,15] it also leads to behavior problems and has been linked to juvenile delinquency.[16] Children with asthma suffer higher rates of absenteeism in school than other children and are less likely to lead normal, unrestricted lives. Asthma's cost to society is $11 billion per year, and growing.[17] (While many factors working in combination may explain the increase in childhood asthma, several environmental risks associated with poor housing conditions have been recognized as contributing factors.)

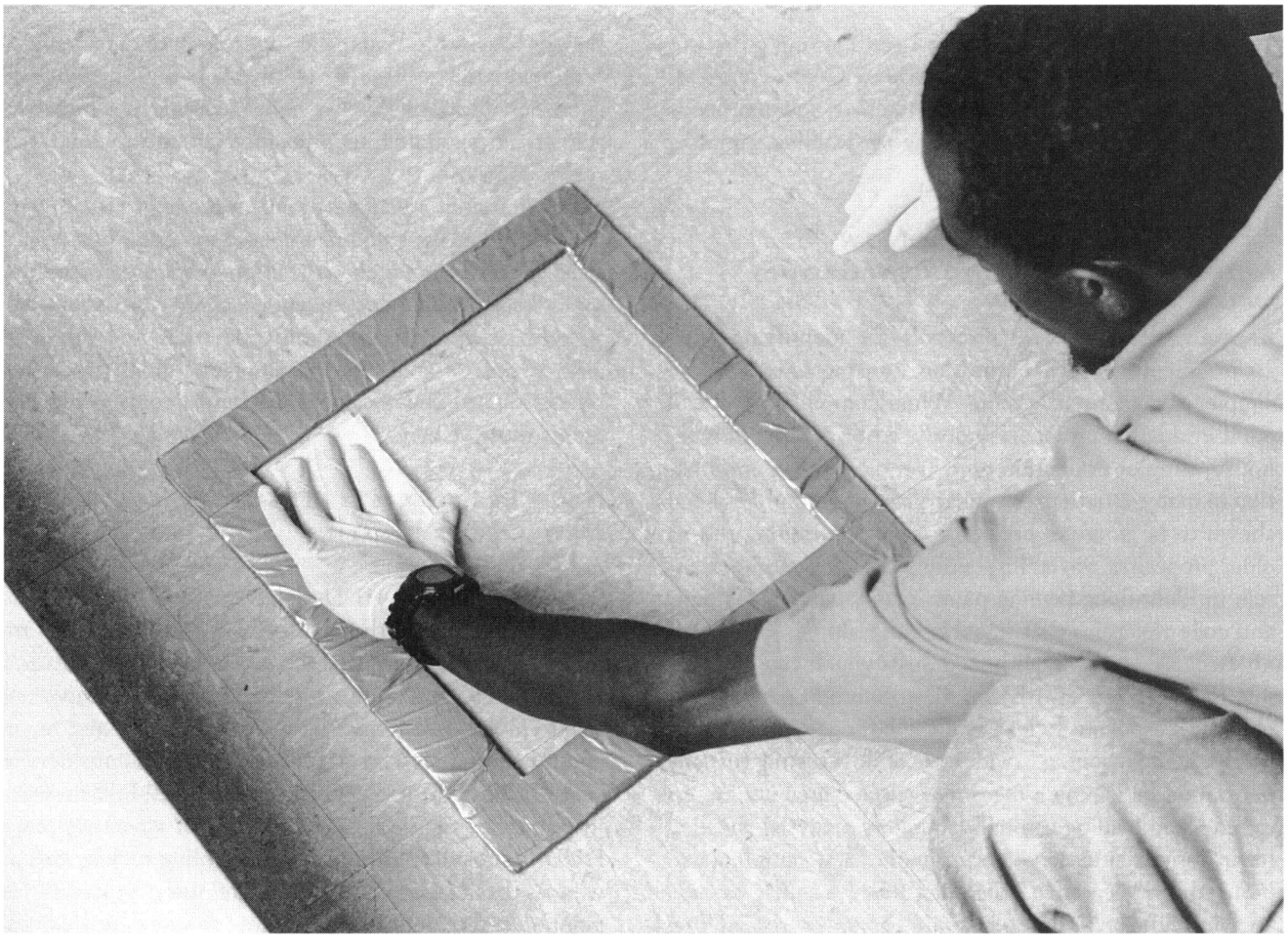
The benefits of reducing and preventing health hazards in housing far exceed the costs. For example, a presidential interagency task force recently estimated $37 billion in net benefits from abating lead-based paint hazards to protect children living in low-income housing.[18] Controlling other serious housing-related hazards would likewise produce significant benefits in protecting vulnerable populations, in all likelihood at a far higher return than equivalent investments to reduce ambient exposures.

Lead poisoning offers a natural starting place for identifying and controlling health hazards in substandard housing. First, national data confirm that millions of homes contain serious lead hazards, the vast majority of which have not been investigated or controlled.[9] Second, lead poisoning hazards often coexist with other environmental health hazards, which are interrelated in both cause and solution. Finally, the federal lead disclosure law requires disclosure of known information about lead hazards in older homes and apartments, giving advocates an enforcement tool to invoke when property owners violate the law.[19,20]

In the past, the lack of national standards for lead hazards in housing discouraged attention to lead risks. In January 2001, the Environmental Protection Agency (EPA) established national standards for dangerous levels of lead in dust, soil, and deteriorated paint in housing.[21] While there are no federal requirements for testing or hazard control (except in federally assisted housing), these clear national standards provide an authoritative basis for determining the existence of a lead hazard in a particular property. In addition, state and local governments may adopt these standards, and lenders and insurance companies may incorporate them into underwriting standards.

Primary Prevention Is the Best Approach

Over-reliance on the medical model, with its focus on case management and treatment, has inherent limitations for diseases of environmental origin. Lead poisoning "prevention" programs historically have not taken action to identify



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and control lead hazards in housing until a lead-poisoned child has been identified. To make matters worse, the widespread failure of public health screening and surveillance systems has left the vast majority of lead-poisoned children undiagnosed and untreated.[22] While improvements in screening and surveillance systems are clearly needed,[23] the only way to truly protect children is by making sure that their homes are safe in the first place. Accomplishing this goal will require new tools and approaches.

The Department of Housing and Urban Development (HUD) reported to Congress in 1990 that more than 20 million homes contained "priority" lead hazards, that is, non-intact lead-based paint or lead dust contamination.[24] Yet the vast majority of these homes have still not been tested. Likewise, health and housing enforcement agencies rarely perform even cursory checks for maintenance deficiencies that may reveal health hazards. Despite the documented existence of lead poisoning "hot spots," no US community has systematically screened its high-risk housing for lead hazards.

Because of the relationship between indoor health hazards and poor housing conditions, housing code enforcement could play a major role in protecting tenants' health. In practice, however, code enforcement has failed to address housing-related health hazards. Homes are rarely checked for health threats until a sick child prompts an environmental investigation, usually by a health department inspector. Showing that it is inexpensive and feasible to screen homes for health hazards has the potential to reinvigorate housing code enforcement as an important public health tool.

Screening of housing should begin with the highest risk neighborhoods, which can usually be targeted using local blood lead screening data where available. Where adequate blood lead data are not available, resources such as the Scorecard website[25] can help advocates identify Census tracts having the greatest concentrations of high-risk dwellings, based on Census data on housing age and poverty status of residents. Useful Census information related to lead poisoning risk factors is also available

on the website of the Childhood Lead Poisoning Prevention Program of the Centers for Disease Control and Prevention.[26] Once high-risk Census tracts or neighborhoods are identified, systematic dwelling-by-dwelling sampling can be performed.

Evaluation Tools Are Now Accessible to Community Groups

Recently, the tools and protocols for identifying most environmental health hazards in housing have become simpler and more accessible. While comprehensive lead paint evaluation protocols typically cost $250 to $500 per house, simpler evaluation tools can provide key information in many situations. Because paint condition has been shown to be a strong predictor of lead poisoning risk in older properties, visual inspections can play an important role in identifying peeling paint, maintenance problems, and code violations that signal health risks.[27]

Because lead-contaminated dust (which can be invisible to the naked eye) is the most common pathway for children's exposure to lead and the strongest predictor of risk for lead poisoning,[28] wider use of dust testing (usually performed by wiping a measured surface area and determining lead loading through laboratory analysis) is called for in various situations. For example, dust sampling can be used for "clearance," ensuring that lead dust hazards are not left behind after paint repair or remodeling work.[29] In addition, dust sampling can be used to screen high-risk housing to set priorities for more intensive evaluations and hazard control.

Unlike testing for asbestos and some other hazards, collecting paint chips or lead dust samples poses little risk to samplers. More than 100 EPA-recognized laboratories analyze lead in dust, soil, water, and paint chips,[30] and recent cost reductions to $5–$10 per sample make this evaluation tool easily affordable.

Barriers to broader use of dust sampling have also been removed. Until recently, the extensive education, experience, and training requirements for certified lead professionals placed dust sampling beyond the reach of most community residents and small contractors. Recognizing that visual inspections and dust sampling are simple and straightforward, the EPA and HUD recently developed a one-day sampling technician training, which is readily accessible to community groups.[31] New Hampshire[32] and Wisconsin[33] already certify sampling technicians as a freestanding discipline, and several other states are following suit. In other states, sampling technicians must work under the supervision of certified lead professionals.[34] Members of research teams who hold such certifications can supervise community members trained as sampling technicians in states where this restriction exists.

Community members need appropriate training to evaluate other housing-related environmental health hazards of concern (such as carbon monoxide, mercury, mold, cockroaches, dust mites, pesticide residue, radon). In most cases, low-cost evaluation tools and protocols already exist or are under development. In all cases, any federal, state, and local training and licensing requirements must be met.

HUD Lead Safety Regulation Creates New Opportunities

In September 2000, HUD replaced its patchwork of lead safety regulations with meaningful requirements governing lead safety for all federally assisted properties.[35] Under this rule, sampling technicians have an important role to play in providing clearance tests after paint repair and rehabilitation work at more than 400,000 residences yearly.[36] To build capacity to meet this 20-fold increase in properties required to pass lead dust clearance tests, HUD is subsidizing training for sampling technicians as well as basic training in lead-safe work practices for painters and remodelers. This gives community organizations and contractors the opportunity to have staff members trained in lead safety, a significant economic opportunity that also meets an urgent community need.

Once community workers are trained in entry-level positions for either environmental sampling or hazard remediation, they have the opportunity to graduate to higher skilled positions. For example, a sampling technician can receive additional training to become a certified lead inspector. Similarly, a local painting or remodeling contractor could build on his or her command of lead-safe work practices to secure additional training and credentials as a certified abatement contractor.

The Power of Right-to-Know Laws

Over the past decade, environmental groups have demonstrated the power of various state and federal right-to-know laws, using data they collected themselves and data from publicly available sources such as the EPA's Toxics Release Inventory to oppose the siting of polluting facilities; to demand more protective regulations; to press

industries to reduce pollution and use safer technologies; and to secure stronger enforcement of environmental laws.[37] The federal lead paint disclosure law gives community-based organizations and tenant advocates the opportunity to apply the same right-to-know tactics to achieve control of health hazards in substandard housing.

Federal law now requires owners of virtually all pre-1978 residential properties to disclose known information about lead-based paint and lead-related hazards to prospective tenants and buyers. Unfortunately, most families living in rental properties in high-risk areas have not yet benefited from lead hazard disclosure requirements. To the extent that compliance has occurred in these properties, the absence of property-specific data allows landlords to simply check the "Don't Know" box on disclosure forms and provide tenants a generic brochure about lead paint hazards.

While the regulations only require the disclosure of known hazards (neither investigation nor remedial action is mandated), the penalties for noncompliance are substantial: up to $11,000 per violation, and treble damages in civil suits for willful violations. Both the EPA and HUD have extensive enforcement authorities and have aggressively prosecuted serious violations.

Property-specific data are a critical missing link in transforming the right to know from an empty promise into a powerful catalyst for action to improve conditions in substandard rental properties. Once given property-specific reports about lead paint hazards (by, for example, a tenant, community group, or public health agency), a landlord must disclose this information to prospective tenants (a self-admission of a code violation in most jurisdictions) or correct the problem. A written report from an environmental laboratory documenting excessive levels of

lead in dust or peeling paint provides compelling evidence of the existence of a hazard. Similarly, a photograph of a collapsing ceiling or a broken plumbing fixture offers gripping documentation of a serious code violation.

While certainly desirable, the disclosure of hazardous conditions in rental properties does not benefit all consumers equally. Even when made aware of hazards, many low-income families have no real housing choices. (It is not always the case that "information is power.") For communities at high risk, realizing the potential of the federal right-to-know laws depends on community organizing or advocacy to spur corrective action, rather than simply making tenants informed consumers. Fortunately, these strategies are now within the reach of local advocacy groups.

Local Victories

The federal lead disclosure law is only one of many tools that gain power when property-specific information is known. State and local laws—as well as other organizing strategies—can be invoked to win corrective action. The successful experiences of local groups from around the country have demonstrated different ways to use property-specific data on maintenance deficiencies and health hazards in campaigns to make properties safe and communities livable. For example:

- *Advocates can notify local agencies about conditions in a specific property or neighborhood.* For example, in 1997 advocates in Los Angeles alerted health officials to illegal lead abatement work underway at Wyvernwood Gardens, a poorly maintained low- and moderate-income apartment complex. Enforcement action against the owner resulted in a settlement that provided for lead hazard abatement and correction of code violations in all units, at a cost of $12 million to the property owner. The owner also placed $1.2 million in a trust fund at the California Community Foundation pending completion of the work, the interest on which is supporting community lead poisoning screening and education efforts[38] (Personal communication, Cheryl Mendoza, PhD, Senior Program Officer, California Community Foundation, Los Angeles, November 2000).

- *If enforcement agencies are ineffective or unresponsive, advocates can use media advocacy strategies to build public support for better code enforcement and more resources for hazard control.* In 1999, for example, local lead poisoning prevention advocates alerted the *Baltimore Sun* to city health and housing agencies' inadequate response to hazardous properties and lead-poisoned children. The resulting series of investigative reports and high-profile articles contributed significantly to local advocates' campaign to win $50 million in new state and city commitments for enforcement and prevention, as well as universal blood lead screening of young children in Baltimore.[39,40]

- *Advocates can use data demonstrating disproportionate risks to win increased resources and crucial policy changes.* For example, advocates in Milwaukee used health department data highlighting lead poisoning "hot spots" to enact a landmark 1999 ordinance requiring landlords in two high-risk neighborhoods to perform window treatments and paint stabilization.[41] In addition, this documentation helped secure $3 million in HUD funds targeted to controlling lead hazards in communities.

- *Advocates can use documentation of health hazards and code violations to secure legal remedies.* In June 2000, tenant advocates in Minneapolis convinced a housing court judge to place a 19-unit rental property in receivership to ensure the rapid correction of serious water leaks, moisture problems, and lead hazards.[42] This case stimulated discussion among city officials and public interest attorneys about expanded use of receivership to reclaim dilapidated properties.

- *If property owners fail to disclose information about lead hazards, advocates can report violations to the EPA, HUD, and the Department of Justice.* For example, in 1999 and 2000, these federal agencies announced settlements in cases brought against six Washington, DC, landlords who violated the federal lead disclosure law. These owners ultimately committed $1.5 million for lead paint abatement and contributed $180,000 to community-based projects to protect children from lead poisoning.[43,44]

Unlike researchers who collect exhaustive data for a comprehensive description and detailed analysis of a problem, advocates only need sufficient data to document code violations and health hazards to trigger effective action. Local advocacy groups must therefore be clear about their strategic objectives in order to use environmental sampling and right-to-know tactics effectively.

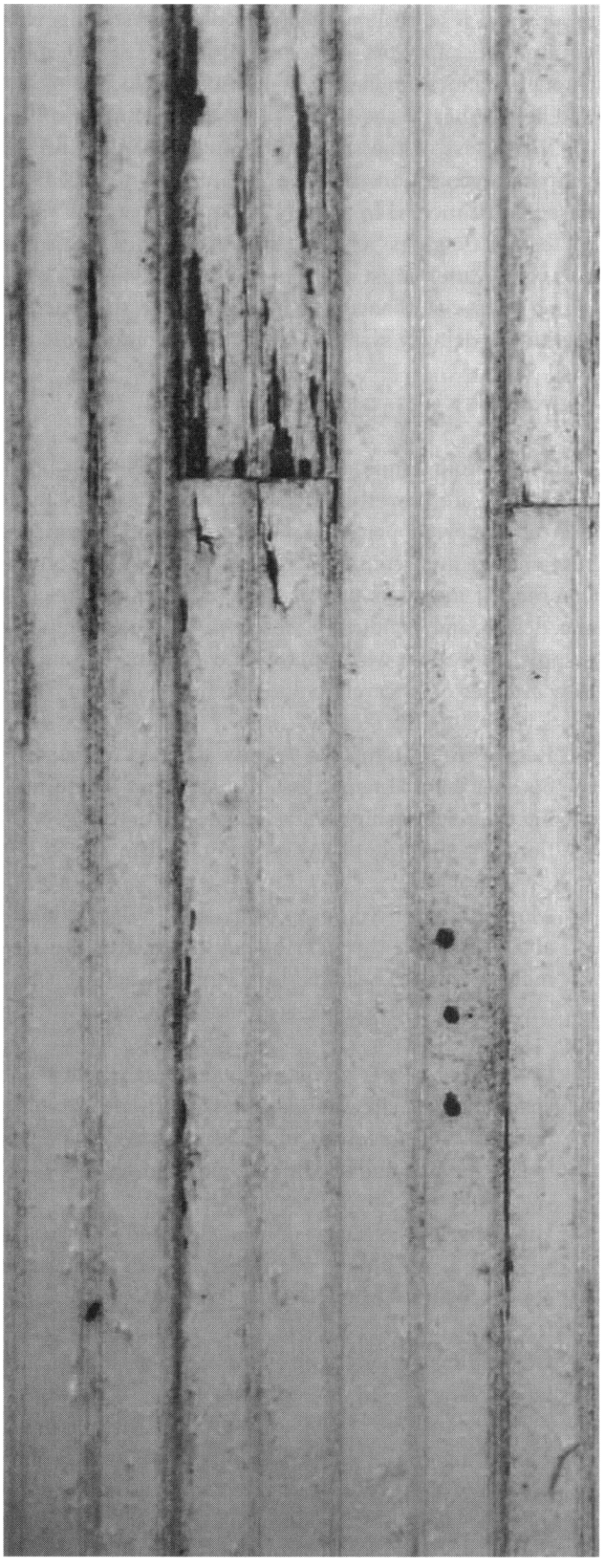
Advocates and researchers alike must guard against allowing responsibility to be shifted from landlords and government agencies to tenants. Rental property owners have a legal duty to provide safe housing, and state and local governments have a responsibility to enforce housing codes and other laws. Community initiatives to identify health hazards must be designed and carried out to spur landlords and government agencies to fulfill their obligations, not to substitute for their inaction.

Whenever limited environmental samples are taken, it is critical that negative results not be "over-interpreted." While a single positive test result (such as a lab report on a chip of peeling lead-based paint or a lead dust wipe test) demonstrates the existence of a hazard, a single negative sample does not guarantee safety. When a hazard is identified in a residential property, the occupants must be informed of the results and should be given information about legal rights and remedies as well as day-to-day steps they can take to reduce their risk. If extreme hazards are identified, occupants must be counseled about emergency measures, including relocation to safe housing. Local groups should secure tenants' consent before notifying landlords of data documenting hazardous conditions, and must be prepared to protect tenants from retaliatory evictions and other illegal landlord actions.

Avoid Reinventing the Wheel

Environmental sampling and right-to-know tactics must be designed locally to meet the needs and advance the advocacy objectives of community residents. But since the complexities involved are likely to tax most small community-based organizations, outside technical assistance and advice are critical to success. Individual researchers can play an important role in assisting local groups.

However, because local groups pursuing sampling and right-to-know strategies will face many of the same technical challenges, a central support organization is also needed to provide technical assistance and training, to help with problem solving, and to coordinate information sharing. A central support organization should: develop sampling protocols for various housing-related health hazards; identify trainers; research federal and state licensing requirements; provide guidance in interpreting sampling results; develop materials for notifying residents, landlords, and local agencies; provide training and support for GIS mapping of housing hazards; facilitate peer support among local groups; help link local



groups and researchers; negotiate volume discounts with equipment suppliers and laboratories; provide pass-through grants from large funders; evaluate local projects; and help publicize the results of local projects.

Regardless of the scope of its functions, this central support organization must be accountable to its locally based constituents. In addition to its command of a host of technical issues related to environmental sampling, this organization must understand the challenges of organizing for social change and be sensitive to the practical realities of delivery systems in distressed communities.

New Avenues of Research

While environmental sampling and the use of right-to-know laws are powerful advocacy tools, these strategies also offer new opportunities for collaboration between researchers and community groups. Most important, community members can play greatly expanded roles in the design and conduct of research projects, including sample collection with appropriate training. Promising new avenues of research include the following:

- Reassessing the relative priority assigned to indoor vs outdoor environmental health hazards and determining the relationships between specific housing conditions and diseases of environmental origin;
- Mapping high-risk properties and neighborhoods and comparing the risk for housing-related environmental health hazards by Census tract, income, "race"/ethnicity, housing age, and other factors;
- Investigating the predictive value (sensitivity and specificity) of streamlined assessment and sampling protocols for screening high-risk housing to identify health hazards and their underlying causes;
- Validating the efficacy of using trained community workers to document maintenance deficiencies and environmental health hazards;
- Developing easier-to-use sampling tools for trained technicians and lay consumers; and
- Measuring the effectiveness of environmental sampling and right-to-know strategies as advocacy tools for improving substandard housing.

Policy Recommendations

Given the immediate threats to the health of large numbers of low-income families living in substandard housing, funders, researchers, government officials, and advocates must adopt new tools and approaches. We offer the following recommendations to stimulate constructive debate:

1. Federal, state, and local agencies responsible for environmental health should broaden their mission to encompass the built environment, with special emphasis on environmental hazards in substandard housing. The indoor air pollution field should redefine itself as the "healthy housing" field to encompass all housing-related environmental health hazards.

2. Researchers, regulators, and advocates should substantially expand the use of environmental sampling, initially focused on high-risk properties. State and local public health, housing, and environmental code enforcement agencies should target enforcement to high-risk properties and train staff members to collect environmental samples for hazards of concern.

3. Federal funding for asthma should shift in favor of prevention, including substantial funding for environmental sampling and hazard control in high-risk housing.

4. National model housing codes and state and local codes should call for environmental sampling in properties where conditions associated with environmental health hazards are present. (For example, deteriorated paint in pre-1960 properties should trigger lead dust testing, and visible moisture problems should trigger an examination for mold and mildew.)

5. Federal agencies and private companies should develop screening tools for housing-related environmental health hazards that are affordable and easy to use by technicians with modest training as well as lay consumers. States should avoid imposing excessive restrictions on access to these tools. (For example, to reduce barriers to expanded lead dust testing, states should certify the sampling technician discipline.)

6. New and existing federal grants in the areas of environmental and health research, environmental justice,

lead hazard control, healthy homes, and health education should support the training of community residents to identify property maintenance deficiencies and housing-related environmental health hazards.

7. Affordable housing and tenants' rights advocates should add environmental sampling to their arsenal of organizing tools. Similarly, environmental health advocates and grassroots environmental organizations should increasingly apply their right-to-know advocacy strategies to indoor environments in high-risk communities. Environmental and housing advocates should collaborate more closely with each other.

8. A national nonprofit organization or project should be established with private foundation and government funding to provide support for local groups pursuing environmental sampling and right-to-know strategies. Local groups must help design this center and share in its governance to ensure its accountability to them and their needs.

9. Environmental health researchers should include residents of affected communities in the design and conduct of research studies to ensure maximum relevance to communities' needs. Researchers should help local groups achieve policy changes through science-based advocacy.

10. The President and Congress should increase the priority placed on housing-related health hazards and expand resources for low-income property maintenance, housing rehabilitation, and hazard control to ensure that all American families have decent, *safe*, and affordable housing.

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