

### **Reconnecting Housing with Health and Sustainability**

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The New York Times recently published an article starkly highlighting the crisis in homeless shelters in New York City (“When Shelter Feels Like a Prison,” NYTimes, 8/18/2002, p. 13). The shortage of space had reached such proportions that homeless children were now being housed in an unused jail in the Bronx. Yet once there, the children had to be removed because lead paint was belatedly discovered throughout the old structure. Once again the issues of housing and health collided, with authorities well-versed on housing not working in easy partnership with those whose primary emphasis is health and sustainability.

Although this example may seem extreme, it demonstrates the myriad, often unexpected ways in which housing issues relate to issues of health and sustainability. Envisioning the ‘big picture’ of sustainability increasingly encompasses the economy, jobs, and protecting the environment. Housing, however, is generally not included in this picture. For most, housing remains a separate issue, certainly something that everyone needs, but largely outside of broader discussions aimed at improving sustainability and health.

Even within the topic of housing, the concerns remain fragmented. Some specialists focus on the pressing problems of the homeless, others study housing’s affordability, and still others address issues such as housing density. Not only is housing uncoupled from other topics but the various types of housing authorities are not each other’s primary audience and remain at arm’s length from one another, reading different journals, seeking funding from different sources, and generally pursuing their analyses of

housing's significance in isolated ways (cf. *Housing Studies*, Joint Center for Housing Studies<sup>1</sup>).

Of what significance is it that housing remains unintegrated with other topics, particularly those topics closely tied to questions of sustainability? Should a “disconnect” of this sort be of concern to communities and regions? And what are the implications for a university whose mission is increasingly focused on sustainable regional economic and social development?

The failure to link housing more closely with issues of sustainability and health has profoundly affected how decisions are being made at the local level, community by community and region by region. Discussions of sustainability and health are taking place without consideration of how attention to housing could contribute to them. And, housing advocates often respond to concerns about the environmental quality of housing as an ‘add on,’ not a core issue but rather something that is overcomplicating and even obscuring the more fundamental housing issues.

This “disconnect” is important in many different settings. For example, issues of sustainability, housing, and health are deeply intertwined in industrial settings such as Lowell and the Merrimack Valley. In a recent national study of housing and health, housing in the Northeast was found to have twice the prevalence of hazardous lead as did housing in the South and the West (Jacobs, 2002), and over one third of low income housing throughout the U.S. continues to have lead hazards (Jacobs, 2002).<sup>2</sup> In older industrial cities with aging housing stock and long legacies of industrial contamination, experts and advocates who help place families in such housing may unwittingly exacerbate environmental problems. And in “greenfield” locations, issues of housing and

health also become intertwined as pressures toward expanding single family housing on large acreages contribute to sprawl and to decrements in environmental quality.

UML's Center for Family, Work, and Community and partners have begun to look for innovative ways to link housing, sustainability, and health. This paper reports on these efforts. The approach to be described emphasizes the identification of ongoing activities in the region that provide opportunities for linkage. These threads of activity have not been brought together in the past but, as shown here, can be brought together in ways that open avenues for possible solutions to problems of regional economic and social development.

At the Center for Family, Work, and Community (CFWC), we are by no means alone in raising questions of how to bridge the gap between housing, sustainability, and health. Indeed, the work of three national and state policy bodies—US Housing and Urban Development, the National Institute of Environmental Health Sciences, and the Massachusetts Executive Office of Environmental Affairs—serves as the starting point for our work represents directions being taken by leading groups to draw attention to these concerns. In its own way, each group has offered an innovative agenda-setting strategy for generating greater discussion, research, and analysis at the national and state levels. All three reflect creative strategies aimed at reconnecting housing with other issues. Yet each pulls at a different thread in this tangle of issues and thus provides a different starting point from which to consider how housing, health, and sustainability might be integrated.

## **Reconnecting Housing Through Innovative State and National Policy Analyses**

**HUD's Healthy Homes Initiatives:** US Housing and Urban Development is well known as the primary federal agency charged with enacting housing policy. In this role, HUD provides funding for public housing, promulgates housing policy, and develops income guidelines that determine eligibility for housing programs. Until recently, HUD was not a significant player in environmental health concerns (HUD, 1995<sup>3</sup>). In recent years, however, HUD has begun assuming a major role in pointing out the extent to which housing problems encompass environmental health threats (Jacobs, 2002). Recently HUD initiated the "Healthy Homes" focus, under which HUD promotes research and demonstration projects assessing the environmental health consequences of housing (cf. [www.hud.gov](http://www.hud.gov); Federal Register, 2002a<sup>4</sup>). In articulating these goals, HUD policy makers have also pointed out that environmental health problems associated with the home can no longer be adequately addressed through a fragmented problem-by-problem approach under which health threats like the effects of lead, asbestos, and mold are studied sequentially and in isolation, rather than together (Federal Register, 2002b<sup>5</sup>).

It is significant that this work drawing attention to environmental threats is being spearheaded by the very agency responsible for the promotion of adequate housing. By viewing these issues through the lens of housing, HUD is encouraging housing advocates to link environmental health and housing. HUD leadership places housing at the very core of discussions of environmental health.

**NIEHS's Emphasis on Environmental Health and the Built Environment:** For several decades the National Institute of Environmental Health Sciences has been a

national policy leader in promoting investigations of the environment's impact on health. Previous research funded by NIEHS has been organized around specific environmental hazards. Recently, NIEHS leaders have begun to draw these approaches together through a focus on the built environment with an emphasis on housing. NIEHS leaders are recognizing that the built environment in all its various forms must be understood as a powerful force in environmental health. Recent initiatives have included a national conference on the built environment and the solicitation of basic research to be carried out on it. What is significant about the NIEHS leadership is that, like the HUD work, it is raising the visibility of the need for new constituencies to be brought in if an integrative approach is to identify the most pressing research and application questions.

**Massachusetts' Community Preservation Initiative:** The environmental policy making body in Massachusetts, the Executive Office of Environmental Affairs (EOEA), has developed yet a third way to highlight the need to integrate policy decisions on housing and sustainability. The EOEA focuses on environmental issues, and in recent years has done so by calling for greater attention to community preservation as an organizing principle under which environmental policies can be articulated. This principle brings together groups who have traditionally been adversaries, such as those focused on preserving open space and those promoting the creation of affordable housing (Community Preservation Act, 2000<sup>6</sup>). EOEA's intent has been to look at how these competing pressures can be integrated so as to maintain the strengths of communities while preserving the qualities of the environment. The attempt has been to move away from old categories and identify new cross links that can contribute to a healthy environment.

HUD, NIEHS, and EOEPA each start at a different point, but the initiatives of all three underscore the need to bring together housing, sustainability, and health. As a result, researchers and policy makers are being challenged to look for more integrative approaches. And they are increasingly being reminded that the failure to find such approaches will result in stalled progress in all three areas.

Yet what remains unclear from these broad suggestions—important as they are—is how to proceed at the local level. What would it look like ‘on the ground’ to link housing with health and sustainability? What concrete steps might be taken? What kinds of logistical problems are likely to be encountered? What models for cross-communication need to be created if communities are to integrate housing, health, and sustainability? The remainder of this paper examines these issues in the context of work the CFWC and its partners have undertaken in the Merrimack Valley. This work suggests different starting points to get to the central issues of housing, health, and sustainability. And the work raises questions, to be addressed in the paper’s conclusion, about the various roles that universities and their partners can play in bringing these issues together.

### **Reconnecting Housing Through Locally Robust, Integrative Strategies**

We begin this narrative at one of its ending points. On May 7<sup>th</sup> of 2002—World Asthma Day—UML with its partners hosted a culminating university-community forum, focused on examining housing and environmental health. We were reporting on the crisis in available housing in our region *and* at the same time on the escalating incidence of asthma believed to be made worse by poor housing conditions in Lowell. Invited to the forum were two separate sets of community leaders—those who were housing advocates

and those whose primary concern was the rapidly increasing incidence of pediatric asthma. These two groups are rarely found in the same room or in same discussions. Speakers were invited who themselves had begun to bridge the gap between housing policy and environmental health. These speakers included a physician who had just published a nationally-heralded book on how environmental threats in the home are contributing to asthma rates; a state senator who chairs the state committee on housing policy and also has been a leader in promoting asthma research; a leader of a community development corporation that focuses on the creation of housing but is also concerned about environmental issues; and an environmental policy expert who chairs his town's housing policy committee.

The focus of the discussion was on assisting leaders to recognize that the pursuit of solutions to asthma cannot succeed without attending to housing, nor can attempts to solve the housing crisis succeed without attention to environmental health. Moreover, when the two groups do not work together each group faces the real possibility that the other will become an adversary rather than an ally. Participants left the forum with a report that linked housing and health, with names of contacts in the other "camp," and with a forum-generated blueprint for how an integrated focus on these topics might be pursued in the Merrimack Valley.

This forum brought together many of the "threads" that had been followed independently in the Merrimack Valley. These threads are described below.

**1. Starting with the Local Problem of Scarce, Unaffordable Housing:** Some of CFWC's efforts began with the problem of scarcity of housing. In the Year 2000, the Center became involved in studying housing problems after we were approached by local

housing advocates who had become alarmed at the region's rapidly escalating housing prices and rental rates. Residents in the area—particularly those of low and moderate means—were finding fewer rental properties and homes available at a price that they could afford. Moreover, what might have been affordable in the previous year had often gone up in cost in the interim. With the stagnation in wages, these properties were increasingly unattainable. The CFWC was asked to carry out a study that would analyze the housing situation in the Merrimack Valley and would identify possible ways that community decision makers could foresee—and hopefully forestall—housing problems in the future<sup>7</sup>.

Although we did not initially expect it, attempts to address the cost of housing ran directly up against issues of environmental health and sustainability. The high cost of housing meant that people were increasingly facing the prospect of living in affordable but substandard housing that carried environmental risks. The leader of the state's Healthy Homes program reported that, in the tight housing market, poor families were finding that they could locate either affordable places to live *or* healthy places to live but generally could not find affordable, safe housing.

And there were other links to sustainability. The analysis of housing indicated that the rapid escalation in housing prices was the direct result of insufficient supply. Massachusetts and the Merrimack Valley have too few apartments and homes. Compared to the rate of new home construction in comparable states, Massachusetts is adding too few additional units and as a result is facing an escalating crisis in availability. One solution offered to the problem of availability has been to build more new homes and apartments, often on what was formerly pasture land or open space. So the problem

of housing collided directly with issues of sustainability. Eastern Massachusetts and the Merrimack Valley are rapidly approaching the state of “build out,” that is, the point at which given current zoning laws, all available space would be exhausted. In short, decisions now being made about housing are becoming linked to issues of sustainability.

In its housing report, the CFWC outlined a variety of possible steps that could be taken to link housing affordability, sustainability, and environmental health. In particular, we used this report on the housing crisis to make salient some of the issues on environmental health and sustainability. We suggested examining models from other states, and attempted to draw environmental groups into the discussion.

**2. Starting with a Local Partnership for Environmental Health:** Yet another way we have attempted to link these topics at the local level is through the *New Ventures* project that brings the focus of environmental health to housing. As described elsewhere [xxx], *New Ventures* is a partnership project funded by the National Institute of Environmental Health Sciences to address environmental health issues. This partnership brings together the Coalition for a Better Acre, Lowell Community Health Center, and the CFWC to address environmental health concerns in Lowell’s refugee and immigrant community. In developing this four year project, the planners gave considerable thought to identifying the common concerns of diverse immigrants and refugees with environmental health issues. Environmental health issues are typically not uppermost in the minds of new immigrants, who often are struggling with how to meet their basic needs. Instead, it is during new ventures--such as looking for a new apartment, buying a home, or starting a small business--that people may come face-to-face with environmental health threats. Thus, rather than organizing the work of this partnership

around particular chemicals or even specific environmental health problems such as asthma, the partnership organized itself around life experiences. During Year 2 of the project, we emphasized housing and questions of how housing can impact health. We examined ongoing research throughout the country on housing's role in environmental health problems such as lead poisoning, asthma, asbestos poisoning, and increased cancer risk from radon. The partnership tested out many new means of sharing environmental health information about housing; these innovations included an environmental camp for immigrant youth that brought together the themes of housing and environmental health and an scale-model "asthma house" as a tool for community groups to use in comparing likely asthma triggers in the housing of their home country versus their housing in the Merrimack Valley. The year's work culminated in a set of recommendations about needed research to better understand the immigrant experience and the link between housing and environmental health.

**3. Moving Active Coalitions toward Linking Housing and Environmental Health: The Asthma Coalition:** Under the auspices of the *New Ventures* Partnership, the CFWC looked for ways to move people toward linking housing and environmental health in their outreach and intervention efforts. Through the *New Ventures* Partnership, the CFWC facilitated the Greater Lowell Asthma Coalition in which up to 50 groups regularly participate. In past years, the Coalition has focused on the particulars of asthma as a health problem, addressing such issues as identifying pediatric asthma, assessing how the local health care community can better respond to this health care crisis, and considering how the university can organize its research efforts so as to better target the health care needs of asthmatics. The *New Ventures* group encouraged the Coalition to

focus its attention on homes and how conditions within homes can exacerbate asthma. This focus included increasing coalition understanding of asthma triggers in the home, how such triggers differ by culture, and what kinds of resources are needed in the community to assist poor families to address the environmental problems in the home. Because the Coalition will continue on after the *New Ventures* Partnership completes its work, it is important that it incorporate this focus on housing.

#### **4. Encouraging a City's Environmental Policy Committee to Focus on**

**Housing:** *New Ventures* leaders also approached the linkages from the policy end, by identifying those policy bodies that operate locally and then examining how these groups might work to bring together housing, health and sustainability. In 2001, Lowell's residents established just such an organization, a city environmental policy committee that began a process of developing recommendations for environmental guidelines to ensure that initiatives are carried out in ways that are consistent with good environmental practices. Such initiatives include recruitment of new businesses, environmental regulation of existing businesses, application of environmental requirements to the building of new schools, effective cleanup of contaminated sites, and transportation of hazardous materials.

Missing from the early deliberations of this informally constituted committee was a concern for housing's impact on health and the environment. Although the work of the committee focused on important topics such as the cleanup of waste sites, no consideration was given to housing as it contributes to environmental quality and might figure in a full scale environmental policy. It was as if once again housing was seen as irrelevant to issues of environmental health and sustainability. *New Ventures* partners

used their committee participation to introduce issues of housing and ensure that housing would be included in a draft policy on environmental practices. Partners provided the committee with model examples (see below) from around the country of how other communities have integrated housing policy and sustainability.

**5. Informing the Community: Healthy Homes Models From Across the Country:** Most local policy makers we work with have little time to study how other communities have approached improving the environmental quality of homes. With funding from the UML's Committee for Industrial Theory and Assessment, the CFWC set about collecting information about model practices from around the country that show how communities have overcome barriers to making their homes environmental safe. We provided information about strategies for reducing environmental health threats in the home and for bringing on board public housing advocates and others who typically have not participated in deliberations on environmental health. In addition to its uses for policy, this background information has now been used by city officials and various university-community groups to complete proposals for healthy home demonstration projects.

**6. Strengthening Planning Processes: The Lowell Scenario Workshop**  
**Intervention:** Can the integration of discussions on housing, environmental health, and sustainability be encouraged in even more systematic ways? Can these topics be brought together within a community planning process? The Lowell Scenario Workshop exemplifies yet another recent intervention attempting to link these topics. The National Science Foundation provided UML with funding that enabled Lowell to serve as the first city in the United States to test out the viability of the European scenario workshop

approach as a way to strengthen community planning through integrating multiple sustainability themes.

Under this scenario workshop approach, community leaders came together for several days of meetings in order to chart out a sustainable future. Leaders were provided with multiple scenarios of what Lowell could look like in the future, with each scenario focusing on the achievement of a sustainable future through either local or centralized control and the use of high or low technology. Participants used this information to chart out possible futures. Housing was a key issue considered, along with jobs, transportation, and other infrastructure elements. The timing of this planning intervention was important to its usefulness. Because the city of Lowell was beginning its 20-year planning process, these deliberations furthered the development of a plan that has a high likelihood of being implemented.

**7. Drawing New Groups into the Deliberations: The Example of ‘Celebrating Diverse Traditions of Community Preservation’:** In some of our work, we have taken our cues directly from the models created by HUD, NIEHS, and Massachusetts’ EOE, but we have also tried to show the modifications needed at the local level in diverse immigrant communities. Consider EOE’s work on community preservation. As noted earlier, community preservation has been an innovative approach by which the state of Massachusetts has begun to link various themes of sustainability. One of the concerns that has been raised about community preservation as an organizing principle is that newcomers, such as immigrants and refugees, may feel excluded when the emphasis is on preserving what has been. Any decisions may end up representing long-established communities and entrenched perspectives.

As reported elsewhere [xxx], UML's Center for Family, Work, and Community carried out a six-month project under EOEA funding to show how to gather community preservation information from African, Brazilian, Cambodian, Dominican, Laotian, and Latino immigrants about best practices on housing, open space, and economic development from their home countries. This initiative produced examples of ways to meet housing needs that could be adapted from other countries. The culminating celebration showcased for state leaders the culturally diverse ways that links between housing and sustainability could be pursued.

**8. Joining Forces: EOEA-UMass Community Preservation Working Committee:** A recurrent question in Massachusetts and elsewhere has been that of whether universities and policy groups can more closely work together to integrate these themes. Can the joint pursuit of these topics also serve as a stimulus to more effective collaborations between academics and policy makers? The EOEA-UMass Community Preservation Working Committee, established by a joint memorandum of agreement between the president of the University of Massachusetts and the Secretary of the Executive Office of Environmental Affairs, speaks to this point. The purpose of the agreement was to encourage innovative approaches to collaborate. Community preservation provided an opportunity to explore working together to integrate environmental concerns, open space, housing, transportation, and economic development and thereby increase the likelihood that the integrity of communities will be preserved.

The working committee on Community Preservation brought faculty from all five campuses in the University of Massachusetts system together with policy makers from throughout the Executive Office of Environmental Affairs' many departments to

undertake deliberations on community preservation. Among the successes of the committee has been the establishment of the Community Preservation Institute at all of the campuses and the development of an edited volume that brings together these various themes under the umbrella of sustainability.

**9. Finding Integrative Themes: Scholarship on the Built Environment:** A final initiative now just beginning grows out of what has been learned at UML from the variety of experiences just described (e.g., the need to link with existing initiatives that emerge from housing, health, and sustainability, the value of building on multiple best practice models from immigrant communities, the strategic importance of joining forces around housing, health, and sustainability). The University of Massachusetts Lowell has provided release time for faculty to integrate many ideas about housing, health, and sustainability under the theme of “The Built Environment” as a way to investigate how various departments can contribute at policy and practice levels. The work described throughout this paper emphasizes that reconnecting housing, health, and sustainability can be approached from many different directions but as yet too few of these directions have been explored. There are opportunities for health faculty to consider not merely asthma as a health concern but also as an indicator of how communities should analyze their housing stock. There are opportunities for faculty from mechanical engineering to guide student experiences in designing sustainable structures with the health of the homeowners in mind. And there are opportunities for faculty in policy areas such as regional economic and social development and community psychology to assist regional decision makers in evaluating tradeoffs in housing decision making. In short, the topic of “The Built Environment” provides new integrative opportunities by which faculty from

diverse disciplines can consider the potential implications of their work for health, housing, and sustainability.

By the time of World Asthma Day in 2002, enough threads were in place to begin weaving cross-connections at Lowell's culminating forum on asthma. Like the multifaceted problem of sustainability itself, Lowell's efforts have been made at multiple levels. And mirroring the inherent interrelations between the problems of housing, health, and sustainability, Lowell's efforts are becoming linked so as to foreground the holistic character of workable solutions.

### **Integrative Approaches: Challenges to Be Faced**

This paper has described a multifaceted approach to reconnecting housing, sustainability, and environmental health. It has shown how different strands of activity can be harnessed in a more unified approach. New topics have been brought to the attention of existing groups. Existing groups have been brought into contact with other organizations. Policy practices have been enlarged. Events focused on planning have been used to concretely link housing, health, and sustainability. Statewide collaborations have been encouraged. And, newcomer groups have been drawn into the discussions.

These steps take as their starting point the national and state models from HUD, NIEHS, and EOEAA; they represent attempts to apply the models at the local level. But the national models provide only frameworks; and the implementation of these frameworks in specific contexts is far from straightforward. In fact, it creates certain paradoxes and tensions. These tensions should be kept in mind as other communities embark on

initiatives similar to those described here, with an eye toward resolving them in a reasonable way in each context.

Four such tensions, which permeate the work summarized throughout this paper, will be described in this final section. First is the tension between borrowing an approach from others (such as national policy leaders) and developing an indigenous approach that emerges from the local context and may be better suited to its particularities. Another tension surrounds the question of just how large of a role a university should play in a local process. Is it legitimate for a university to take a directive role in integration? A third tension concerns reliance on recent scientific findings (such as evidence linking rates of asthma and household conditions) as the basis for integrating housing, health, and sustainability when those findings are in flux and lack the bedrock stability that those designing interventions impute to them. And finally there is a tension in the very question of how lessons are learned about what works and how those lessons are retained.

One tension running through the work described here is whether the initiatives grow out of indigenous approaches or whether they are borrowed from other communities or national policy leaders. If borrowing from others occurs, the amount of time and effort needed to arrive at solutions may be reduced; such attempts at borrowing, however, could result in a lack of community commitment to the approach or even a lack of fit. The question for the future is how to both take advantage of national trends and at the same time build programs that are locally grown and tailored to the local context.

The second tension concerns the rightful nature of the university's role. It is paradoxical that a university—the quintessential outsider institution—might be *the* institution that is best situated to play a leading role in facilitating the sorts of integrative

activities summarized in this paper. As a comprehensive university, the institution has access to many perspectives and activities. Yet there is a tension between facilitating and directing the integration of community initiatives. In the efforts described in this paper, every attempt has been made to avoid crossing over the line from facilitating problem solving to directing the form that the interventions take. The tension remains, however, and the problem has yet to be fully resolved. This issue will continue to recur as UML increasingly orients its mission toward supporting regional economic and social development.

The third tension is related to the fact that many strands of activity draw on new research that points to the need to integrate housing with health and sustainability. Numerous interventions in the community grow out of such research. This focus on looking at the policy implications of research is part of the reason for the university's involvement—faculty spend a great deal of time examining research for its implications for interventions. Yet an emphasis on research exposes underlying tensions in the approach: misled by expectations of clear-cut research results, community partners are often disquieted by the fact that researchers remain divided about best approaches in addressing various environmental health problems. Researchers are being asked to fill several conflicting roles: to identify the ambiguities in available research data yet at the same time to treat the results as if they provide clear direction for the kinds of interventions that are needed. It remains to be seen whether partnerships of the sort that have been described in this paper can productively overcome these tensions to develop new ways that universities and their community partners can both stay in role *and* move

beyond traditional roles to make inroads on reconnecting housing, health, and sustainability.

Finally, the fourth tension emerges out of the extent to which the continued success of these integrative efforts in communities also depends on learning lessons from what has taken place. But how are these lessons learned? And will these lessons be remembered and retained? Throughout this analysis, much has been made of the fact that these efforts are intended to facilitate future endeavors. For example, effort was put into working with planning and policy committees charged with future planning. But these committees themselves are unstable; their membership shifts with the vagaries of external funding. Members come and go as a function of new demands and changing job priorities. Indeed, it has been striking throughout this work just how often past efforts have been forgotten. Communities often struggle to remember their own legacy; the absence of institutional memory and infrastructure makes this difficult. University faculty report their work in journals and have many other ways of recording past efforts and their impact. Are there ways that university faculty might work with communities to develop community-appropriate methods of creating continuity and community memory? Without ways to track past initiatives, efforts like those described in this paper may well be lost.

Progress has been made, as has been suggested throughout this paper, but much remains to be done if universities and their partners are to succeed in reconnecting housing with health and sustainability. The challenges outlined in this section will require continued conceptual work and explorations of various approaches to implementation. The problem of housing will not go away: adequate housing is a

ubiquitous human need. Problems of housing are concrete and demanding of immediate attention. By contrast, problems of health and the environment may lack immediacy: they show up in abstract demographics and their consequences for individuals are often delayed for years or even decades, but despite this lack of immediacy, problems of health and environment will likewise not go away. Issues of environmental health, though less tangible, are as inescapable as the air we breathe and the walls that surround us. To grasp the connections between housing and the environment may be to envision a healthier future.

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<sup>1</sup> Housing Studies [www.geographyarena.com](http://www.geographyarena.com); Joint Center for Housing Studies [www.jchs.harvard.edu/](http://www.jchs.harvard.edu/).

<sup>2</sup> Jacobs, et al (2002). The Prevalence of Lead-Based Paint Hazards in U.S. Housing. *Environmental Health Perspectives*, xxx.

<sup>3</sup> HUD (1995, July). The Healthy Home Initiative: A Preliminary Plan. Available at [www.hud.gov](http://www.hud.gov).

<sup>4</sup> Department of Housing and Urban Development Healthy Homes Demonstration Program, Federal Register, 67 (58), March 26, 14113-14133.

<sup>5</sup> Department of Housing and Urban Development Healthy Homes and Lead Technical Studies, Federal Register, 67 (58), March 26, 14091-14110.

<sup>6</sup> Community Preservation Act, 2000. Available from Massachusetts Executive Office of Environmental Affairs.

<sup>7</sup> Lowell and the Housing Crisis, 2002. Report available at [www.uml.edu/centers/CFWC/](http://www.uml.edu/centers/CFWC/)