Barn Raising: Building Coalitions to Promote Healthy Housing

Lessons Learned from the First Years at *The Asthma Regional Council of New England*

May 28, 2004

ARC
Asthma Regional Council

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Barn Raising: Building Coalitions to Promote Healthy Housing
Lessons Learned from the Asthma Regional Council of New England

Prepared by Ellen Tohn, ERT Associates and ICF Consulting June 18, 2004

Healthy housing is a laudable goal, who can be against this? The challenge is how to make it happen. Creating and following healthy housing practices requires input from a broader group of experts than typically exists within the housing policy and development community. Expertise is needed from public health, building science, environmental health, and health financing, in addition to the traditional housing fields of housing finance and development and housing maintenance. One effective strategy to bring together such expertise is to convene regional multi-disciplinary coalitions. Such a coalition was created in New England and its formation and successes provide a roadmap to propel healthy homes agendas across the nation. This paper explores the benefits of such an approach, outlines key steps in developing such an organization, and reports on the successful efforts of the first two years of the New England coalition – The Asthma Regional Council of New England. This paper should be of interest to those seeking to promote healthy housing initiatives that minimize health threats such as lead poisoning and asthma and housing providers who want to build durable and affordable housing.

I. Why Multi-Disciplinary Regional Coalitions?

The Limitations of Housing Providers Acting Unilaterally

What is healthy homes? Healthy homes practices encompass a wide range of building construction, rehabilitation and maintenance activities that seek to minimize health hazards associated with physical housing conditions. The primary health hazards of concern are: lead poisoning, asthma, other respiratory problems, carbon monoxide poisoning, cancer associated with radon, and injuries.

Given the breadth of what healthy homes means a similar breadth of expertise is required to create healthy housing. Individuals and organizations involved in financing, designing, building and maintaining housing all take actions that can either improve or inadvertently impact occupant health. However, these traditional housing experts generally don't know enough about health, environmental exposure, and health financing to independently develop policies, standards and guidance to effect change. They need partners.

There are also systemic constraints on housing providers acting unilaterally. Unit "production," creating as many housing units as possible, typically motivates housing providers. Private market-based housing developers and contractors want to produce housing with predictable costs to meet production and profitability goals. Affordable housing developers confront additional tensions – fighting homelessness and ensuring that housing costs are manageable so that families can still provide basic necessities – food, childcare, etc. Even when housing providers are interested in health considerations the system is stacked against them; there are few inherent benefits to builders/contractors

who choose to construct healthier housing. Some of the barriers facing those prepared to make change include:

- **Affordable housing providers face stiff opposition to design options that may increase initial construction costs regardless of the longer term costs saving and benefits for operating a unit as affordable.** Every additional dollar spent on a unit production takes away funds from the next unit.

- **Housing developers /contactors do not understand the health impacts of housing construction practices, are uncomfortable making decisions based on health, and are unable to evaluate information related to resident health.** This situation understandably makes them fearful that others will question their decisions to address health concerns because they are not health experts.

- **Private housing developers often do not take into account the costs of repairs and call backs when evaluating changes in building practices.**

- **Housing developers/contractors don't have relationships or professional interactions with needed experts (health, environmental exposure, health financing).**

Benefits of Housing Providers Acting in Multi-Disciplinary Groups

Multi-disciplinary coalitions by their nature can help overcome the inherent challenges housing providers face when considering addressing health issues.

- **Health and environmental experts can help give housing officials the credibility they need to advocate for changes among their housing counterparts.** This support can be critical in helping housing providers respond to skepticism about specific interventions and their health linkages (e.g., Will these changes really make a difference in a kids asthma?).

- **Regional groups create a supportive environment to spur innovative state and local initiatives.** Working collaboratively creates an opportunity to think outside the box and be inspired by new information and ideas. The group brainstorming provides greater possibility of thinking of an innovative idea and making it happen (provided the decision makers are in the room).

- **Convening a broader group creates opportunities to leverage the success of one local program by holding it out as an example of change.** Other localities can ask themselves, "If they can do it why can't I?" In addition the successful innovators and early adopters are rewarded with positive and very public recognition.

- **Regional and multi-disciplinary groups gain access to a wider range of funding than single purpose local groups.** A broader spectrum of funding maybe available to such groups if they have partners that can access and/or have credibility with a

larger pool of Federal or private funders. Partnering with environmental and health agencies can create channels to new resources.

- **Regional groups can promote change that is sustainable.** Informing, motivating, and supporting individuals with the power to make and sustain change is critical. Personal relationships forged in the coalition persist and foster ongoing collaboration.

- **Convening individuals and organizations that don't always meet, creates an opportunity to gain attention and interest.** Collaborations can attract individuals interested in meeting their peers and concerned about being left out of a new endeavor.

II. The Short Story of the Asthma Regional Council (ARC)

Council Formation

In May 2000 leaders from the regional offices of the US Department of Housing and Urban Development (HUD), Department of Health and Human Services (HHS), Environmental Protection Agency (EPA), state partners, researchers, and key health advocates met to discuss the alarming increase in asthma in New England and whether a multi-disciplinary response was warranted. But really the genesis of ARC started two years earlier as a few individuals committed to healthy housing began looking for opportunities to broaden their base and spread their message. That group included Naomi Mermin who ran a regional lead poisoning prevention coalition and became ARC's first Executive Director, Dr. Megan Sandel a pediatrician dedicated to creating housing solutions, Marty Nee a HUD official and former housing developer, and Ellen Tohn, a consultant working on similar issues at a national level. For two years they shopped around the notion of a healthy housing coalition. The "aha" moment came when the regional administrator for the US Department of Environmental Protection Agency (EPA Region 1) committed resources to explore collaborations between health and environment with a focus on children. This led to a discussion with the regional director of the US Department of Health and Human Services (HHS) who identified asthma as the central issue that could galvanize attention, expertise and effort across disciplines recognizing that healthy housing would be a cornerstone of the group's key actions.

Laying the Groundwork for the First Meeting

The initial EPA funding was used to support the first meeting which was a summit on asthma. It provided an opportunity to frame the agenda for the ongoing work on the coalition. The three key outcomes of the summit were a commitment to monitor asthma across the region from a multi-disciplinary perspective (health, housing, and environment); address building practices that affect asthma; and continue as an organized coalition that was subsequently named the Asthma Regional Council.

ARC's Mission Statement

ARC produced a mission statement at its first official meeting. The Council's staff had developed a draft statement that was circulated and edited at the meeting. This core statement, shown below, clearly articulates the Council's focus on asthma, children and families at the target population, multi-disciplinary collaborations, and low-income and minority populations. These restrictions have helped Council staff and members to stay on course over the 3 years of it existence. In particular the emphasis on children and low-income and minority populations (which are typically underserved) has helped the group to stay focused and directed on specific achievable outcomes.

"*To reduce the impact of asthma on children and families across New England, through collaborations of health, housing, education, and environmental organizations with particular focus on the contribution of schools, homes, and communities and to the disproportionate impact of the disease on low-income and minority populations."*

Creating an Action Plan

To ensure ongoing Council member participation and short term success, it was critical to define action items that were feasible, replicable, and effective in advancing the mission. Twelve flexible, yet specific, actions items called on members to craft solutions to problems related to Asthma Surveillance, Outreach and Education, Exposure Reduction in Housing and Schools, and Exposure Reduction in Communities. A guiding principle in creating the Action Plan was to identify solutions that state and localities could implement in the short term (less than 2 years since that is the typical job tenure for many individuals) and that leverage Council member resources (e.g., public funds). Two specific action items relate to healthy housing. (The full Action Plan is attached in Appendix B.)

- *Create and disseminate guidance for the design, renovation and maintenance of asthma safe homes.*
- *Work to have publicly- funded housing agencies/programs use asthma safe guidelines during construction, renovation, and maintenance.*

Within two years, the Council, with staff support provided by Ellen Tohn, ERT Associates, achieved substantial success with healthy housing. The Council developed and adopted the healthy housing building guidance affecting the construction of over 1300 units annually and the maintenance of 14,000 units. Nearly 300 affordable housing developers and contractors combined with housing inspectors completed healthy housing training. The Council has also created additional resources that the housing developers demanded that include a menu of healthy and affordable residential flooring options. Finally, the initial investment in ARC has helped the organization to forge partnerships and create a compelling program that has attracted substantial additional HUD and private foundation funds to continue its work. This work has broadened to also supporting housing interventions in urban and rural areas and additional training and guidance. For a detailed accounting of these successes see the description in Appendix C.

III. Creating an Effective Regional Body to Promote Healthy Homes

The below list outlines the key steps healthy housing advocates and others can take to create multi-disciplinary groups to advance a healthy homes agenda. While there is no one formula for success, the ARC experience provides some key lessons that can help jump start programs in other regions.

1. Identify a small group of influential leaders to convene the group around a "hot" issue. Be sure that the overall mission focuses on a compelling issue such as asthma, mold or elder health that can draw in individuals and organizations from various disciplines. It is also helpful to have one key politically powerful person feel that they "own" this initiative and will use their gravitas to help convene the initial meeting.

2. Identify an organization to provide initial funding to convene and staff initial meetings. A Federal agency or private foundation partner is a good choice as they look across programs through an issue lens and therefore often support multi-disciplinary efforts. These organizations generally have a broader geographic perspective than state programs or local foundations. Ideally the initial round of funding would support a year of meetings and staff resources to refine the mission and seek additional funding.

3. Invite a geographically and multi-disciplinary membership of senior decision makers. The ideal membership is about 40 people. The objective of membership is to include individuals from key agencies and organizations likely to be targeted to changes in policies or actions and to enlist the support of senior officials entrusted with decision making authority. It is usually wise to identify a pool of invitees that is greater than your target membership since some will choose not to participate. Inevitably it is difficult to restrict membership, especially if the organization is successful, as success breeds interest. Coalitions can respond to overwhelming demand to participate by limiting full Coalition membership but providing open access to committee participation.

4. Ensure the initial meeting produces a concrete mission statement and provides participants with new information and contacts. Plan before the meeting to have a core group of individuals who endorse a draft mission statement. This enables the staff to use the meeting time to secure broad commitment and wordsmith particular details. The development of the mission statement should also result in a commitment to prepare a specific action plan. The mission statement will help keep the group focused and efficient in developing the more detailed action plan that will serve as the blueprint for key actions.

5. Develop an Action Plan that articulates a discreet number of specific and achievable outcomes in the near terms. The Action Plan becomes the road map for projects and the organizational structure (e.g., what working groups/committees and staff are needed to create the products and/or deliver the activities articulated in the Plan). The Plan also becomes a tool to articulate the coalition's

priorities to potential funding organizations and to measure the coalition's progress through benchmarking (checking off items once they are underway and then completed). To be most effective Action Plan should include a manageable number of items (e.g., 5-15) that are:

- **Feasible in the Short Term:** The people at the first meeting must be able to accomplish the tasks anticipating job tenures of 2 years.
- **Specific Yet Flexible:** Each plan element should be a clear statement of a measurable objective yet not be overly prescriptive so as to stifle local strategies. For example, a key housing objective in the Action Plan is to "Work to have publicly- funded housing agencies/programs use asthma safe guidelines during construction, renovation, and maintenance." This is specific in that it focuses on publicly-funded housing agencies but allows flexibility for states to chose which are the most effective agencies to target (large housing authorities, housing finance agencies, departments of community and economic development). The action item also lays out the range of contexts from construction, to renovation to maintenance where there is a need for healthy homes guidance. It does not specify that all states need to adopt the exact same procedures but rather a general goal of healthy housing guidance. In practice, the states have all used the Guidance developed by ARC but focused efforts on different agencies depending upon the way in which federal and state housing funds are administered and where there are opportunities to make change.

6. Structure coalition membership, working groups/committees and staff to accomplish the Action Plan items.

Depending upon the size of the coalition, it may be beneficial to convene an Executive Committee of about three to six individuals who can help set direction, work with staff to make strategic decisions, raise funds and solicit participation from key organizations and individuals. Most regional coalitions will be sufficiently large so that an Executive Committee can play a helpful role. Any Executive Committee should have good geographic, organizational and disciplinary distribution (e.g., people from different states, areas of expertise and type of organizations – some government and some non governmental). Convene committees to correspond to the Action Plan elements. For example, if a group of plan items cluster in the housing arena it warrants a committee. Similarly, if several items deal with issues related to asthma surveillance or public health tracking initiatives, convene a group with expertise and decision making power in that field. A key is to identify an organized and motivated committee chair person and to fund staff to support committee efforts. Select individuals based on their commitment, ability to deliver change, and diversity of expertise and geographic locations.

7. Limit meetings to no more than 2-4 per year and ensure meetings provide information and require senior decision making.

Meetings need to be worth the time senior level staff devotes to them. One key for success is to include dynamic presentations by people who can compellingly identify the issues and provide a clear connection to solutions. This is particularly important at the initial meeting to ignite interest. However, meetings that only transmit

information and do not ask the participants to make decisions or take action are likely to loose the interest of senior officials and experts. If the coalition is to remain a dynamic organization capable to producing change it must retain senior decision makers who are asked to act in such a capacity at meetings. Ensure each meeting asks the coalition/council members to make policy decisions.

8. Conduct the bulk of the coalitions work outside the full committee meetings. Use the committee and staff resources to make progress in achieving the Action Plan items. Reserve the committee meetings for decision making and release/sharing of key new research or technical findings. This formula allows for a more efficient way of working where staff and others can work with the one or two key individuals to produce critical documents and convene key meetings at the state or local level.

9. Communicate your success. ARC applied for funding from the Trust for America's Health to produce a quarterly newsletter entitled, Innovations in year three of its existence. The newsletter highlights ARC's accomplishments as well as boasts the many successes and model programs of its partner agencies and can be downloaded at www.asthmaregionalcouncil.org. The newsletter is circulated to over 300 organizations in the region and the federal Regional Directors use it to show off their region's work to their colleagues around the country. Additionally, ARC has been successful in using the media to bring attention to the environmental aspects of asthma, which has served to keep the issue in the public's eye and to impress funders as a leadership organization worth supporting. Finally, ARC developed an resource rich website that contains a wealth of information regarding the various issues it is working on.

IV. Who Should Participate in A Regional Body?

Regional bodies with the broadest base of political and policy support draw from Federal, state and local organizations but also include non governmental advocacy and researchers. A sample listing of key members from the Asthma Regional Council of New England is attached.

- **Government**. Include representatives of the regional HUD, EPA, HHS, Dept. of Education. State commissioners for housing, health, environment and schools should also be invited to ensure consistent state level participation at the highest levels. Often state housing finance agency directors can take the place of a state housing manager, depending upon the state organizational structure. Similarly, the Director of a large housing authority can be an influential participant. The key for housing officials is to involve agencies that administer Federal and state housing and economic development funds because they support substantial affordable housing development activities.
- **Non Governmental**. Include representatives from health, environment, housing, academic, and community-based organizations. These groups help to push the government partners to innovate and provide credibility to the

group process. Their involvement can yield contentious discussions, but these are critical to achieving true solutions. Researchers and experts in the areas the coalition chooses to tackle are also vital because they provide essential information, access to other experts, and legitimacy to the activities.

- **Levels of Participation.** Convening the most senior agency officials and organizational directors is imperative if the coalition is to make timely policy and resource decisions. The key is to convene people who make policy decisions and control the resources needed to implement the action plan. These senior people must be convinced that participation will have value – i.e., real measurable change will occur that they can take credit for, and that their non participation will be a black eye.
- **Role of Coalition Staff**. The tension that arises out of a coalition of senior decision makers is that they are motivated to promote their agenda and they do not have the day to day time to explore issues, structure detailed plans and chaperone projects. It is the coalition staff that provides the thread to weave the tapestry. Staff is rewarded for organizational success and has the time to do the necessary legwork. Coalition staff plays an essential role in convening the group, structuring committees and recruiting members, drafting mission statements and action plans, and managing specific initiatives.

V. Conclusions

The Asthma Regional Council provided an ideal structure to promote healthy housing and, in fact, it is the Council's housing activities that were the most rapidly implemented and widely successful. It is also clear that these advances would not have occurred without the energy provided by interest in the asthma epidemic and the convening power exercised by the senior political and policy officials to jump start this group. Healthy housing advocates should not be afraid to broaden the coalition to achieve their objectives. Rather than diluting the mission, a multi-disciplinary coalition focused on a different but related topic (asthma, mold, elder health) creates additional advocates for the healthy homes agenda.

Appendix A-1: Asthma Regional Council Operating and Administrative Structure: Proposed January 2001

The Asthma Regional Council will:

1. Coordinate and set priorities for the implementation of the Asthma Action Plan, based on the availability of funding and other resources.
2. Monitor and report on the progress toward achieving the plan's action items.
3. Propose any necessary revisions, redefinition, and adjustments to the plan.
4. Examine proposed or enacted state and federal policies and programs designed to respond to the action items
5. Promote through endorsement policies and programs, which help achieve the action plan.

Structure: The Council membership will consist of the regional directors of the U.S Environmental Protection Agency, U.S Department of Health and Human Services and U.S Department of Housing and Urban Development or their designee, and State Commissioners of health, housing, education and environment or their design, directors of large municipal housing authorities or their designees, and select representatives from managed care organizations, housing, health education and environmental advocacy organizations. In case of a vacancy, the "Action Commissioner" or Regional Director or peer level appointment will fill the Council vacancy.

The Council will be lead by a five member Executive committee drawn from the council membership generally to include one public health commissioner, one environmental commissioner, one representation of two non-profit organizations, one federal representative and one housing of schools commissioner, but always to include representation of health, housing, schools and environment.

The Council work will be conducted through workshops or subcommittees to address specific issues or build specific joint initiatives. Workgroups or subcommittees are expected to be staffed by Council members or designated staff from their agencies, not the Council staff. Workgroups may include members not on the Council.

Operation: The Council will meet biannually for no more than 3 hours. The Executive Committee may call for additional meetings. There will be active exchange of information between meetings through email. Any Council member may approach the Executive Committee to request the Council be convened outside the two annual meetings. A member of the Executive Committee will chair each meeting.

The basic agenda of each meeting will consist of:

- Review of progress against the action plan
- Opportunity to review and revise the action plan
- Opportunity to take action on recommendations brought by the Executive Committee, workgroups, or staff

- Review progress of any joint activities

A half time staff person will dedicated to the Council. Staff will coordinate activities between meetings, prepare a report of progress against the action plan for each meeting, produce the meeting agendas, organize the meetings and produce meeting summaries. The staff will provide a clearinghouse function to help connect members on specific action items across sectors and states, and to identify resources for the Council members to access in achieving the action plan. The Council Executive Committee may also request the staff undertake specific projects consistent with the Action Plan.

Appendix A-2 ARC Council Operating Structure 2002 to Present

The Council has a robust membership of approximately 40 individuals with representatives from each state and experts and policy makers in the environmental, health, housing and schools arenas. The membership is limited to senior decision makers who have an individual vote in all Council decisions (e.g., adoption of the Action Plan, resolutions, etc.). The initial membership list is attached. Additional aspects of the Council structure are detailed below.

1. ***ARC staff includes a part time Executive Director.*** The founding Executive Director, Naomi Mermin was an assistant professor at Tufts University. She worked roughly 20 hours per week to convene 2 meetings per year; develop a Mission Statement, author and then gain adoption of the Action Plan; and help structure committees and other staff resources to accomplish the Action Plan objectives. She provided staff support to two committees, raised funds to support Council actions, and supervised consultants. In year three a more permanent Executive Director, Laurie Stillman was hired to continue this work. Ms. Stillman had two decades of experience in organizational development and environmental public health. A sample job description is provided below.
2. ***ARC uses consultants to staff committees.*** Use of consultants has several core advantages when funding is uncertain and can vary and specific areas of expertise are required. ARC initially hired a consultant with substantial housing expertise who helped secure funding for a robust housing agenda and continues to direct these efforts. Additional consultants include: an asthma surveillance expert who assists the Executive Director in implementing the Action Plan items related to surveillance and public health outreach. These subject area consultants have substantial expertise and operate with minimal supervision. They also are charged with working with the Executive Director to raise funds to support Council endeavors. Several general health and environmental consultants assist in drafting core materials (newsletter; factsheets) and assist the Executive Director in preparing meeting materials. One additional staff person was hired in year 3 after recipient of a large HUD grant and several substantial foundation grants.
3. ***A small Executive Committee provides strategic, fundraising, and other leadership to the Council and staff***. The Executive Committee currently consists of 7 individuals representing different states and areas of expertise. The Executive Committee was created after the initial meeting to respond to a need for ongoing contact and discussion among Council leaders and staff between committee meetings.
4. ***Committee structure parallels the Action Plan items***. There are now five key committees: Housing, Schools, Surveillance, Diesel, and Environmental Investments . Committees are chaired by a Council member or a designee from their agency and have staff support from the ARC Executive Director, a senior official at the U.S. Dept. of Health and Human Services regional office, or an ARC consultant.
5. ***Council meetings occur twice each year.*** Committees have more regular contact through email, conference calls, and periodic meetings. Sample meeting agendas for the first 2 meetings are attached. As the organization became more successful, it grew rapidly and now involves over 100 individuals. Beginning in year 3 a new

organizational structure emerged to reflect not only the senior level Council members but also the many individuals that work through ARC's committee structure. The Executive Committee determined that the two regional meetings per year would consist of one meeting comprised of the senior Council membership, and the other meeting would consist of the General Membership that is comprised of all of the folks who work through its committee structure. The Council makes the high-level policy decisions at their meetings while the General Membership meets in their committees and makes recommendations to the Council.

6. ***The Council is a project of an existing non profit organization and not a separate non profit.*** When initially convened the Council was staffed by an assistant professor at Tufts University – Naomi Mermin and hence was a project of Tufts. As the Council funding became more secure, the Executive Director and Executive Committee determined that it needed a permanent home in an existing organization. In year 2 of its existence ARC was moved to become a project of the The Medical Foundation – a public health non profit. A new Executive Director was hired when the move occurred. The rationale for placing ARC in an existing organization was that the Council would likely only be in existence for 3-7 years and that lifespan would not justify the costs associated with creating a new organization. The Medical Foundation provides significant resources and support and a linkage to public health experts.

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Laurie Stillman
Executive Director

EXECUTIVE DIRECTOR: ASTHMA REGIONAL COUNCIL

The Asthma Regional Council's mission is to reduce the impact of asthma on children and families across New England through collaborations of federal and state governmental agencies in health, housing, education, and the environment, with particular focus on the environmental contribution of schools, homes and communities to asthma prevalence and with attention to the disproportionate impact of the disease on low income minority populations. ARC is committed to working with NGOs to further their common goals.

The Executive Director will promote regional collaborations of governmental and NGO agencies in the New England region to advance ARC's mission, and oversee the development and implementation of an Action Plan in collaboration with ARC's membership. The position is 21 hours/week.

The Executive Director reports to ARC's Executive Committee for programmatic matters and reports to The Medical Foundation's Vice President of Programs regarding administrative and fiscal matters.

Qualifications

The Executive Director position requires a Master's Degree in Public or Environmental Health, Public Policy, Government Planning, Public Administration or a related field; and ten to fifteen years progressive administrative and policy experience in the areas of public health, environment, housing, urban planning or education. The position requires excellent written and verbal communication skills; demonstrated success working with public health professionals in both governmental and community-based settings; proven organizational development skills, and leadership in public policy matters. New England wide travel is a necessary function of this position.

Duties and Responsibilities

- Implement and continually update ARC's action plan in cooperation with the full Council
- Coordinate Executive Committee and Council meetings
- Fundraise for new and existing programs
- Program Development, including overseeing the work of subcommittees, grants and contracts, and special projects, including providing direct support and supervision
- Supervise staff and consultants
- Financial management
- Media and public relations
- Convene and attend meetings in the various New England states
- Attend occasional meetings of The Medical Foundation

Appendix A-3 ARC Council Initial Invitees

Title	Agency
Chief Toxics, Radiation and Urban Program	United States Environmental Protection Agency
Health Advocate	
Commissioner	Maine Department of Education
Research Coordinator	American Lung Association of Maine
School Health Specialist	Rhode Island Department of Education
Senior Planner	Boston Housing Authority
Air Quality Expert	Northeast States for Coordinated Air Use Management
Commissioner	Vermont Department of Housing and Community Affairs
Staff	HCFA
Health Promotion Consultant	Connecticut Department of Education
Assistant Commissioner	Massachusetts Department of Public Health Bureau of Env. Health
Deputy Commissioner	Connecticut Department of Economic and Community Development
Staff	Vermont Department of Environmental Conservation
Chief, Air Management Bureau	Connecticut Department of Environmental Protection
President	Massachusetts Association of Community Development Corporations
Commissioner	Massachusetts Department of Education
Director	Maine State Housing Authority
Director of Environmental Epidemiology	Department of Public Health
Associate Director, Disease Prevention	Rhode Island Public Health Department
HOME Funding Staff	Massachusetts Department of Housing and Community Development
Tobacco Control Chief	Vermont Department of Health
Commissioner	Connecticut Department of Public Health
Director	Northeast States for Coordinated Air Use Management
Professor of Environmental Health	Boston University School of Public Health
Commissioner	Vermont Agency of Natural Resources
State Medical Director	New Hampshire Department of Health and Human Services,
Children's Environmental Health	Environmental Protection Agency-New England
Commissioner	Maine Department of Environmental Protection
Health Issues Staff	Maine Department of Education
Administrator	Ctr for Children and Family Health, Div. of Health Care Quality
Regional Administrator	United States Environmental Protection Agency
Commissioner	Massachusetts Department of Environmental Protection
Acting Secretaries Representative	United States Department of Housing and Urban Development
Chief, Air Resources	Rhode Island Department of Environmental Management
Assistant Secretary	Executive Office of Environmental Affairs
Assistant Professor	Tufts University School Of Medicine
Executive Director	New Hampshire Housing Finance Authority
Community Builder	United States Department of Housing and Urban Development
Director	Rhode Island Public Health Department
Executive Director	Providence Housing Authority
Vice President/Massachusetts	Conservation Law Foundation
Policy and Planning Manager	Rhode Island Housing
School Health Services Consultant	New Hampshire State Department of Education
Director	Rhode Island Department of Environmental Management
Commissioner	Connecticut Department of Environmental Protection
Acting Regional Director	United States Department of Health and Human Services
Medical Director	Neighborhood Health Plan of Rhode Island
Air Toxics Program Manager	New Hampshire Department of Environmental Services

Pediatrician and Researcher	Boston Medical Center
Regional Director	U.S. Department of Education
Staff	Connecticut Department of Education
Executive Director	The Way Home
Staff	Vermont Public Health Department
President, Healthy Housing Expert	ERT Associates
Executive Director	Great Brook Valley Health Center
Commissioner	New Hampshire Department of Environmental Services
Director, Division of Quality Improvement	Maine Bureau of Medical Services
Executive Director	Hartford Housing Authority
MCH Medical Director	Maine Bureau of Health
Regional Health Administrator	U.S. Department of Health and Human Services
Manager, Maine Asthma Partnership Initiative	Maine Bureau of Health
Associate Professor of Medicine	Division of Occupational and Env. Medicine ,UConn Health Center
Staff	Connecticut Department of Environmental Protection
Bureau Chief School, Family and Community Partnerships	Connecticut Department of Education
Asthma Program Coordinator	Vermont Department of Health
Director, Bureau of Air Quality	Maine Department of Environmental Protection
Air Quality Division Director	Vermont Department of Environmental Conservation
Executive Director	Burlington Housing Authority
Air Quality Staff	NESCAUM
Director Clinical Projects	Massachusetts Division of Medical Assistance
Director	Medical Care Administration, Department of Social Services
Chief	Program Operations Branch, Div. Of Medicaid &State Op. HCFA-Boston
Bureau Chief Air Quality Planning & Eval.	Massachusetts Department of Environmental Protection
Administrator Bureau of Health Risk Assessment	New Hampshire Dept. of Health & Human Services
Executive Director	Portland Housing Authority
Deputy Director for Environmental Epidemiology	Bureau of Environmental Health Assessment
Staff	Centers For Disease Control
Staff	U.S. Environmental Protection Agency
Senior Transportation Planner/Clean Cities Coordinator	Greater Portland Council of Governments
Lead Program Manager	Vermont Housing and Conservation Board
Air Quality Staff	EPA-New England
Staff	Connecticut Department of Public Health
Planning Staff	New Hampshire Housing Finance Authority
Director of Government Affairs	American Lung Association of New Hampshire
Director	Boston Urban Asthma Coalition
Staff	Jordan Institute, UNH Climate Change Center
Staff	Manchester Health Department
Housing Development Staff	Connecticut Department of Economic and Community Development
Supportive Services Manager	Providence housing Authority
Regional Director	US EPA
Asthma Program Coordinator	Div of Comm. Health
Deputy Director	U.S. Dept. of Education
Principle Investigator	New Hampshire Dept of Health
Mobile Sources Section Chief, IAQ	Maine
Staff	VT Dept of Ed

Appendix A-4 Sample ARC Agendas

Asthma Regional Council Initial Meeting
Addressing the Challenges of Pediatric Asthma in Homes, Schools and the Outdoor Environment

Wednesday November 1, 2000
U.S Department of Housing and Urban Development
O'Neill Federal Building
Boston, Massachusetts

9:00 am	**Welcome** – Mary Lou Crane, Regional Director U.S Department of Housing and Urban Development
9:05 am	**Charge to the Council** – Mindy Lubber, Regional Administrator U.S Environmental Protection Agency **Review of Charter/Statement**: Review and amend draft **Strategic Objectives**: In order to systematically approach the asthma epidemic and to work collaboratively on joint strategic objectives, it is critical to come to consensus on the policy objectives of this group and to articulate these objectives and their justification. We will also look at short-term policy opportunities that based on discussion at this meeting could be immediately implemented.
10:30 am	**Tracking Initiative,** Judith Kurland, Regional Director U.S Department of Health and Human Services, Polly Hoppin, Senior Advisor U.S EPA/HHS
11:00 am	**Healthy Buildings Guidance Development for Asthma Friendly Homes,** Mary Lou Crane, Regional Director U.S Department of Housing and Urban Development, Marty Nee, Community Builder, U.S HUD
11:30 am	**Next Meeting:** Tentatively scheduled for Wednesday May 2 Discuss products expected to be reviewed at that meeting, including initiative products or updates, background or other information desired to discuss development of new initiatives, policy content focus for next meeting. Set any interim subgroup conference calls or meetings.
12:00 am	**Close**

Asthma Regional Council
Agenda December 5, 2001

10:00 **Welcome, Introduction of New Members**

10:10 **Directors Report**

10:30 **Evaluating the Completeness of Pediatric Asthma Surveillance Data in Massachusetts, Suzanne Condone Assistant Commissioner Environmental Health, Massachusetts Department of Public Health**

11:30 **Subcommittee Reports and Recommendations for Council Action**

*Housing Subcommittee – Amy Rainone
*Surveillance Subcommittee – Mary Lou Fleissner
*Diesel Subcommittee – Naomi Mermin

12:00 *Break to get working lunch, Continue with Subcommittee Reports and Recommendations*

12:45 **New Business/Next Meeting**
*Proposed amendment to Action Item 7 by Massachusetts DMA
*Proposal to work regionally on Mold standard, John Fulton, RI DPH
*Next Meeting priorities

Appendix B: Asthma Regional Council 12- Point Action Plan

December 5, 2001

Basis for Action

From 1980 to 1996, the number of Americans afflicted with asthma more than doubled to almost 15 million.[1] The steady rise in the prevalence of asthma constitutes an epidemic, which by all indications is continuing. Children have been particularly severely affected: the increase in prevalence of asthma over the last fifteen years has been highest in youngsters under five years old, with rates increasing over 160 percent between 1980 and 1994.[2] Asthma is the most common chronic childhood disease, and one of the leading causes of school absenteeism.[3] Low-income and minority populations experience substantially higher rates of fatalities, hospital admissions and emergency room visits due to asthma.

State and community-level data show that New England is squarely in the middle of the asthma epidemic - nearly 1 million of the more than 15 million asthma sufferers in this country reside in the New England Region. The Centers for Disease Control and Prevention (CDC) estimated that in 1998, the prevalence of asthma was approximately 6.5% across the six New England States. Local prevalence data suggest that the burden of asthma in some New England communities is much higher. New England's children are at particular risk. The Survey of Prevalence of Asthma Among School Age Children in Connecticut conducted by Environment and Human Health Inc found rates as high as 14% in some school districts. Pediatric hospitalizations in New England occur at substantially higher rates than adult asthma hospitalizations.

Asthma severity and asthma onset are strongly influenced by exposures to allergens and irritants in the environment, both indoors and outdoors. Many studies have demonstrated that exposure to indoor allergens can exacerbate asthma in people who already have the disease.4,5,6,7 House dust mites, cockroaches, mold and animal dander have been identified as the principal allergens that trigger asthma symptoms in people who are allergic to them. Reducing exposure to these allergens has been shown not only to reduce asthma symptoms and the need for medication, but also to improve lung function. Environmental tobacco smoke, also exacerbates the disease, and it may worsen the effects of allergens. Children with asthma have long been recognized as particularly sensitive to outdoor air pollution. Many common air pollutants such as ozone, sulfur dioxide, and particulate matter, are respiratory irritants that exacerbate asthma. Air

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2. Mannino DM, Homa DM, Pertowski CA, et al. Surveillance for asthma – Unites States, 1960-1995. MMWR 1998; 477 (No. SS-1):1-27.
3. National Center for Health Statistics, National Health Interview Survey 1996.
4. Rosenstreich DL, Eggleston P, Kattan M, et al. The role of cockroach allergy and exposure to cockroach alergen in causing morbidity among inner-city children with asthma. NEJM 1997; 336:1356-63.
5. Platts-Mills TA, Carter MC. Asthma and indoor exposure to allergens. NEJM 1997;336:1382-84.
6. Custovic A, Simpson A, Chapman MD, Woodcock A. Allergen avoidance in the treatment of asthma and atopic disorders. Thorax 1998;53:63-72.
7. Gergen PJ, Fower JA, Maurer KR, et al. The burden of environment tobacco smoke exposure on the respiratory health of children 2 months through 5 years of age in the United States: Third National Health and Nutrition Examination Survey. Pediatrics 1998;101(2):e8.

pollution also might act synergistically with other environmental factors to worsen asthma.[8] Research suggests that diesel exhaust particulate and exposure to ozone may enhance a person's responsiveness to allergens.[9],[10],[11]

Combating asthma caused or worsened by exposures in homes, schools and communities requires action by government and non-government leaders from different sectors. In May 2000 the regional administrators of HHS, EPA and HUD hosted a summit of New England Commissioners of Environment, Public Health, Housing and Education to address this challenge. The Summit attendees called for three priority actions to address asthma: the establishment of a regional coordinating council; the launching of a regional asthma tracking initiative; and the creation of guidance for the design, renovation and maintenance of asthma friendly schools and homes.

The Asthma Regional Council, convened on November 1, 2000, set its mission:

> *"To reduce the impact of asthma on children and families across New England through collaborations of health, housing, education, and environmental organizations, with particular focus on the contribution of schools, homes, and communities to asthma and with attention to the disproportionate impact of the disease on low income minority populations."*

This Asthma Action Plan identifies four targeted areas for action to address the environmental aspects of the asthma epidemic that are within the control or influence of Council members. Surveillance, Outreach and Education, Exposure Reduction in Homes and Schools, and Exposure Reduction in the Community form the four broad areas for action, with 12 specific action items. Action items are designed to allow individual states the greatest flexibility in designing the means of achieving action items. It is anticipated that individual states and the federal agencies will experiment and innovate to meet these policy targets. We expect to gain from this process better policies and programs for asthma and to rapidly share and implement the best policy and programming throughout the region.

Guiding Principles of the Asthma Action Plan

Coordination of the efforts of the New England States is necessary for effective response to the asthma epidemic.

In order to protect human health, action should be taken as early as possible, even where the precise benefit of our actions for asthma may be unknown so long as the action is reasonably likely to reduce the impact of asthma on children and families and holds general public health benefit.

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8. Koren HS. Association between criteria air pollutants and asthma. Environmental Health Perspectives 1995;103(suppl 6):235-242.
9. Nel AE, Diaz-Sanchez D, Ng D, Hiura T, Saxon A. Enhancement of allergic inflammation by theinteraction between diesel exhaust particles and the immune system. J Allergy Clin Imunol 1998 Oct; 102 (4Pt 1):539-54.
10. Koren HS. Environmental risk factors in atopic asthma. International Archives of Allergy and Immunology 1997; 113:65-8.
11. Gordon T, Fine J. Contribution of ambient air pollution to allergic asthma. Toxicology and Ecotoxicology News 1997;4:20-4.

When costs are incurred by one sector for benefits generally attributed to another sector, Council members will seek to support an appropriate allocation of funding and recognition across sectors.

Public sector programs will be targeted first in implementing this action plan.

We will maximize the effectiveness and efficiency of government resources by experimenting with interagency policy and programming that is responsive to the needs of children and families with asthma.

We will add to the understanding of Asthma in New England through evaluation of the efficacy and cost effectiveness of our policy and programmatic actions. While this Council does not focus on medical management issues we will coordinate closely with colleagues who do and specifically with the New England Managed Care Public Health Collaborative to ensure our actions are integrated and mutually supportive.

In keeping with these guidelines the following recommendations will be pursued.

Surveillance

Action Item 1: The Council encourages every New England State to develop an asthma surveillance program. States are encouraged to make the results publicly available to allow for analyzing and comparing baseline asthma rates, as well as development of a regional asthma estimate, and annual updates.

Action Item 2: The Council will 1) provide a forum for exchanging and strengthening health, economic and environmental data relevant to asthma in the region with a goal of creating more comparable data; 2) work toward developing pilot projects and research programs to answer specific, priority questions by examining health and environmental data.

Outreach and Education

Action Item 3: The Council encourages every New England state and each participating regional federal agency to identify an Asthma Coordinator dedicated to advancing this action plan through coordination across agencies and disciplines.

Action Item 4: The Council will support states and federal agency coordination across agencies to have education and technical assistance available to assist families in undertaking household management activities that improve indoor air and reduce asthma triggers in their homes.

Action Item 5: The Council will support states and federal agency coordination across agencies to have education and technical assistance available to schools in undertaking management activities that improve indoor air and reduce asthma triggers in schools.

Action Item 6: The Council will support states and federal agency coordination to have education and technical assistance available to private rental property

owners in undertaking management activities that improve indoor air and reduce asthma triggers in their rental units.

Exposure Reduction in Homes and Schools

Action Item 7: Publicly funded health programs should consider reimbursement for basic environmental controls, including integrated pest management, smoking cessation, and inspection of homes for environmental factors related to a child's asthma. Such reimbursement should be predicated on reasonable evidence of the cost effectiveness of these measures. The publicly funded programs, in partnership with Public Health agencies, should seek opportunities to conduct demonstration projects and cost effectiveness studies as well as explore innovative funding mechanisms for reimbursement.

Action Item 8: The Council will support the creation and dissemination of guidance for the design, renovation and maintenance of asthma safe homes. The Council will work to have publicly funded housing agencies and programs use asthma safe guidelines in construction and renovation projects and maintenance and repair programs.

Action Item 9: The Council encourages all state housing agencies and municipal housing authorities to seek opportunities to designate specific funds and funding mechanisms to be drawn on to make repairs to housing units necessary to maintain the units as asthma safe.

Action Item10: The Council will support the creation and dissemination of guidance for the design, renovation and maintenance of asthma safe schools. All new public schools construction should be built to meet indoor air performance standards. The granting of public funds for school renovation should be tied to schools conducting indoor air quality assessments and correcting deficiencies.

Exposure Reduction in Communities

Action Item 11: The Council supports the reduction of diesel school bus emissions through programs such as retrofit of diesel buses with commercially available emissions control technology, the provision of less polluting diesel fuel, and the replacement of diesel school buses with buses using less polluting alternative fuels.

Action Item 12: The Council supports the development of targeted programs to substantially reduce diesel school bus idling on school premises and other locations that children frequent.

Appendix C -- Overview of ARC Housing Activities: Turning Action Plans Into Action

The action items related to housing call for a two step process: 1) explaining what we want people and organizations to do differently through written guidance; and 2) seeking adoption of asthma friendly building practices by agencies that can affect a large number of affordable housing units through their public funding streams.

To accomplish the housing objectives, the Council decided that it would be prudent to sponsor healthy homes training to both build momentum and gather feedback before drafting ARC's Healthy Housing Building Guidance. Concomitantly, the Council established a Housing Committee to ensure that each state was represented in discussions related to training, guidance, and building practices. ARC staff and consultants invited individuals representing organizations that would be targeted to adopt the guidance to participate in the committee (e.g., state housing finance authorities, large public housing agencies, state community and economic development agencies) as well as advocacy groups and technical experts in public health and building science. The Housing Committee's success can be linked in part to its membership which includes both key housing officials who can implement change and public health experts and advocates who are familiar with the latest research linking housing conditions and asthma.

Healthy and Affordable Housing Training

The training was structured to meet the needs of affordable housing providers (consistent with ARC's mission to provide disproportionate attention to low-income and minority populations). The training -- "Healthy and Affordable Housing Training" was held over 1 ½ days in 4 locations (Connecticut, Boston, Maine, Vermont). Over 200 individuals completed training (contractors, state housing authority or housing agency staff, architects, energy star consultants, public health officials). The training was conducted by one of the US Department of Energy's Building America Consortia – Building Science Corporation. DOE funds were used to help develop training materials that included a series of handouts. The ***READ THIS*** series of pamphlets articulated *7* ***Steps to a Healthy Home*** (Dry, Clean, Well-Ventilated, Pest Free, Toxic-Substance Free, Combustion Product Free, Comfortable) and described recommended building practices for construction/renovation; unit turn over; and property maintenance. An ARC Council member and housing committee member, Dr. Megan Sandel agreed to provide the opening health-housing connection portion of the training. Using an ARC member ensured that ARC was developing an in-house expert; Dr. Sandel continues to deliver this talk to numerous audiences regionally and nationally. A copy of the presentation is available on ARC's web site www.asthmaregionalcouncil.org.

Training evaluation feedback provided critical input for identifying the building practices that would:

- have a positive health benefit by minimizing asthma triggers and conditions that sensitize or help cause the disease (moisture/mold; pests; dust; toxic substances);

- improve building performance (durability, energy costs, reduced maintenance);
- be consistent with existing building codes (ARC did not consider elements for its guidance that would require a code change); and
- be feasible under typical affordable housing budgets.

After reviewing the Evaluation feedback, ARC staff drafted the ***Building Guidance for Healthy Homes*** (the Guidance) and engaged in a multi-month process to reach a consensus on the Guidance among housing committee members. This entailed discussing the feasibility, effectiveness, and cost of the recommended practices. The goal was to create an accessible and feasible guidance that would minimize asthma triggers (dust, mold/moisture, pests – cockroaches, rodents) and other health hazards (carbon monoxide, toxic substances). Feedback from committee members helped shape the format and content of the guidance, key comments included the following. (A copy of the ARC Guidance can be downloaded from www.asthmaregionalcouncil.org.)

- **Include a background section describing the health and housing connection**. The Guidance is both a persuasive piece explaining why organizations and individuals should change their practices and a technical resource identifying building specifications that should be adopted. The background section clearly articulates the goals for healthy housing and the reasons to move toward this goal. It is essential for the policy audience.
- **Be short, so that people will read it.** The guidance is less than six pages but includes references to additional text for more information. The committee felt that it had to be readable to be relevant.
- **Be accessible to policy and technical readers.** The audience is both policy makers with limited technical background and individuals who want and need building specifications. Hence the Guidance explains the recommended practices in short Plain English phrases that a non technical or technical person can understand, includes a health and/or building performance rationale for each recommendations, and provides a reference to a more detailed technical document (i.e., The READ THIS pamphlet) for key drawings/specifications.
- **Ensure practices are workable for affordable housing providers.** Only include practices that resonate as practical, affordable, and effective (from health and building performance perspective).

Healthy Homes Outreach

Core housing committee members took the Guidance and advocated for its use in their agencies. In sum two state housing finance agencies and the Boston Housing Authority have agreed in principle to adopt the ARC Guidance. These agencies are in the process of modifying their design, construction and maintenance (for BHA) standards to be consistent with ARC. Several other state and local agencies have also adopted ARC. In total over 1300 new or rehab units constructed annually and 14,000 units of existing housing will be built or maintained following the ARC Guidance. Additional outreach efforts continue as ARC's committee works to expand the reach of the Guidance to all six New England states. The Boston Urban Asthma Coalition has also created a shorter version of the ARC Guidance and is advocating for its use among Community

Development Corporations in Boston; initial responses are very positive. Profiles of outreach activities in Rhode Island, New Hampshire and Boston are described later in this section.

Additional ARC Housing Resource Materials

As part of the outreach efforts, committee members requested additional technical information on healthier and costs effective flooring choices and guidance for property maintenance. Specifically, affordable housing providers wanted to be able to evaluate alternative to low cost carpet. (The Guidance calls for no carpet in wet rooms.) ARC developed a menu of flooring alternatives providing detailed information on cost, lifecycle cost, asthma triggers, maintenance, and other health considerations. This flooring menu was developed with assistance from graduate school students from Harvard and the Massachusetts Institute of Technology. It is being distributed throughout New England and requests for this information have come from other regions (e.g., King County Indoor Air Coalition). Several community development corporations, architects and the Department of Neighborhood Development in Boston have indicated that the flooring matrix is extremely helpful.

Lastly, ARC co-sponsored with the Boston Public Health Commission and the Boston Inspection Services Department a healthy homes training for code inspectors. Approximately 80 building, housing and Section 8 inspectors attended this one day session. Electronic versions of the three key presentations are available: Health and Housing Connection (Dr. Megan Sandel); Moisture and Mold Problems (Betsy Pettit, Building Science Corp., an original partner on the Healthy and Affordable Housing Training); and Integrated Pest Management (delivered by Craig Hollingsworth, University of Massachuetts); How to Write a Good Violation (Dion Irish, Boston Inspectional Services). Several other state officials on ARC's housing committee have expressed their interest in similar training for their inspectors.

In sum, ARC developed several core housing products.

1. Healthy and Affordable Housing Training (including an electronic presentation on Linking Housing and Health; and the READ THIS series of pamphlets)
2. Evaluation of Healthy and Affordable Housing Training
3. ARC Healthy Homes Building Guidance
4. READ THIS series of pamphlets on Healthy Housing (These pamphlets were developed by Building Science Corporation for the ARC training. ARC committee members and staff provided technical and policy input.)
5. Flooring Options for Affordable Residential Housing: Healthy and Cost-Effective Flooring
6. Healthy Homes Inspector Training (resource materials)

Rhode Island

A key affordable housing agency in Rhode Island is the Rhode Island Housing and Mortgage Finance Corporation (RIH), the state's Housing Finance Agency. RIH

administers federal housing funds (e.g., HOME, Low Income Tax Credits). ARC's Housing Committee Chair, Amy Rainone was designated by her agency to participate as a Council member and her strong commitment to healthy housing elevated Ms. Rainone to be committee chair. Ms. Rainone played a critical role in shaping the training and ARC Guidance. She involved a larger group of technical experts at RIH to ensure policy and technical support for the final recommendations.

RI Housing's interest in the asthma issues was driven by an interest in providing housing units that are healthy and minimize asthma triggers. Their interest in healthy housing also coincided with a separate effort to adjust RIH's design and construction standards to be consistent with EPA's Energy Star requirements. These standards will guide the production of all RIH financed affordable housing development. The organization's commitment to re-evaluating it's design and construction standards created an opportunity to incorporate the recommended ARC specifications into the revised standards.

RIH then undertook two key activities to guide their standard revision process. First, they held a series of meetings with architects, community development corporations, and builders who work regularly with RI Housing to explain that the agency was considering incorporating Energy Star, healthy housing, and sustainable building practices into upcoming standard revisions. The meetings were an opportunity to to learn more about healthy and sustainable building practices, and listen to concerns and suggestions on what to include and how to incorporate changes (changing standards, offering training, providing resource materials). RIH is currently working with consultants to incorporate feedback from the meetings, as well as energy star and healthy home guidelines into its new design standards. The consultants will also work with developers of almost 100 units of RIH financed housing to help guide the implementation of these new standards in actual development projects.

Finally, RI Housing is participating in a pilot project with HUD's Office of Healthy Homes to document the cost of implementing the recommended ARC practices. This information is being gathered during the design and construction phases of 30 units of housing being funded by RIH through the Low Income Tax Credit Program. The project includes a mixture of new and rehabilitated units. Cost data are expected in the winter of 2002 (from the design phase) and final numbers are expected in the spring/summer of 2003. HUD is supporting some of the data collection costs. RIH and HUD hope to expand the pilots to 100 units.

New Hampshire

The NH Housing Finance Authority administers HOME, Low Income Housing Tax Credits, and tax exempt bond financing of affordable housing in addition to operating as the state's largest public housing authority. Bill Guinther, Office of Policy and Planning, is both a Council and Housing Committee member. Mr. Guinther participated in developing the training and provided critical feedback on the ARC Guidance. He

coordinated a review of the Guidance by internal technical and policy experts to determine which elements would be feasible in NH.

NHHFA's mission statement reflects responsibility to provide housing that is not only affordable but safe for it's occupants. They also consider quality construction to be mandatory in order to obtain maximum public benefit and to protect the public's investments in affordable housing. The mold, moisture, and indoor air quality problems that trigger asthma and have other adverse effects on the health of humans are often harmful to buildings, and can create the need for costly repairs or renovation that would not have been necessary with proper design and construction. Because the values of protecting resident health and affordable housing assets are so closely aligned with the work of ARC, NHHFA has readily agreed to incorporate ARC's Building Guidance for Healthy Homes into their construction and design standards. Many of the recommended building practices were included in their current standards, and most are included in the International Building Code and associated codes (mechanical, electrical, etc.), all of which become New Hampshire's first state-wide minimum building code as of September, 2003. It was determined that the few Building Guidance items not included in IBC would best be added individually to NHHFA's Construction Standards rather than by adding another referenced code to an already long list. Full implementation of ARC Building Guidance is scheduled to take place in late 2003 or early 2004. Minimal additional costs are anticipated, but should prove good investments over the long haul.

One of the recommendations that came out of a recent peer review of NHHFA's affordable housing development process was that NHHFA provide more training and technical assistance to build more capacity among the developers, architects, and housing organizations directly involved in developing affordable housing. The ARC Building Guidance will serve well as the curriculum for a capacity-building training which will highlight the design and construction techniques used to avoid mold, moisture, and indoor air quality problems.

Boston, Massachusetts

The Boston Housing Authority is a Council member and has designated Kate Bennett, Director of Planning to serve on the Council and Housing Committee. Ms. Bennett also served as a member of ARC's Executive Committee. The BHA is the largest landlord in Boston, managing over 14,000 housing units. BHA's interest in asthma was spurred by a recognition that a significant percentage of their residents were suffering from asthma and respiratory problems. A study done in one Boston public housing development found that 40% of adults and 56% of children surveyed reported asthma.[12] A second study found 26% of all public housing residents' surveyed reported asthma.[13] BHA is also involved in a HUD Healthy Homes research project conducting healthy homes interventions in BHA units.

[12] Brugge D et al New Solutions, Summer 2001.
[13] Hynes HP et al Planning Practice & Research, Vol. 15, Nos ½ pp 31-39, 2000.

Numerous BHA staff attended the Healthy and Affordable Housing Training and provided feedback on the draft ARC Guidance. This participation facilitated BHA's decision to adopt the ARC Guidance in principle. BHA is currently revising its construction standards and property maintenance manual and work orders to reflect the ARC specifications. The ARC Guidance is a key reference document being used by architects designing a large HOPE VI project (Maverick) of roughly 400 units. According to Ms. Bennett, BHA's motivation for making the healthy homes changes was to improve the health conditions for residents and building performance.