

Healthy Homes Training Center and Network “Blueprint for Success”

I. Vision:

The vision of the Healthy Homes Training Center and Network (HHTC) is to ensure that America’s homes are safe and healthy by promoting nationwide awareness, knowledge, and proficiency in methods to enhance health and safety through improvements to housing.

II. Mission

The mission of the HHTC is to develop and disseminate training that integrates knowledge from the disciplines of health, housing, and the environment and is focused on improving the health and safety of housing. The training will target environmental health practitioners, public health nurses, housing/code inspectors, and others with interest and responsibilities related to health and housing.

III. Problem Statement

- Public health and housing practitioners seeking training and information about healthy homes are challenged in obtaining information because no central repository or resource is available.
- Resources directed toward health professionals often neglect the housing component while information for housing professionals tends to lack the public health perspective.
- People in key positions for implementing healthy homes policies and delivering services do not have a common, scientifically based framework for their work.

IV. Goals

The overall goals of the HHTC are to:

- Increase awareness of healthy housing principles.
- Increase competency of target audiences in performing healthy housing activities.
- Develop a mechanism for the introduction of new research and best practices into the training of the HHTC target audiences.
- Identify and optimize opportunities for networking, collaborations and partnerships among the key target audiences of the HHTC.

V. Needs Assessment

Developing instruction for a training or educational program can take many forms; there is no perfect model because each model has advantages and disadvantages. Broadly, though, any successful approach will use a systematic, objective, and organized procedure, and will likely be based on the following:

- 1) For whom the program is developed (target audience)
- 2) What the individual will learn or do (competencies)
- 3) How the subject content or skills are best learned (infrastructure --methods, activities, resources)
- 4) Extent to which the learning has been achieved (evaluation)

Recognizing that there are many ways to develop and deliver training, the project team is drawing upon several resources. These include the principles of Instructional Systems Design¹ and the Competency-to-Curriculum Toolkit². Although the nomenclature and the settings in which these methods have been employed vary slightly, the two approaches have many similarities and offer useful suggestions about the process the team can follow to create successful training. For instance, both approaches call for a front-end analysis/needs assessment to answer key questions about the target audiences, what we want the individuals to learn, the optimal delivery system for the training, and the potential constraints for carrying out a successful training initiative.

As part of a front-end needs assessment for the development of the National Healthy Homes Training Center and Network, the project team convened a two-day workshop on January 22 and 23, 2004 (see Appendix 1 for a list of participants). The development of the healthy homes training curriculum is unique in that it involves cross-training of environmental, public health and housing practitioners, and others. Few models exist for such a multidisciplinary training. With that in mind, the project team structured the workshop to enable participants from different disciplines to collaborate and make joint recommendations. It also provided time for more detailed work by representatives within each discipline. On Day One, the project team divided workshop participants into three groups—target audience, technical competencies, and infrastructure--to address the first three questions above, respectively. Due to time constraints, the project team decided to address the fourth item (evaluation) separately. On Day Two, participants were divided into three groups according to their areas of expertise (housing, health, and the environment). These groups were tasked to elaborate upon and validate the work of Day One. The remainder of this document summarizes the workshop discussions and offers recommendations for next steps.

¹ Basics of Instructional Systems Development. American Society for Training & Development. June 1997. ² Competency-to-Curriculum Tool Kit: Developing Curricula for Public Health Workers. January 16, 2002. Discussion Draft. Public Health Workforce Development Annual Meeting. September 12-13, 2001, Athens Georgia.

A. Target Audience

The project team tasked the target audience group to identify the primary audiences who lack competency in the area of Healthy Homes and therefore, would benefit from training. Following that, the group was asked to develop a “learner profile” for each audience. Learner profiles answer questions about the target audiences’ prior education, relevant training and experience, personal and professional characteristics (e.g. learning styles, level of motivation, communications skills), and logistical information (e.g. are the members of the target audience situated in close proximity or are they widely dispersed?). The learner profiles influence the design and delivery of the training, including for example, the level of customization that might be necessary, the degree to which audiences could/should be trained together, and the types of materials and delivery methods that the target audiences would find most accessible and acceptable.

The target audience group identified a list of more than a dozen audiences who could benefit from training in healthy homes (see Table A.1 for a complete list) and identified the level of competency that would be expected for the trainees:

Aware: Basic level of mastery of the competency. Individuals may be able to identify the concept or skill but have limited ability to perform the skill.

Knowledgeable: Intermediate level of mastery of the competency. Individuals are able to apply and describe the skill.

Proficient: Advanced level of mastery of the competency. Individuals are able to synthesize, critique or teach the skill.

Table A.1: List of Potential Audiences

Apprentices/ trades people	Housing inspectors
Childcare workers	IPM Practitioners
Community-based nurses	Law enforcement
Community development corporations	Public health nurses
Community organizers	PHA property managers & maintenance staff
Community outreach workers	Realtors/ insurance lenders
Contractors	Retail housing groups (e.g. Home Depot)
Environment health practitioners	Social Workers
Fire departments	Unions (trade schools)
	Utilities
	Weatherization Agencies

The group selected four primary target audiences who would need to be “proficient” in key healthy homes principles: environmental health practitioners (e.g. sanitarians, industrial hygienists), public health nurses (e.g. public health nurses, visiting nurses), housing/code inspectors, and community organizers. On Day Two, the full workgroup recommended adding two audiences: asset managers and architects/engineers/project managers.

After the group agreed upon the target audiences it created a profile for each (see Table A.2 for a summary). The matrix shows considerable variation among the target audiences in terms of their relevant experience and education levels as well as their communication skills and learning styles. This suggests that the training materials and delivery method must be designed in a flexible manner and should use a variety of teaching methods. A

modular approach may help ensure that information is at the right level for students (not too technical, not too basic). In this way, a code inspector may not need to take “housing 101” but would take “environmental health 101”. Problem solving, case studies, and other types of interactive and “fun” learning would help make the course material interesting and relevant to students who may be learning the concepts for the first time. The workshop participants agreed that senior level managers in health and housing would also need to be at least aware of healthy homes principles to successfully engage the primary target audiences. The group suggested a short primer for this audience.

Table A.2: Primary Target Audience Profiles

TARGET AUDIENCE	Relevant Job Responsibilities	Communication skills	Education Level	Learning Style	Environmental experience	Health Experience	Housing Experience	Proximity of Audience Members to Each Other
Environmental Health Practitioners (e.g. Sanitarians)	Conduct investigations and respond to complaints involving issues of environmental health and sanitation; prepare cases for referral or conduct immediate enforcement actions; coordinate with other programs; provide information to the public regarding environmental health and sanitation.	Varied	B.S. or higher-varied	Hands-on/ interaction	5	3	Varied	Large concentrations in major cities
Housing/Code Inspectors	Ensure safe, structurally sound, and sanitary building construction. Check plans and perform inspections for compliance with codes and laws, as well as county, state, and federal laws.	Varied	H.S.	Hand-on/ interaction	2	1	4	Large concentrations in major cities
Community organizers	Organize activities with neighborhood residents and community-based agencies and conduct educational activities to achieve policy and programmatic change.	High	Varied	Lecture and hands on	4	2	4	Everywhere
Community-based nurses	Facilitate, co-ordinate and develop systems, processes, and projects that promote health and that respond to community issues and priorities.	High	B.S. or higher-varied	Didactic	3	4	2	Close
Asset Managers	Visit properties to observe their physical condition and the performance of on-site property manager. Assist on-site management in correcting any deficiencies with the project.	Varied	B.S.	Lecture and hands on	2	2	5	Everywhere
Architects/Engineers/Housing Project Manager	Provide technical advice on architecture, building maintenance, material use; participate in annual building inspections; direct and participate in the preparation and implementation of planning, design, construction and redevelopment projects.	High	B.S. or higher-varied	Lecture and hands on	3	2	5	Everywhere

B. Development of Technical Competencies for Healthy Homes

One of the goals of the first Work Group meeting of the National Healthy Homes Training Center and Network (HHTC) was to reach consensus on a core set of technical competencies for healthy homes professionals. Core competencies provide a framework, based on performance objectives, on which curriculum and training are developed, delivered, and against which performance can be measured. The development of technical competencies for Healthy Homes used a framework outlined in “Competency-to-Curriculum Tool Kit: Developing Curricula for Public Health Workers” (See Appendix 2 for a brief outline of the process). Competency statements describe the complex combinations of applied knowledge, skills, and behaviors that enable people to perform their work effectively and efficiently. Competency statements express a standard level of worker performance in a specific area and are meant to describe: 1) an acceptable level of performance, 2) the skill needed to perform the work, and 3) the actual conditions under which the work is executed.

The core competencies group discussed the competencies necessary to achieve the program goals. The group agreed that the overall goals of the training are to promote the need for healthy homes training and to train a variety of professionals to do home health hazard assessments and make appropriate referrals. The group briefly discussed which specific hazards should be addressed by the training. It then decided that the project team could refer to the Healthy Housing Inspection Manual, which covers specific hazards in depth, to inform this aspect of the training. Therefore, the group focused its discussion on identifying the broad categories (“competency domains”) and then on the specific sub-competencies that fall under those domains.

The group identified seven competency domains:

- Assessment
- Analytic Skills
- Background Knowledge
- Hazard Control Measures
- Communications Skills
- Community Dimensions of Practice
- Ethical, Legal, and Other Considerations

The group discussed the need for technical competencies versus management and leadership competencies. While recognizing the importance of general management and leadership skills, the group agreed that the focus of the training center should be on building the technical competency of the target audiences. Table B.1 provides the detailed list of core competencies and sub-competencies.

Table B.1 – Core Competencies for Healthy Homes

1. **ASSESSMENT SKILLS**
 - Visuosensory assessment of the home environment
 - Environmental sampling and measurement in the home
 - Hazard recognition skills
 - Resident survey/environmental health history
 - Basic digital photography (for visual recording or observations)
2. **ANALYTIC SKILLS**
 - Baseline data collection/research on health and environmental factors
 - Evidence and performance-based outcomes
 - Program evaluation
 - Basic computer proficiency (including management of digital photographs)
3. **BACKGROUND KNOWLEDGE**
 - Basic environmental health
 - Basic public health
 - Basic building science
 - Specific environmental and safety hazards (interior house & exterior built environment)
 - Specific health effects for children, adults, elderly
4. **HAZARD CONTROL MEASURES**
 - Prevention (design, construction, planning)
 - Prevention (maintenance, renovation)
 - Remediation or intervention
 - Intervention or actionable hazards (need to prioritize)
 - Emergency action items (i.e. carbon monoxide, etc.)
 - Best practices and scientific evidence for what works
5. **COMMUNICATION SKILLS**
 - Active listening skills to actually “hear” the client
 - Cultural competency skills
 - Conflict resolution
 - Communication of assessment results to clients/residents
 - Risk communication
6. **COMMUNITY DIMENSIONS OF PRACTICE SKILLS**
 - Training to be a “change” agent (engage individuals & community groups, etc.)
 - Training and intervention for residents, owners, community workers
 - Knowledge of other agencies roles and responsibilities for collaboration Knowledge of other agencies roles and responsibilities for referral/linkages (i.e. trades people, health care system, social support services)
7. **ETHICAL, LEGAL, OTHER CONSIDERATIONS**
 - Personal safety (“when do you walk away?”)
 - Ethical and legal considerations (confidentiality, liability, etc.)
 - Insurance and liability issues
 - Pre-Home visit triage (How many people do you need to send into the home?)
 - Code and Regulatory issues

The group agreed that trainees in different positions would have different competency requirements. Therefore, the group's next task was to evaluate the core technical competencies as they apply to front-line staff, mid-level supervisory staff, and decision-makers/management staff. These categories are defined as follows:

Front-Line Staff: Individuals who carry out the bulk of day-to-day tasks, including fieldwork

Mid-level Supervisory Staff: Individuals with a specialized staff function but not necessarily hands-on field work (may be responsible for coordination and/or oversight of pieces of projects or programs).

Decision-Makers/Management Staff: Individuals responsible for major programs, functions of an organization, and decision-making, including recommendations on policy issues.

On Day Two, the project team divided participants into their respective disciplines—health, housing, and environment. These subgroups were tasked with identifying the desired skill levels (aware, knowledgeable, proficient, or not applicable) for each competency, based on the job category (front-line staff, mid-level supervisory staff, and decision-makers/management staff) within their discipline.

Appendix 3 summarizes the results of working group discussions regarding the level of proficiency required for each technical competency, by discipline (health, environment, and housing). Tables 3.1, 3.2, and 3.3 detail the recommended skill levels for front-line, mid-level, and decision-makers, respectively, for each technical competency by discipline (health, environment, and housing). Each of the three Day Two workgroups used different methods to identify and record their recommendations. Several sub-competencies were suggested by one of the workgroups and were not reviewed by the other two workgroups. Therefore, the summary tables have several limitations and the project team recommends that working group members review the results and provide comments. However, the tables do highlight the variation in training needs among different levels of staff and also across disciplines. There were several areas where competency levels were consistent across disciplines. For instance, the tables suggest that front-line workers, regardless of whether they come from environmental, housing, or health backgrounds, should be "proficient" in the technical competency domain "assessment" (see Table 3.1). In general, the working group suggests that front-line workers should demonstrate "proficient" skill in the technical competencies that mid-level staff should achieve a "knowledge" level of skill, and decision-makers should achieve an "awareness" level.

C. Infrastructure

The project team tasked the infrastructure work group with identifying the optimal teaching methods and delivery mechanisms for successful learning. The group identified opportunities for the widespread dissemination of the training, including potential partners who could be involved in the delivery and incentives that could be offered to ensure participation. The group also discussed delivery options (e.g. in-person, CD ROM, online communications, videos, etc.) and

how political, budgetary and time constraints might impact the training. The infrastructure workgroup prepared the following recommendations for the project team's consideration:

1. Create system level change by convincing policy makers (including administrators and supervisors/managers) of the importance of healthy housing.

- Create a policy "pitch piece," which explains why healthy housing should be a priority (consider developing a video, CD, or DVD).

2. Develop a good standardized training approach and materials that could be used nationally and recruit and train a cadre of trainers to offer the training.

- Trainers should have relevant work experience and should represent the diversity of populations in target areas.
- Involve people of color, Native Americans and individuals with an understanding of rural health care issues.
- Trainers should have a sense of passion about the subject, and be able to generate enthusiasm and interest in healthy homes issues.
- Trainers should be respectful of differing backgrounds and points of view.
- Training must focus on taking action and solving problems that stand in the way of taking action. It should take on a holistic approach to a healthy home, including assessment, housing repair, education, and encouraging occupant behavioral change.

3. Partner with associations for specific interest and trade groups to set up a delivery network.

- Groups that should be considered include: Architects, remodelers, National Environmental Health Association, American Public Health Association, American Medical Association, American Thoracic Society, Asthma and Allergy Network, American Association of Asthma, American Lung Association, American Society of Home Inspectors, AIA, NAHRO, the American Planning Association, National Association of Home Builders, Property Management Associations, individuals working on initiatives funded by CDC, HUD and EPA, HOPE 6, weatherization programs, and the National Association of Community Development Corporations.

4. Take advantage of existing training and accreditation systems.

- Architects are required to regularly take in-service courses and the existing delivery system through the graduate schools of design could be utilized.
- Environmental health professionals receive technical training from NEHA, which might be in a position to co-sponsor or approve CEUs for such a training at their annual meeting.
- College/university credits, CNEs and CEUs are incentives to participants for training. Co-sponsorship or accreditation by trade organizations (see above) would help ensure that trainees get appropriate professional credit for completion of training.
- Universities that already provide courses and organize seminars for public health practitioners (such as the Public Health Training Network, of which JHU is a member) could offer the training.
- Many land-grant colleges and their extension service agents already provide classes on IPM.
- Gain formal backing from the EPA and from groups that have had a long time involvement in healthy homes including APHA, CLAFSA, NAHRO and Affordable Comfort.

- Integrate healthy homes content into existing university programs including: sanitarian training courses, masters in community planning and masters in public health programs, basic community health nursing programs, and existing courses for housing managers and real estate agents.
- Pursue developing a funding mechanism for experienced programs (e.g. HUD Healthy Homes Grantees, CDC Asthma program grantees) to provide training and to use their on-going program work as a “living laboratory” to train others.

5. Anchor the training locally to ensure sustainability.

- Identify local or regional trainers who can serve as a resource network for trainees after training is complete.
- Local organizations should help determine who needs to be trained and where training should be held.
- Recruit local speakers to add specific components, for example, Integrated Pest Management by the County Extension agents, or a summary of the health impacts from unsafe housing by a local health care provider.
- Local public health and housing organizations could be asked to prepare an assessment of local healthy housing issues, including: a summary of applicable local laws, regulations and codes; a summary of any known data on problems identified to-date; and the results of programs that are already in place. The HHTC should provide a template for this assessment and resources to prepare it.

6. Provide resources to trainees after the training.

- Maintain a network of trainees, possibly through a list-serve, to help individuals keep in touch, solve problems and maintain support for their work; help provide answers to common questions or concerns (FAQs or bulletins).
- Other options available for follow-up on training issues include on-line chat-sessions, video and audio-conferencing.
- Develop a clearinghouse/resource center that will serve as a central resource for trainees and trainers.

7. Develop training that has the flexibility to meet the needs of trainees.

- Incorporate self-study and encourage active, individualized learning. Most public sector personnel have access to personal computers. Many inspectional staff have time at the beginning or end of the work day that could be used for self-education. Many also have access to professional society meetings and extension services.
- Consider a 1- or 2-day face-to-face training option combined with web- or CD-based training components.
- Prepare a video that covers basic issues (the “pitch piece”), which could be used in a variety of settings.
- Consider training during the winter because most health and housing workloads are very heavy in the summer.
- Consider covering training costs and travel expenditures, as was done by the National Lead Training Center in Louisville.
- Enable trainees to access training conveniently with minimal time expenditure and to repeat sections as needed to improve their own learning and retention.

Be creative and practical in the design of the training.

- Make use of available web and video-based training tools to virtually bring the home environment to trainees, to train the eye and tell the story (e.g streaming video training and developing case studies set in actual homes).
- Develop and package short educational lessons (10-20 minutes) on assessment issues, treatment options and how to work effectively with the family and community.
- Using footage from the same house and same family would be helpful to teach skills such as assessment, preparing a standard report, communicating with the family, identifying options for building repairs, and visualizing what a healthy home looks like.
- Consider interactive technology (for example, to teach individuals how to assess and record observations using a standard format) and incorporate benchmark standards (for example, achieving a level of basic competency in assessment and recording skills).
- Include review questions and exercises to help trainees identify success with the development of new knowledge.
- Ensure that training can be updated easily, particularly if web-based.
- Include examples from a wide variety of geographic locations and socio-economic settings in order to demonstrate the universality of at least some housing issues.
- Archive photographs that provide relevant teaching examples.

VI. Recommended Approach and Next Steps

A. Guiding Principles

At the end of the two-day workshop, participants were asked to provide the project team with “take home messages” to consider when developing the HHTC. These messages can be considered guiding principles for building a successful project. Most of the messages proposed could be placed into four distinct categories: project scope, stakeholder involvement, evaluation, and sustainability.

Project scope - Several comments encouraged project team members to remember that the HHTC cannot fulfill every need for every potential audience. Therefore, the scope of the project needs to be clearly defined and somewhat limited at the start. One suggestion was to “prioritize where you start and organize for success”. In order to accomplish this, the team must identify one or two items that will make the project successful from the start and that can be built upon in the future.

Stakeholder involvement - Involve a diverse group of individuals who are representative of all potential audiences in the planning and implementation process. The project should allow for more involvement from specific target audiences such as community members, housing inspectors, and individuals involved in rural health. Developing and sustaining a system to increase communications and facilitate partnerships between all potential stakeholders is an essential element for success of the project.

Evaluation- Throughout the project the development of outcome measures are needed. Evaluation is an essential component of any training and project team members may want to develop outcome measures to evaluate the actual training and measure implementation by the trainees.

Sustainability – Keeping the training practical, accessible, and easy to understand were identified as key elements for success. However, in order to ensure long-term success of the project, everyone involved in the project must recognize that they are a leader and can help successfully promote the training in every profession that has a stake in healthy homes issues. Everyone involved also must assist in identifying potential funding mechanisms that can be used to sustain and improve the project in future years.

B. Design

The next step for development of the core technical competencies is to define what are the specific knowledge, skills, and abilities, which must be learned to bring about each competency.

Knowledge refers to an organized body of information usually of a factual or procedural nature which, if applied, makes adequate performance on the job possible. Also refers to a body of information applied directly to the performance of a function.

Skill refers to the proficient manual, verbal or mental manipulation of data or things. Skills can be readily measured by a performance test where quantity and quality of performance are tested, usually within an established time limit.

Ability refers to the power to perform an observable activity at the present time. This means that abilities have been evidenced through activities or behaviors that are similar to those required on the job, e.g., ability to plan and organize work. Abilities are different from aptitudes. Aptitudes are only the potential for performing the activity.

Project staff will draft performance objectives for each core competency domain at three levels: awareness, knowledge and proficiency.

Ideally, the HHTC would develop training for each staff level (i.e., front-line, mid-level, supervisory) at each level of competency (i.e., aware, knowledgeable, proficiency). However, given time and budget constraints, the project team recommends focusing on one staff level for the first year of the HHTC. The team has several options:

- 1) It could develop one course for front-line health, housing, and environmental workers. This would include public health nurses, environmental health specialists and housing/code inspectors. This course would also be appropriate for community organizers and other housing staff working at the front-line. The training would have components that achieve all three levels of competency.
- 2) Alternatively, the project team could develop a course for decision makers or higher level program managers. Similar to the front-line staff course, this would be a cross-disciplinary training intended for decision-makers in the health, housing, and environmental sectors. Based on our discussions with workgroup members, this would be

a shorter course, focused on increasing awareness, and in year two, possibly including a short video.

- 3) Finally, the project team could develop a course for mid-level staff. These might include architects, asset managers, mid-level environmental scientists, and mid-level health officials. This would be similar to the course for front-line workers, but might not be focused on obtaining the same level of field proficiency.

In our assessment, the greatest training needs and the opportunity for the greatest impact reside with the front-line workers. Therefore, the project team recommends in the first year, focusing on developing training to create proficiency in healthy housing techniques among front-line workers. Front-line workers are unlikely to change their work practices unless they have the support of their supervisors. Therefore, we would include some senior staff in the group to be trained this summer.

In year 2, based on evaluations and comments received from the first group of trainees, the HHTC would complete development of the training for senior staff. Much of the material for this training could be pulled from the front-line worker training and could be created in fairly short order.

Importantly, our recommended approach to curriculum design is intended to avoid creating stovepipe training for each target audience (e.g., public health nurses, community organizers, architects/contractors). While certain distinctions among these audiences are important to understand and will help us with outreach and implementation, we believe that the audiences can generally be grouped into the three categories (front-line, mid-level, supervisory). This approach promotes cross-training and collaboration and ensures that the course is designed to appeal to the multidisciplinary needs of the target audience.

C. Time frame for development and implementation

March 2004

Project staff will prepare an initial draft of objectives for each of the Core Competencies, as described above. The Work Group will meet by conference call on March 17th. Project staff will organize the Work Group into core competency groups to review and finalize the draft objectives for each of the core competencies (core competency groups) and to begin development of the curriculum corresponding to that competency. Project staff will provide copies of relevant curriculum materials received to date to each core competency group.

April 2004

Core competency groups will meet by conference call to discuss and develop written outlines for the curriculum based on their assigned competency domain.

May 2004

Project staff will send a working draft curriculum outline for the training, based on work in April, to all Work Group members for review and comment. With assistance of identified work group members, project team will obtain support for training from at least 3 national organizations, including at least one that can provide CEUs for sanitarians.

June 2004

Project team will prepare a summary progress report for CDC. NCHH will organize another meeting of the Training Center Work Group immediately before or after the Tri-Agency Conference June 20-25 to finalize the curriculum, look at course materials, and take an initial look at some of the course components. Work Group members will provide comments. Project team will: begin plans for the initial training of 30 individuals to be held in Baltimore in August; complete plans for evaluation of the initial training; submit course materials to CDC and at least one national organization for CEU/CNE approval.

July 2004

Project team will finalize curriculum, select trainers, prepare training materials, identify trainees, and make final arrangements for training in August. Project team will develop plan for expanding the network in Year 2 and draft a long-term sustainability plan for the Training Center.

August 2004

Training team will deliver initial training in Baltimore. Project team will evaluate training success, following evaluation plan and prepare a summary report focused on findings and recommendations. NCHH will prepare Year One report.

D. Evaluation

The overall goal of evaluation for the National Healthy Housing Training Center and Network is to assure public health and housing practitioners receive adequate and appropriate training subjected to continuous improvement.

The Training Work Group will identify information gaps, make recommendations and develop trainings aimed at public health and housing practitioners to bring a comprehensive, science-based approach to this effort. These trainings will be evaluated to elicit feedback on the content of the curriculum and its relevance to practitioners in the field.

In Year One, the Training Center and Network will focus on the following evaluation measures:

- Collection of pre- and post- test information about basic healthy housing knowledge of training participants.
- Summary of participant feedback on the quality of the educational experience, the quality of instruction, appropriateness of tools and curriculum, and satisfaction with the general approach based on a written evaluation tool.
- Audit and video taping of the initial class by project staff. The Project Team will develop audit and videotape analysis tools to assess key components of the educational experience including the level of student engagement and comprehension, and quality of instruction;
- Organization of separate unstructured focus groups with students and with faculty to ascertain strengths and weaknesses of the training and glean suggested changes for future training.

Project staff will develop a discussion guide for use in unstructured focus groups with students and faculty. Students and faculty will be asked about their perceptions about the Training Center and curriculum around such issues as:

- Satisfaction with the training, including the registration process;
- Understanding of core competencies of Healthy Homes professionals;
- The extent to which the curriculum adequately conveyed Healthy Homes theory as well as practical tools for them to use in their professional positions;
- Whether participation in the training created opportunities for networking and expanded collaboration with other professionals on Healthy Homes activities;
- The likelihood that other professionals in their respective organizations (or students in their Departments) would participate in further Training Center classes;
- Perceived barriers to using the content of the coursework;
- Preferences for receiving emerging information on Healthy Homes; and
- Recommendations for changes to the curriculum.

We will summarize our evaluation findings and recommendations in a draft report, which will be reviewed by the Work Group and CDC prior to inclusion in our Final Report on Year One activities.

We anticipate conducting an additional evaluation of the impact of the first training approximately three months after the training (in Year 2). We would like to conduct a moderated, on-line “live- talk” exchange with participants to identify strengths and weaknesses of the training. Participants will be asked to share successes and barriers encountered in applying information and skills learned at the training. This session will be taped and used to identify areas of potential change in the curriculum or in our approach with public health and housing agencies.

We will prepare a longer-range evaluation plan to assess the effect of training on practice as the Training Center and Network expands in Years Two and Three. A summary of initial evaluation of the training will be integrated into a comprehensive evaluation report at the end of the project.

Appendix 1 - List of Attendees

Joe Beck
Eastern KY University
Richmond, KY

James LaRue
The House Mender Inc
Cleveland, OH

Martha Berger
EPA, Office of Children's Health
Washington, DC

Karin Mack
CDC, National Center for Injury Prevention
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Patrick Bohan
Eastern Oklahoma University, Dept of EHS
Ada, OK

Stephen Margolis
Rollins School of Public Health
Emory University
Atlanta, GA

Mary Jean Brown
CDC, National Center for Environmental
Health Lead Poisoning Prevention Branch
Atlanta, GA

Pat McLaine
National Center for Healthy Housing
Columbia, MD

Julia Burgess
Alliance for Healthy Homes
Washington, DC

Deb Millette
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Adrienne Ettinger
Johns Hopkins Bloomberg School of Public
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Rebecca Morley
National Center for Healthy Housing
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Joanna Gaitens
National Center for Healthy Housing
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Martin Nee
HUD Office of Healthy Homes and Lead
Hazard Control
Boston, MA

Suzanne Gaynor
HUD Office of Healthy Homes and Lead
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Douglas Ratner
Overlook Hospital
Summit, NJ

Jerry Hershovitz
CDC, National Center for Environmental
Health/Agency for Toxic Substances and
Disease Registry
Atlanta, GA

Steve Schwartzberg
Alameda County
Oakland, CA

Randall Hirschhorn
City of Philadelphia Dept of Public Health
EHS
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Anthony Starensinic
University of Wisconsin, School of
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Madison, WI

Patricia Hynes
Boston University, Dept of EHS
Boston, MA

Ellen Tohn
ERT Associates
Wayland, MA

Diane Zerbe
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Carol Kawecki
National Center for Healthy Housing
Columbia, MD

Charles Treser
University of Washington, Dept of
Environment and Occupational Health
Services
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Appendix 2 – Steps Involved in Defining Competencies*

1. What is the overall program goal (mission statement)?
2. What technical competencies are needed by public health, environmental health and housing professionals to bring about the program goals?

Step 1: Select a competency domain

(Example: Domain #1 Assessment and Analytic Skills)

Step 2: Define key words or phrases within the competency statement

3. What is the desired outcome of the performance? (What is the performance standard?)
What are the essential services of Healthy Homes?

4. What is the level of skill required by each target audience?
(Assumes three levels: front line staff, senior level staff, supervisory/management staff)

Step 3: Specify required sub-competencies for the competency

Step 4: Identify the level of proficiency required by each target audience (aware, knowledgeable, proficient)

5. What are the indicators that define each competency? (performance standard)
(Qualitative/behavioral/observable and quantitative/measurable)
6. What are the specific knowledge, skills, and abilities (KSA's) which must be learned to bring about each competency?

* As outlined by the “Competency-to-Curriculum Tool Kit: Developing Curricula for Public Health Workers” (Discussion Draft - January 16, 2002) by the Competencies & Curriculum Workgroup (Chairperson: Kristine Gebbie) at the Public Health Workforce Development Annual Meeting, September 12-13, 2001, Athens, Georgia.

Appendix 3

RECOMMENDED SKILL LEVELS BY COMPETENCY FOR FRONT-LINE WORKERS

	FRONTLINE WORKERS		
	HEALTH	ENVIRONMENT	HOUSING
1. Assessment			
1. Visuosensory Assessment	3	3	3
2. Environmental sampling and measurement in the home	3	3	3
3. Hazard recognition skills	3	3	3
4. Resident survey and/or environmental health history	3	3	3
2. Analytic Skills			
1. Baseline data collection	3	2	0
2. Evidence and performance-based measures	3	2	2
3. Evaluation	3	2	1
4. Basic computer skills	3	*	*
3. Background Knowledge			
1. Basic environmental health	2	3	1
2. Basic public health	3	3	1
3. Basic building science	1	3	2
4. Specific health effects for children, adults, elderly	3	3	2
5a. Best practices and scientific evidence for what works (non-construction worker)	3	2	*
5b. Best practices and scientific evidence for what works (construction worker)	2	*	0
4. Hazard Control Measures			
1a. Prevention (design, construction, and planning)	1	2	3
1b. Prevention (maintenance, renovation)	2	2	3
2. Remediation	1	3	2
3. Intervention or actionable hazards (need to prioritize)	2	3	3
4. Emergency action items (i.e. carbon monoxide)	3	3	2
5. Communication Skills			
1. Active listening skills	3	3	1
2. Cultural competency skills	3	3	3
3. Conflict resolution	3	2	2
4. Effect speaking skills	*	3	*
6. Community Dimensions of Practice			
1. Training to be a "change" agent (for system)	1	3	1
2. Training to be a "change" agent (for individuals)	3	3	1
3. Training and intervention of residents, owners, and community workers	3	3	1
4. Knowledge of other agencies' responsibilities for collaboration (i.e. lead program)	3	3	1
5. Knowledge of other agencies' responsibilities for referrals and linkages (i.e. trades people, health care system, social support services)	3	3	1
7. Ethical, Legal, Other Considerations			
1. Personal safety (when do you walk away?)	3	3	3
2. Ethical and legal considerations (i.e. confidentiality, basic health and building code violations)	3	3	3
3. Insurance and liability issues (health)	3	3	*
3. Insurance and liability issues (housing)	2	3	2
4. Pre-home visit triage (how many and what types of people do you send into the home?)	3	2	0

LEGEND: 0 = NOT APPLICABLE, 1 = AWARE, 2 = KNOWLEDGABLE, 3 = PROFICIENT

* added by group; not addressed by this group

RECOMMENDED SKILL LEVELS BY COMPETENCY FOR MID-LEVEL WORKERS

	MID-LEVEL WORKER		
	HEALTH	ENVIRONMENT	HOUSING
1. Assessment			
1. Visuosensory Assessment	3	3	2
2. Environmental sampling and measurement in the home	2	3	2
3. Hazard recognition skills	3	3	3
4. Resident survey and/or environmental health history	3	3	2
2. Analytic Skills			
1. Baseline data collection	3	3	1
2. Evidence and performance-based measures	3	3	2
3. Evaluation	3	3	1
4. Basic computer skills	3	*	*
3. Background Knowledge			
1. Basic environmental health	2	3	1
2. Basic public health	3	3	1
3. Basic building science	1	2	2
4. Specific health effects for children, adults, elderly	3	3	2
5a. Best practices and scientific evidence for what works (non-construction worker)	3	3	1
5b. Best practices and scientific evidence for what works (construction worker)	2	*	*
4. Hazard Control Measures			
1a. Prevention (design, construction, and planning)	1	3	3
1b. Prevention (maintenance, renovation)	2	3	3
2. Remediation	1	3	2
3. Intervention or actionable hazards (need to prioritize)	2	3	2
4. Emergency action items (i.e. carbon monoxide)	3	3	2
5. Communication Skills			
1. Active listening skills	3	3	1
2. Cultural competency skills	3	3	3
3. Conflict resolution	3	3	3
4. Effect speaking skills	*	2	*
6. Community Dimensions of Practice			
1. Training to be a "change" agent (for system)	2	3	2
2. Training to be a "change" agent (for individuals)	3	3	2
3. Training and intervention of residents, owners, and community workers	3	3	1
4. Knowledge of other agencies' responsibilities for collaboration (i.e. lead program)	3	3	1
5. Knowledge of other agencies' responsibilities for referrals and linkages (i.e. trades people, health care system, social support services)	3	3	1
7. Ethical, Legal, Other Considerations			
1. Personal safety (when do you walk away?)	3	3	2
2. Ethical and legal considerations (i.e. confidentiality, basic health and building code violations)	3	3	3
3. Insurance and liability issues (health)	3	3	1
3. Insurance and liability issues (housing)	2	3	2
4. Pre-home visit triage (how many and what types of people do you send into the home?)	3	3	0

LEGEND: 0 = NOT APPLICABLE, 1 = AWARE, 2 = KNOWLEDGABLE, 3 = PROFICIENT

* added by group; not addressed by this group

DECISION-MAKERS

RECOMMENDED SKILL LEVELS BY COMPETENCY FOR DECISION-MAKERS

	HEALTH	ENVIRONMENT	HOUSING
1. Assessment			
1. Visuosensory Assessment	1	0	1
2. Environmental sampling and measurement in the home	1	1	1
3. Hazard recognition skills	1	1	1
4. Resident survey and/or environmental health history	1	0	1
2. Analytic Skills			
1. Baseline data collection	1	1	1
2. Evidence and performance-based measures	3	2	1
3. Evaluation	3	2	1
4. Basic computer skills	3	*	*
3. Background Knowledge			
1. Basic environmental health	2	1	1
2. Basic public health	3	1	0
3. Basic building science	3	1	1
4. Specific health effects for children, adults, elderly	3	2	1
5a. Best practices and scientific evidence for what works (non-construction worker)	3	2	1
5b. Best practices and scientific evidence for what works (construction worker)	1	*	*
4. Hazard Control Measures			
1a. Prevention (design, construction, and planning)	1	1	1
1b. Prevention (maintenance, renovation)	2	1	1
2. Remediation	1	1	1
3. Intervention or actionable hazards (need to prioritize)	1	1	1
4. Emergency action items (i.e. carbon monoxide)	3	1	0
5. Communication Skills			
1. Active listening skills	3	2	0
2. Cultural competency skills	3	2	1
3. Conflict resolution	3	2	2
4. Effect speaking skills	*	2	*
6. Community Dimensions of Practice			
1. Training to be a "change" agent (for system)	3	1	1
2. Training to be a "change" agent (for individuals)	2	1	1
3. Training and intervention of residents, owners, and community workers	2	1	1
4. Knowledge of other agencies' responsibilities for collaboration (i.e. lead program)	3	2	1
5. Knowledge of other agencies' responsibilities for referrals and linkages (i.e. trades people, health care system, social support services)	3	2	1
7. Ethical, Legal, Other Considerations			
1. Personal safety (when do you walk away?)	3	1	1
2. Ethical and legal considerations (i.e. confidentiality, basic health and building code violations)	3	3	2
3. Insurance and liability issues (health)	3	3	1
3. Insurance and liability issues (housing)	1	3	1
4. Pre-home visit triage (how many and what types of people do you send into the home?)	2	1	0

LEGEND: 0 = NOT APPLICABLE, 1 = AWARE, 2 = KNOWLEDGABLE, 3 = PROFICIENT

* added by group; not addressed by this group

