

**The Healthy Homes Initiative:
A Preliminary Plan
(Full Report)**

**U.S. Department of Housing and Urban Development
Office of Lead Hazard Control**

APRIL 1999

Table of Contents

Acknowledgments ..	1
Executive Summary ..	4
I Introduction ..	6
II Background ..	9
A. Legislative Direction ..	9
B. Basis for the Initiative ..	9
C. Development of the Preliminary Plan ..	10
III Problems to be Addressed and Key Technical Questions ..	11
A. Inventory of Healthy Homes Issues ..	11
B. Intersections of Housing and Health ..	12
C. Structuring the Healthy Homes Initiative ..	14
Excess Moisture Reduction ..	14
Dust Control ..	15
Improving Air Quality ..	16
Education ..	16
D. Key Scientific and Implementation Questions ..	16
E. Toxic Mold Questions and Research Needs ..	18
IV. Survey of Key Housing-Related Health & Safety Hazards ..	21
V. Spending Plan ..	25
A. Spending Plan for FY 1999 ..	25
B. Spending Plan for FY 2000 ..	27
Appendices ..	29
A. Healthy Homes Brochure, TV Advertising Campaign & HUD Website ..	
B. Excerpts from Appropriations Act and House Appropriations Committee Report ..	30
C. Draft Background Paper for Peer-Review Meeting ..	32
D. Proceedings of Meeting of Experts and Practitioners ..	63

Acknowledgments

The Department of Housing and Urban Development is grateful for the assistance of the many experts who provided their time and insightful advice in the development of this plan. In particular, the contribution of Dr. Tom Matte' of the Centers for Disease Control and Prevention has been especially noteworthy and is another example of the long-standing fruitful collaboration between HUD and CDC. HUD's new Community Builders, who were represented at the deliberations leading to this document by John P. Winter, can also be expected to play a key coordinating role at the local level where Healthy Homes programs are funded.

Contributing Authors

David E. Jacobs, PhD, CIH
Warren Friedman, PhD, CIH
Peter Ashley, DrPH
Molly McNairy

Outside Experts

The Department's thinking about Healthy Homes has been greatly advanced by the insights and assistance of a broad range of experts and practitioners in a variety of fields and disciplines, including housing, building science, medicine, epidemiology, toxicology, environmental science, asthma, lead poisoning prevention, pulmonary medicine, and many others. HUD is extremely gratified by the active participation, technical input, and enthusiasm of these outside experts. Their willingness to juggle calendars in order to attend the 2-day meeting on December 8 and 9, 1998 is one measure of their interest in the promise of the Healthy Homes Initiative. Many of these

participants invested substantial time and effort in providing materials before and after the meeting and commenting on the discussion report. The Department intends to call on these experts either individually or in small or large groups to provide valuable feedback and counsel from time to time to help ensure that the Healthy Homes Initiative is designed for maximum effectiveness.

Terry Allan, R.S., M.P.H.
Cuyahoga County Board of Health
Cleveland, OH 44115-1882

Bruce Lanphear, M.D. M.P.H.
Children's Hospital Medical Center
Cincinnati, OH 45229-3039

John Winter
Dept. of Housing & Urban
Development
Burlington, VT 05402-0879

Terry M. Brennan, M.S.
Camroden Associates
Westmoreland, NY 13490

James La Rue
The House Mender, Inc.
Shaker Heights, OH 44120

Darryl Zeldin, M.D.
Natl. Inst. of Env. Health Sciences
Research Triangle Park, NC
27709

Gary Butts, M.D.
Mt. Sinai Medical Center
New York, NY 10029

Paul Liroy, Ph.D.
University of Med & Den of New
Jersey
New Brunswick, NJ 08855

Liz Blackburn
EPA Office of Children's Health
Protection
Washington, DC 20460

Martin G. Collins, J.D., MCRP
City of Milwaukee
Department of Building
Inspections
Milwaukee, WI 53202

Morton Lippmann, Ph.D., CIH
NYU School of Medicine
Tuxedo, NY 10987

Richard Svenson, P.E.
NYS Department of Health
Albany, NY 12203-3399

Dorr Dearborn, Ph.D., M.D.
Rainbow Babies and Children's
Hospital
Cleveland, OH 44106

Dennis Livingston
Community Resources
Baltimore, MD 21230

John D. Spengler, Ph.D.
Harvard School of Public Health
Boston, MA 02115

Nick Farr, J.D.
The National Center for
Lead-Safe Housing
Columbia, MD 21044

Thomas Matte, M.D., M.P.H.
Centers for Disease Control and
Prevention
New York, NY 10029

Steve Schwartzberg, MPH
Alameda County Health
Department
Oakland, CA 94606

Mary Ellen Fise, J.D.
Consumer Federation of America
Foundation
Washington, DC

Philip Morey, Ph.D., CIH
AQS Services, Inc.
Gettysburg, PA 17325

Joseph Schirmer, CIH
Wisconsin Dept. of Health &
Social Services
Madison, WI 53703

Mark R. Fortney
Pennsylvania Housing Research
Center
University Park, PA 16802

Roger Morse, AIA
Poestenkill, NY 12140

Murray Katcher, M.D., Ph.D.
University of Wisconsin Medical
Center
Madison, WI 53792

Steven Galson, M.D., M.P.H.
EPA Office of Children's Health
Protection
Washington, DC 20460

Michael Hodgson, M.D., M.P.H.
National Institute for Occupational
Safety and Health
Washington, DC 20201

Steve Hays, P.E., CIH
Gobbell Hays Partners Inc.
Nashville, TN 37219

Dept. of Housing & Urban
Development
Office of Lead Hazard Control
Washington, D.C. 20410
Peter Ashley, Dr.P.H
Warren Friedman, Ph.D., CIH
David Jacobs, Ph.D., CIH
David Levitt, CIH
Stan Galik
Ellis Goldman
Barbara Haley, Ph.D.
Dolline Hatchett
Harry Hudson
Molly McNairy
Rebecca Morley
Steve Weitz

HUD Office of Community
Viability
Washington, DC 20410
Andrew Euston, FAIA
Joel Segal
John Fitzpatrick

Administrative/Technical Support
National Institute of Building
Sciences
1090 Vermont Ave., N.W., Suite
700
Washington, D.C.
Michael Cohn
Bruce Vogelsinger

Jeff Anthony
Anthony Consulting
Hampton VA 23669-1073

Note: The individuals listed above are shown for identification purposes only. The views expressed in this paper are those of the U.S. Department of Housing and Urban Development and are not necessarily shared by the experts and organizations listed.

Executive Summary

In the FY 1999 Budget, HUD proposed a Healthy Homes Initiative that would protect children from housing conditions that are responsible for multiple diseases and injuries.

The Initiative departs from the more traditional approach of attempting to correct one danger at a time. This advance is possible because we now know that a limited number of building deficiencies contribute to many hazards. Substantial savings are possible using this approach, because access to a home by an inspector, public health nurse, or outreach worker comes at a significant cost. This approach has been implemented successfully in at least two locales: New York State's "Healthy Neighborhoods Program" and Cleveland's "Lead + Asthma Program."

In language accompanying the Appropriations Act, Congress agreed that "...the Healthy Homes approach appears superior to addressing problems one by one..." and appropriated \$10 million for the Healthy Homes Initiative in FY 1999, with the proviso that HUD consult with national experts, and develop a technical report and spending plan.

The costs of implementing multiple housing-based interventions are far lower than if they are implemented one at a time. For example, New York State's Healthy Neighborhoods program estimates that it costs them \$132 per unit visited, and that the benefits for burn, lead poisoning prevention and asthma reduction alone are at least \$285 per unit, which does not include estimated benefits associated with reduced injury, carbon monoxide poisoning and fire.

The HUD Office of Lead Hazard Control convened a meeting of the nation's leading experts on housing, public health, building science, asthma, lead poisoning, allergens, pesticides, medicine, code enforcement, and many other disciplines on December 8 and 9, 1998 (see the Acknowledgments section above for a complete listing). Through the evidence presented, the group confirmed that enough is known to implement the Healthy Homes Initiative and provided important insights on the current state of scientific knowledge on the housing-health connection.

Specifically, the group indicated that interventions addressing the following four areas can be expected to protect children from many adverse health outcomes:

- ↳ excess moisture
- ↳ dust
- ↳ ventilation & control of toxics
- ↳ education

For example, controlling moisture and dust will help prevent asthma, lead poisoning, "bleeding lung" diseases, certain allergies, cockroach and pest infestations and other problems. Correcting physical housing problems must be linked with public education efforts, such as the HUD FHA advertising campaign featuring Bob Vila, Tim Allen and others, to be as effective as possible.

In its spending plan, HUD will fund Healthy Homes activities mandated by Congress to:

- ☞ solve mold and moisture problems in inner-city housing by demonstrating the effectiveness of remediation methods that have been developed in the research setting, but not yet implemented in large numbers of urban houses;
- ☞ demonstrate and evaluate housing repairs that simultaneously prevent asthma, lead poisoning, pulmonary hemorrhage, injuries and other health and safety threats to children in several hundred homes in several cities;
- ☞ study ways to link housing and health databases together to better target resources, such as the American Housing Survey and CDC's disease surveillance systems;
- ☞ conduct public education targeted at low- and moderate-income families living in high-risk neighborhoods;
- ☞ institutionalize a new housing code/health code national council to bring health and safety considerations before the code inspection community and to create a forum for health and housing inspectors to minimize the gulf between the two at the local level;
- ☞ update the Basic Housing Inspection Manual, last issued by CDC and the American Public Health Association in the 1970's; and
- ☞ conduct focused measurement and remediation research to support the demonstration projects outlined above.

The activities will be executed through competitively-awarded cooperative agreements, contracts and interagency agreements. An interagency task force co-chaired by HUD and CDC will ensure that federal efforts are coordinated.