

Identified Barriers and Opportunities to Make Housing Green and Healthy Through Weatherization

A Report from Green and Healthy Homes Initiative Sites

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EXECUTIVE SUMMARY

The Green and Healthy Homes Initiative (GHHI) works to eliminate inefficiencies in the delivery of health, safety, weatherization and energy efficiency programs to existing low and moderate income housing through an integrated intervention process and promotion of collaborative efforts that appropriately braid federal, state, local, philanthropic and private sector investments.

With support from the U.S. Department of Housing and Urban Development, Centers for Disease Control and Prevention, Department of Energy, Environmental Protection Agency, the Council on Foundations, the Funders Network for Smart Growth and Livable Communities, the National Environmental Health Association, the White House Office of Recovery Implementation, and over fifteen local and national foundations, GHHI is creating a national movement to improve the integrated delivery of housing interventions that create healthier, safer, more affordable and sustainable housing.

The GHHI completed this assessment of the impact of health and safety issues on pre-audit and audited properties undergoing weatherization in collaboration with DOE Weatherization Assistance Program (WAP) grantees and weatherization providers in 12 of the 14 GHHI designated sites. To date, there has been no information that GHHI site Spirit Lake Nation in North Dakota currently has a WAP program, and New Haven, Connecticut reported from the city's non-WAP weatherization program. This report provides specific examples and statistics relating to the health and safety issues affecting weatherization work across the sites.

Health and safety hazards create significant obstacles for Weatherization programs throughout the country. In response to those challenges, weatherization programs have developed and implemented a myriad of strategies to try and address the health and safety hazards they encounter. This report contains an in-depth analysis of these strategies and extensive explications of barriers and recommendations garnered from the response of weatherization providers in the field.

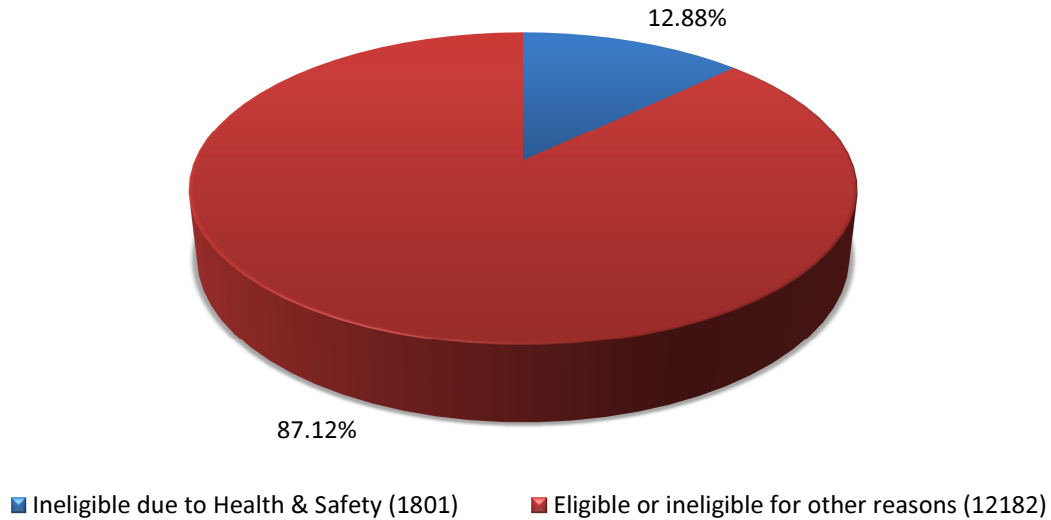
The weatherization questionnaire used in this assessment had the following structure:

- **Section A** covered general statistics on Weatherization program activities as they related to health and safety, including costs, time and the number of homes deferred for weatherization because of health and safety hazards.
- **Section B** assessed the prevalence of specific hazards such as lead paint hazards, structural defects, electrical hazards, moisture/ mold/ mildew, pests, clutter/harborage, fire and safety, environmental air hazards, ventilation problems, asbestos and other safety-related issues.
- **Section C** presented a series of free response questions which asked respondents about weatherization policies, comprehensive assessments, energy efficiency and health and safety issues, referral partners for various health and safety issues (if applicable), funding policies for health and safety, workforce readiness and training and suggestions for increased weatherization efficiency.

FINDINGS AND ANALYSIS:

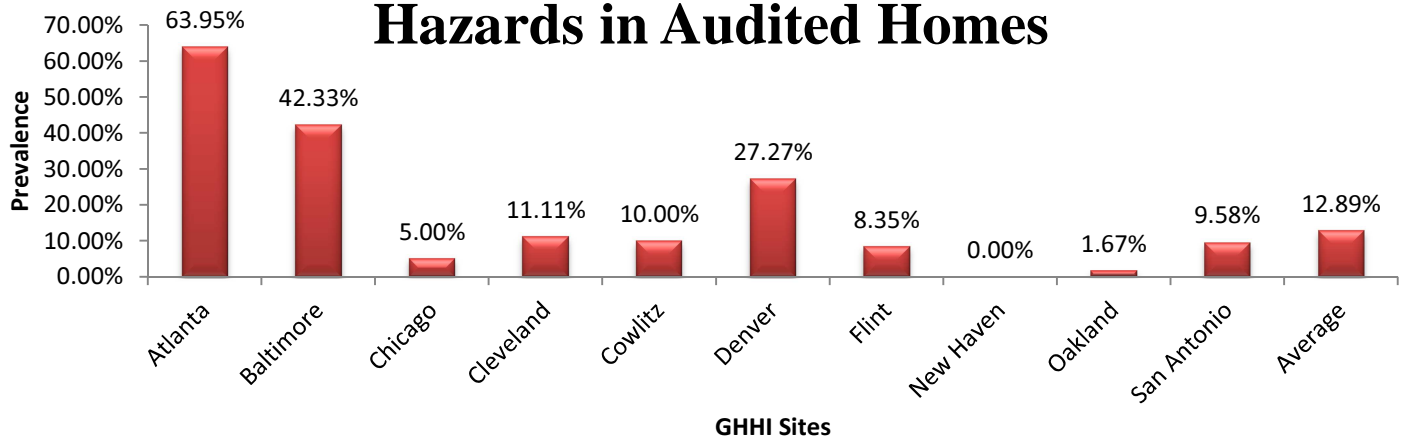
Health and safety issues render homes ineligible for weatherization work though the degree may vary between WAPs. Overall, the average number of homes deemed ineligible in the pre-auditing or auditing phase was 12.88%; however there is a wide variance in why programs find those homes ineligible and there is no direct correlation between the prevalence of reported hazards and the percentage of homes which are ineligible. How respondents utilize referrals and outside funding to address these deferred units can be found in Section C: Qualitative Data: I. Policy for Addressing Health & Safety.

Total Number of Audited Homes



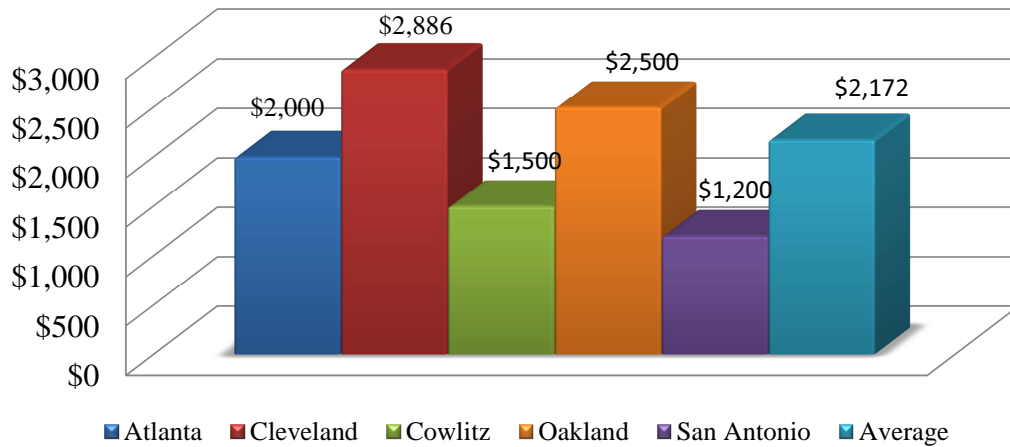
There is a wide range of properties deemed ineligible due to health and safety among the sites' programs, with highs of 63.95%, 42.33%, and 27.27% in Atlanta, Baltimore, and Denver and lows of 0%, 1.67%, and 5% in New Haven, Oakland, and Chicago. The New Haven site reported from the city's new Energy Efficiency Rehabilitation Program (EERAP), which had completed 16 audits in the time frame covered by the questionnaire.

Overall Prevalence of Health and Safety Hazards in Audited Homes



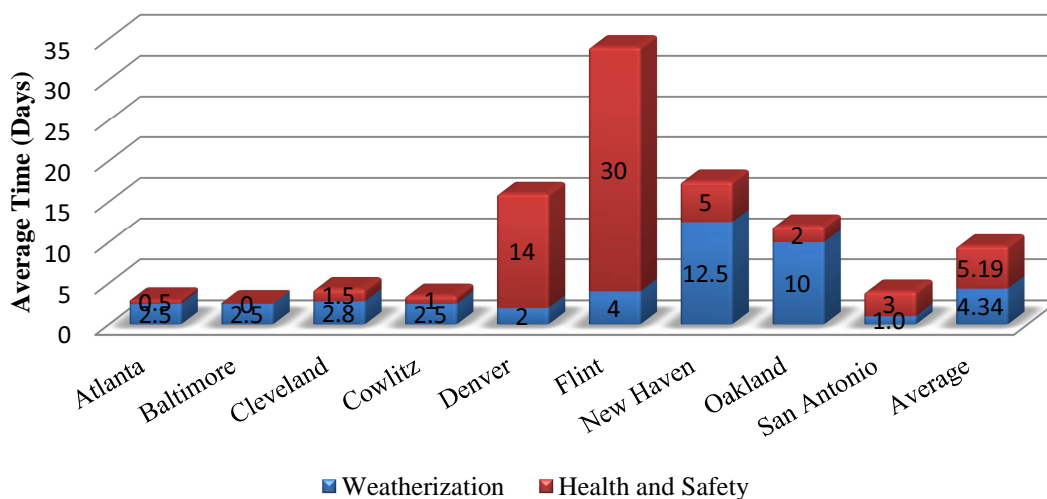
The overall average cost of addressing health and safety hazards is \$2,172 with no site reporting an average less than \$1,200. For WAPs utilizing 10-15% of the cost per unit (\$5,000 to \$6,500) to address health and safety, the allowable funds range from \$500 to \$975. The allowable funds are significantly below the average health and safety costs. To supplement those resources, weatherization programs draw on local funds from the city or state, CDBG funds or the private sector to attempt to fill the gaps. Some sites did not have the ability track the costs of addressing health and safety hazards.

Average Cost to Address Health and Safety

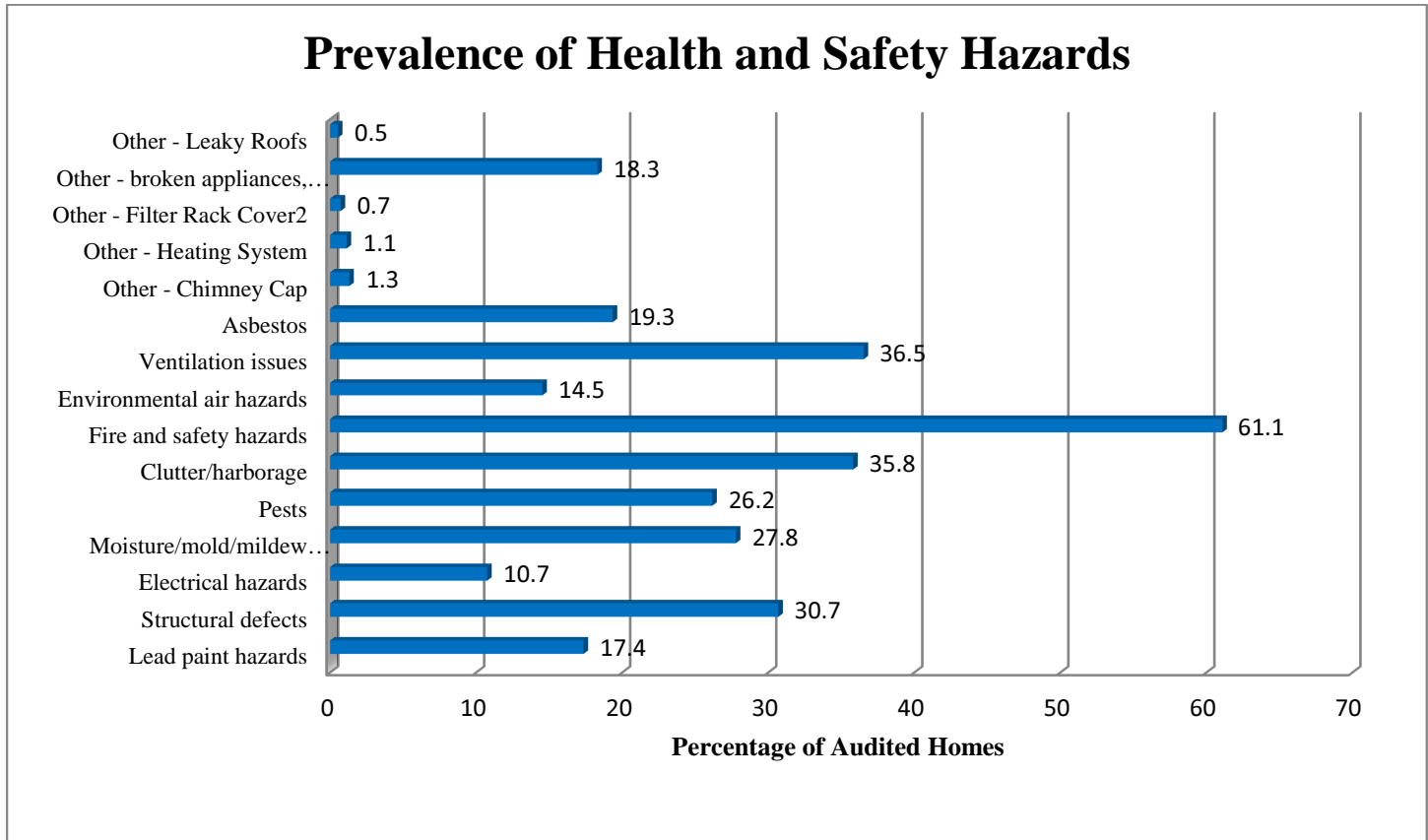


The overall time to complete health and safety, along with weatherization work averages 9.5 days. By comparison, the time to complete weatherization work alone is 4.3 days. Although the average time to address health and safety hazards is greater, the majority of sites reported that the average additional time to address health and safety hazards was much less than the time to complete weatherization alone. Atlanta reports 2.5 days for weatherization and 0.5 additional days for health and safety. Cleveland reports 5 days for weatherization and 1.5 additional days to address health and safety. Cowlitz reports 2.5 days to complete weatherization with an additional 1 day to handle health and safety. Oakland reports 10 days for weatherization and 2 additional days for health and safety. New Haven reports 12.5 days for weatherization and 5 additional days for health and safety. There were, however, some sites that report much more time to address health and safety than to complete weatherization alone. Flint reports 4 days to complete weatherization but 30 days to resolve health and safety issues, citing fixing roofs as the most common measure which requires additional time. The times reported are the total time to resolve the issue. The actual remediation work may take a shorter amount of time.

Time Duration for Weatherization and Health and Safety



The prevalence of health and safety hazards is significant with ventilation issues, fire and safety hazards, clutter / harborage, mold / moisture / mildew hazards, structural defects and pests all occurring in over 25% of homes undergoing a WAP audit. Fire and safety hazards are present in over half of homes. Structural defects were found in 30% of the audits with the most common type being leaky roofs. The prevalence of roofing issues is a concern for WAPs because of the high cost and extended time associated with addressing those hazards.



The current strategy for addressing specific hazards is often referring clients to agencies such as the city health department or issue-specific programs such as local roofing organizations. Respondents report that these processes are often not established, integrated into production systems or sustainable. While weatherization and health and safety work may only require a few days altogether to complete, the time spent in searching for funds to address health and safety issues or link the unit up with an applicable service provider creates long, costly delays.

No fully integrated health and safety training or certifications were reported. Only half of the WAPs report the use of a comprehensive assessment form with space to capture health and safety issues. Several sites provide health and safety assessment training to identify hazards and refer deferred homes to relevant program partners before initiating weatherization.

Site partners identify several key areas where GHHI can help: finding funding for currently unaddressed health and safety hazards, technical assistance, a comprehensive assessment tool and data management capacity.

WAPs also expressed an interest in exploring how best to balance the use of health and safety referrals with how well WAP crews and individual workers can be trained to take care of the related hazards, and how this balance relates to pay and wages.

BARRIERS AND RECOMMENDATIONS

The following “Barriers” to addressing health and safety during weatherization and energy efficiency work were identified by the study’s respondents. In response, the GHHI worked with industry experts and the GHHI sites to provide a baseline set of recommendations to address each barrier.

Barrier: The cost to address health and safety hazards is higher than the DOE allowable funding limit per unit. Because funding limits for health and safety interventions are set at 10-15% in each unit, several health and safety needs such as repairing leaking roofs, replacing leaded windows, and mitigating mold are not able to be addressed. These hazards are at best referred and completed by other sources at a later date, and at worst, never completed.

Recommendation: Set a minimum of 15% for DOE funding that can be allocated to health and safety per unit. Provide greater clarity to all weatherization grantees to focus those funds on health and safety issues that will stabilize investments or lead to deferrals for weatherization work, including roofing issues, moisture / mold hazards, and ventilation issues. Also provide direction on the leveraging or braiding of aligned programs to address health and safety hazards. Examine possibility of utilizing a budget differential to allocate more than 15% of DOE funds to health and safety hazards in a home. For example, if \$5,500 is allowed per unit, and only \$3,500 is spent on weatherization, allow \$2,000 to be allocated towards eliminating health and safety hazards.

Barrier: The current definition for allowable health and safety hazards under weatherization funding is too narrow and leaves harmful health and safety hazards outside of the scope of work. Prevalent health and safety issues, such as mold, could be addressed within the unit budget, but are excluded in many states because they are not deemed allowable. As a result, some restrictions in weatherization funds leave residual health risks such as furnace replacements that leave behind asbestos-laden ducts.

Recommendation: WAP providers have identified a need for a wider range of scope to address all health and safety concerns which impact the long term integrity of the WAP intervention within a housing unit. DOE should work with Healthy Housing specialists to identify an appropriate scope of interventions that can be funded, redefine allowable health and safety hazards, and provide average potential costs for the expanded list of allowable activities.

Barrier: There is a lack of local, state, private sector, or other funding available to leverage with WAP funds to remedy health and safety hazards not addressed by WAP. Where possible, weatherization programs attempt to utilize other sources of funding to address health and safety hazards encountered in homes due to cost or restrictions. The available local, state, and private sector funding sources are often inconsistent, inaccessible, and/or underfunded to provide reliable leveraging.

Recommendation: Support GHHI and other efforts to identify clear opportunities for co-investment to leverage funding streams, capture savings of an integrative approach, and attract outside support. Local, state, and private sector funding streams, including philanthropic support, should be linked with weatherization investment to provide a sustainable source of funding to address health and safety hazards. Where health and safety hazard funding gaps exist, they need to be concretely identified and reported so that philanthropic and other private sector partners know where to invest additional resources.

Barrier: The referral systems to address health and safety through other partners are not formalized or efficient. Many of the weatherization programs state that their policy to address health and safety hazards outside the scope of current DOE policy is to refer these homes to local partners who can provide the applicable intervention. Because most of these referral systems are not formalized or set up as an established system, the timeline from referral to intervention can often take months. This significantly delays or outright prohibits the weatherization of the home. The lack of a formal, integrated referral system hinders the overall impact of the weatherization program by causing unnecessary delays and outright impediments to completed units.

Recommendation: Support the alignment of programmatic expenditures at a local level, the establishment of learning networks and the triaged co-delivery of services. With a coordinated partnership

of health and safety intervention providers and an efficient referral system to reduce the time to address health and safety hazards, the weatherization programs will be more efficient and other providers will be able to address multiple needs in a larger number of homes. The development of the process of coordination needs to incorporate accountability and maintain a balance of client privacy and confidentiality with efficiency and results. The increased coordination will lead to the creation of more affordable, sustainable and energy efficient homes.

Barrier: There is no approved assessment tool to identify all health and safety hazards in a home. Many of the weatherization programs lack an assessment for health and safety hazards. Without a formalized assessment tool, an established referral system or tracking process cannot be formed. When auditors and assessors go into a home for weatherization and energy efficiency work, without an assessment that captures health and safety information, there is no uniform manner to record and address those issues.

Recommendation: All weatherization programs should implement comprehensive assessment tools incorporating health and safety with weatherization and energy efficiency. This will not only lead to the identification of health and safety hazards quicker and more efficiently, but also allow for an integrated scope of work to create a template for aligning and braiding funding streams. An established comprehensive tool will relieve the burden on auditors and assessors to have to identify and report health and safety issues in a home in an ad hoc manner, and eliminate the unnecessary and costly duplication of efforts.

Barrier: Programs lack capacity to track and manage data related to health and safety. Without a system to track health and safety hazards encountered, programs can neither monitor the prevalence of the various hazards nor assess the effectiveness of interventions. Many of the prevailing health and safety conditions WAP providers encounter in a home go unrecorded, leaving them virtually useless from statistical analyses or policy assessments. Insufficient capacity to record these statistics only subtracts from the overall effort to improve conditions in the housing stock and prevents the appropriate identification and involvement of partners and resources to address those needs.

Recommendation: Create shared data platforms and common data metrics to track and manage health and safety hazards found during the auditing process. Establish a unified minimum green and healthy housing standard for all federally supported housing interventions. Incorporate health and safety data in the metrics recorded for WAP activities, including average health and safety expenditures and prevalence of health and safety hazards in the housing stock. By tying the reduction in health and safety hazards with the value those improvements make on families, more investment can be brought in to partner with the WAP funds.

Barrier: DOE rules and regulations may restrict other programs and partners from working on that home. Within any home where WAP funds are being used, DOE rules and regulations may apply even when providers other than WAP grantees and sub grantees are doing work. This prevents weatherization programs from having the full flexibility to integrate other funding sources and other providers into a home. Wage restrictions have been cited by sites as limiting them from utilizing other companies and organizations to conduct health and safety hazard interventions. Regulations regarding funding limits in a weatherized home have also been identified as decreasing the opportunities for outside investment.

Recommendation: Examine existing restrictions that inhibit intervention by the private sector for opportunities for ways to adjust those restrictions without sacrificing weatherization, health and safety standards. Explore allowing complementary interventions, such as mold remediation, to be done by contractors and organizations not under WAP wage restrictions, while preserving a commitment to equity and economic opportunity. This will increase opportunities for weatherization programs to leverage resources and formalize partnerships to address health and safety hazards.

Barrier: Health and safety programs may operate under different eligibility systems. WAP programs wishing to utilize other sources of funding to address health and safety hazards have found that programs to address these issues often fall under different eligibility rules and standards. Income eligibility differences can prevent other housing programs that could be used to remediate health and safety hazards from working on the unit.

Recommendation: Use the Federal Healthy Homes Working Group to develop uniform criteria for very low, low, and moderate income housing. Promote additional MOUs between DOE and other agencies such as the agreement on certain multi-family buildings as identified by the Department of Housing and Urban Development (HUD) and the Department of Agriculture (USDA). Agreements among federal agencies will not only increase efficiency and reduce cost, but also may forge the basis for further partnerships in the future.

Barrier: WAP workers are not trained to fully assess and address health and safety hazards. Many programs feel the need to refer health and safety issues, including the initial assessment, to other organizations or departments because they are not adequately trained or lack experience. This increases the timeline for remediating health and safety hazards; it is inefficient to have multiple visits to assess the problem and then use multiple organizations to address the problem. Compartmentalized job training, certification, and regulation does not allow for integrated training programs which allow auditors and assessors to analyze multiple needs within a home in one visit.

Recommendation: The non-profit and philanthropic community should work with DOE, DOL, CEQ, HUD, and HHS to develop certification standards for green and healthy housing workers, supervisors, contractors, and assessment / inspector specialists. This will not only ensure more efficient WAP programs, but also help provide workers with more flexibility to sustain work post-stimulus and tap into other areas within the green sector.

APPENDIX:

Green and Healthy Homes Initiative

SITE QUESTIONNAIRE - WEATHERIZATION

This questionnaire is being circulated among the 14 GHHI-designated sites. Further instructions and clarification can be found at the end of the document. Your responses will be used to further the goal of integrating weatherization, energy efficiency, and health and safety into best practices – as well as address any barriers you may find in implementing this work. We look forward to receiving your response.

Name: _____ Email Address: _____

Title: _____ Phone Number: _____

A. General Statistics

1. Number of pre-audits completed from July 1, 2009 to June 30, 2010 (if applicable): _____
2. Total number of pre-audited properties deemed ineligible in pre-audit process: _____
 - a.) Number of homes deemed ineligible due to HUD income eligibility limits: _____
 - b.) Number of homes deemed ineligible due to Health and safety Issues: _____
 - c.) Number of homes deemed ineligible to other issues: _____
3. Number of audits completed from July 1, 2009 to June 30, 2010: _____
4. Total number of audited properties deemed ineligible due to Health and safety Issues: _____
4. Number of properties deemed ineligible: _____
 - a.) in pre-audit due to health and safety issues receiving WAP Health and safety or discretionary funds used as part of weatherization intervention: WAP: _____ DIS: _____
 - b.) in audit due to health and safety issues receiving WAP Health and safety or discretionary funds used as part of weatherization intervention: WAP: _____ DIS: _____
 - a.) Average expenditure of WAP Health and safety or discretionary dollars used as part of weatherization intervention: WAP: _____ DIS: _____
5. Which entities normally complete the audit:
 WAP Personnel Contractor Sub-contractor Referral Other: _____
6. Average cost of addressing health and safety issues per home: _____
7. Average time of completion (in days) for weatherization: _____
8. Average time of completion (hours or days) for home and safety issues: _____
9. Average number of contractors per house: _____

B. Home Health and safety Hazards

	Pre-Audit	Audit	Total Cost
1. Total # homes with <u>lead paint hazards</u> such as peeling or chipping paint:	_____	_____	_____
2. Total # of homes with <u>structural defects</u> such as holes in walls, ceilings, floors; or damaged doors and windows:	_____	_____	_____

- | | | | | |
|-----|--|-------|-------|-------|
| 3. | Total # of homes with electric hazards such as loose/exposed wiring or missing outlet panels: | _____ | _____ | _____ |
| 4. | Total # of homes with moisture/mold/mildew hazards including water leaks, condensation, and water damage: | _____ | _____ | _____ |
| 5. | Total # of homes with pest issues such as roaches, rodents, bed bugs, etc.: | _____ | _____ | _____ |
| 6. | Total # of homes with excess clutter or harborage : | _____ | _____ | _____ |
| 7. | Total # of homes with fire and safety hazards such as missing/inoperable smoke and carbon monoxide detectors: | _____ | _____ | _____ |
| 8. | Total # of homes with environmental air hazards such as natural gas, sewer gas, and musty air: | _____ | _____ | _____ |
| 9. | Total # of homes with ventilation issues : | _____ | _____ | _____ |
| 10. | Total # of homes with asbestos : | _____ | _____ | _____ |
| | Total # of homes with other safety hazards (please list below) | _____ | _____ | _____ |
| | a. | _____ | _____ | _____ |
| | b. | _____ | _____ | _____ |
| | c. | _____ | _____ | _____ |

C. Additional Questions

- Currently, what is your policy in addressing health and safety issues? Please include information on the funds utilized and the program partners who support your efforts. If applicable, how do these health and safety issues in Section B hinder your weatherization efforts?

- How would your weatherization program benefit and/or be more efficient, if at all, if you had the resources to address health and safety issues found in ineligible homes?

- If WAP funds are not available to address weatherization do you currently have a strategy for external referral to address health and safety issues? Yes No
- Does your site currently utilize a comprehensive survey to assess health and safety, energy, and weatherization issues? Yes No
- Where can GHHI help your agency address home and safety issues?
 Data Management Technical Assistance Comprehensive Assessment Form
 Funding (please specify how funding would be utilized) Other:

6. After an intervention is completed do you conduct a follow-up assessment? If yes, what is the structure of your follow-up assessment?

7. How is your weatherization program funding appropriated? Is it based on an absolute maximum amount or on a percentage of costs for weatherization? Or is it fully funded? What is the maximum upper limit available for your program to handle HEALTH AND SAFETY issues from the WAP Health and safety funds?

8. Are there any differences in tenant or owner status in terms of using any WAP Health and safety funding? (Ex. Owners must pay 1/2 of costs for electrical hazards, etc.)

9. From beginning to end, how many days/months does it take to complete a home weatherization, including all related work addressing HEALTH AND SAFETY issues? (This number should be the difference between the weatherization start approval date and the day of all work's completed). What are the hurdles in getting the work done efficiently?

10. What certifications do you require before hiring a potential contractor? What is the average contractor pay rate? Do you find it difficult to find qualified contractors?

11. Is there anything in the DOE weatherization regulations that remain unclear or requires additional explanation? What recommendations do you have for the DOE to effectively address HEALTH AND SAFETY issues related to weatherization?

12. What areas of your program do you feel that additional training or technical assistance can be beneficial to handling HEALTH AND SAFETY issues related to weatherization?

13. Please provide us with any insights, suggestions, concerns or questions that you may have:

Comments and Instructions:

Please answer these questions as accurately and thoroughly as possible to the best of your ability. Feel free to contact us at the Coalition to End Childhood Lead Poisoning at (410) 534-6447 if you have any questions:

A. General Statistics

We understand that not every site performs an in-person audit of a home to determine weatherization eligibility. For those that deem homes ineligible at the application, this is what we refer to as pre-audit. If all homes receive an on-the-ground in-person audit, this does not apply to you. Please write in N/A as the response.

By “Flex” funds, we are referring to the WAP Health and safety funds. By “discretionary,” we are referring to any external or internal funds used to address the listed “health and safety” issues on the questionnaire.

B. Home Health and Safety Hazards

This section’s purpose is to gain a better understanding of the prevalence of health and safety issues in WAP properties and their impact on houses being denied or delayed that need weatherization work. We are also interested in the average cost of addressing health and safety issues found in the home. If your agency uses an external referral program partner, we will attempt to contact your program partner to get the total. If your agency does not track this information, please write in N/A as the response.

C. Additional Questions

Any particular agency may not have the capacity to offer services addressing both weatherization and health and safety issues. This section gathers information about your external referral system and program partners. We are also interested in whether a comprehensive assessment survey instrument is used. This will provide information on barriers such as workforce development/availability, fund restrictions, and other insights you may have on the issues.

Thank you for your participation in this questionnaire. We look forward to receiving your robust response.

ACKNOWLEDGEMENTS:

The Green and Healthy Homes Initiative would like to thank all of the weatherization program participants for their dedication, time, and cooperation. We would also like to thank our GHHI networks and partners around the country for helping to facilitate responses and contacts with their local agencies. Without each site's support we would not have been able to generate an in-depth analysis of weatherization activities. The US Department of Housing and Urban Development and the Department of Energy provided comments and clarifying questions that were answered in this final version of this report.

Atlanta, Georgia

Flint, Michigan

Baltimore, Maryland

Minneapolis, Minnesota

Chicago, Illinois

New Haven, Connecticut

Cleveland, Ohio

Oakland, California

Cowlitz Indian Tribe, Washington

Philadelphia, Pennsylvania

Denver, Colorado

San Antonio, Texas

Detroit, Michigan

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