Healthy & Energy Efficiency
Breathe EEasy Breakout Session

EE & Healthy Housing: Opportunities for Partnership

Midwest Energy Solutions Conference | February 27 | 3:30pm CT
Presenter: Catherine Lee, AICP | Senior Site Engagement Specialist
Green & Healthy Homes Initiative
One in five households reduce or forgo necessities such as food and medicine to pay an energy bill.

14% of households experience energy service disconnection annually.

11% of households keep home at an unhealthy or unsafe temperature.

2019 Polar Vortex
27 deaths across 8 states

Family of nine in Wheeling, Illinois taken to local hospital after heating their home with a charcoal grill.

The INSIDE of my front door. 😞 Indiana cold.
pic.twitter.com/oQKctHtCOs

Family of nine in Wheeling, Illinois taken to local hospital after heating their home with a charcoal grill.

Efficiency, Health, & Extreme Weather
30M families live in unhealthy homes

Homes with environmental hazards are making their residents sick

14.4M missed days of school each year

Asthma is the top reason students miss school

14.2M missed days of work each year

Collateral burden of sick children is missed days of work for parents and caretakers

Low income families spend 20% of monthly income on energy costs

VS.

3.5% in other households

$81B+ spent on asthma

$31B+ spent on slip & fall injuries

$50.9B+ spent on lead poisoning

Over $100B in taxpayer funding is spent each year to address the impact of these hazards

The Burden of Unhealthy and Energy Inefficient Homes
GHHI Practical Experience & National Scaling
Transforming a Fractured Service Delivery System
The GHHI Model: No Wrong Door

- Lead Hazard Reduction
- Asthma Trigger Control
- Fall/Injury Prevention
- Energy Efficiency
- Weatherization
- Housing Rehabilitation/

**Align**
services & funding

**Braid**
relevant resources

**Coordinate**
service delivery

- Single Intake System
- Comprehensive Assessment
- Coordinated Services
- Integrated Interventions
- Cross-Trained Workers
- Shared Data
GHHI National Technical Assistance
The Whole-Home Strategy:
Assessors, Educators, and Crews Address Housing Issues Holistically

- Energy efficiency and weatherization
- Elimination of Lead Hazards
- Asthma Trigger Reduction
- Integrated Pest Management
- Mold and moisture remediation
- Injury prevention measures, including:
  - Carbon monoxide and smoke detectors
  - Cabinet locks and electrical outlet covers
  - Trip and fall reduction measures
- Radon, asbestos, and home-based env. hazard remediation
The GHHI Differentiator: Cross-trained Teams

Environmental Health Educator
- Conduct in-home resident education
- Coordinate pre and post client health surveys
- Coordinate follow-up client services

Energy Auditor-Environmental Assessor
- Conduct pre-intervention environmental assessments
- Conduct energy audits
- Develop comprehensive scopes of work
- Conduct post-intervention quality control

Multi-Functional Contractors
- Address the hazards identified on scopes of work
- Results in increased team capacity
- Exposes opportunity for job training and economic development for residents of low-income communities

**Center for Employment Opportunities study in Buffalo found that workers who were cross trained in weatherization and healthy homes skills were able to earn $4-8 more per hour**
The Strategy in Action for Cities: National Results

**GHHI Baltimore**
- 66% reduction in asthma-related hospitalizations
- 62% increase in asthma-related perfect school attendance
- 88% increase in never missing work due to their child’s asthma
- 99% decline in childhood lead poisoning in Baltimore City

**GHHI Philadelphia***
- 70% fewer asthma-related client hospitalizations
- 76% fewer asthma-related client ED visits

**GHHI Cleveland**
- 58% reduction in asthma-related client hospitalizations
- 63% reduction in asthma-related client ED visits

*Philadelphia research work done by Philadelphia Department of Health
**Cleveland research work done by Environmental Health Watch and Dr. Dearborn, Case Western Reserve University Medical School/University Hospitals
Strategy in Action for Families: The Obianuka Family

Pre-Intervention Situation:
- Homeowner family of five with a daughter who had severe asthma; average of 1 asthma related hospitalizations and 5 ED visits per year
- Conditions - Lack of kitchen and bathroom venting causing high moisture levels, mouse infestation and dust mites, chipping lead paint hazards; Lack of adequate heat due to needed furnace boiler replacement

Costs: $16,035 - Asthma Specific Costs: $4,059
Partners: Baltimore City Community Development Block Grant, the Maryland Energy Administration, and the Weinberg Foundation

Results & Outcomes:
- Allergens and lead and safety hazards remediated; Home weatherized and boiler replaced;
- Daughter was not hospitalized nor did she go to the emergency room due to asthma episodes in the 12 months post-intervention
- Asthma symptom free days changed from 0 per month to 29 days per month
- Annual energy cost savings of $407
Identified Barriers and Opportunities to Make Housing Green and Healthy Through Weatherization

DOE Weatherization Plus Health initiative and 11-6 Policy Guidance

HUD General Program NOFA providing Priority Points for comprehensive, integrated health and energy approach in HUD funded housing; HUD HHRS

Non-Energy Benefits of Energy Efficiency and Weatherization Programs in Multifamily Housing: the Clean Power Plan and Policy Implications

Achieving Health and Social Equity through Housing: Understanding Non-Energy Benefits in the United States

Launched GHHI integrated service model

Federal Healthy Homes Interagency Work Group Advancing Healthy Housing: A Strategy for Action

Weatherization and Its Impact on Occupant Health Outcomes
The Pathways for Non-Energy Benefits

GHHI research shows that weatherization and healthy housing interventions can:

- **Confer positive non-energy benefits** at the individual and community levels
- **Address social determinants of health** and reduce health inequities
- **Drive cost savings** by improving economic, health and environmental outcomes
- **Increase integration of programs and services**, benefiting families, service providers and government agencies
Health Impacts of Weatherization

Achieving Health and Social Equity through Housing: Understanding the Impact of Non Energy Benefits in the United States

INPUT

Comprehensive Intervention
Energy Efficiency Weatherization Healthy Homes

ENERGY OUTPUTS
• reduced kWh consumed
• reduced energy demand

NON-ENERGY OUTPUTS
• improved air quality
• increased thermal comfort
• reduced toxins

ENERGY BENEFITS
• improved service reliability
• reduced system maintenance needs

NON-ENERGY BENEFITS
• environmental quality
• occupant health
• family economic security

LONG TERM IMPACTS
• neighborhood quality improvement
• reduced health disparities
• school attendance
• economic productivity
Collaboration Opportunities for Energy + Health
2019 HUD Lead Hazard Reduction grants

- 48 to 77 jurisdictions
- 7 “High Impact Neighborhoods” conduct lead hazard control and healthy homes work intensively in a targeted neighborhood
- Bonus points to further drive public investment in Opportunity Zones to leverage neighborhood revitalization efforts

HUD OLHCHH RECENT LEAD & HEALTHY HOMES GRANT ALLOCATIONS BY YEAR (millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Lead Grants</th>
<th>Healthy Homes</th>
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<tbody>
<tr>
<td>2018</td>
<td>$121</td>
<td>$18</td>
</tr>
<tr>
<td>2019</td>
<td>$314</td>
<td>$30</td>
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2019 HUD Lead Hazard Reduction grants
Federal funding sources for program alignment

Benefits to WAP
• Reduced deferrals for health and safety hazards
• Lead hazard control programs can cover costs of:
  • Lead risk assessments
  • Lead hazard control
  • Lead supervisor/quality control
  • Lead clearance testing

FUNDING BRAIDING MODELS

Single Family
WAP + HUD LEAD + HUD
HEALTHY HOMES
SUPPLEMENTAL

Multifamily
(private)
WAP + HUD LEAD + HUD
HEALTHY HOMES
SUPPLEMENTAL

Multifamily
(public)
WAP + NON-HUD LEAD
PROGRAM FUNDS

Green & Healthy Homes Initiative™
## Partnering with Healthcare and Housing

### Medicaid/CHIP Innovations Funding Homes

<table>
<thead>
<tr>
<th>State</th>
<th>Funding and Services</th>
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<tr>
<td>Michigan</td>
<td>$119 million in CHIP funds for lead hazard remediation and related services; workforce development</td>
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<tr>
<td>Maryland</td>
<td>$14.4 million in CHIP funds for asthma trigger and lead hazard remediation</td>
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<tr>
<td>Ohio &amp; Indiana</td>
<td>$5 million (OH) &amp; $3 million (IN) CHIP funds for lead testing and remediation</td>
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<tr>
<td>Missouri</td>
<td>Medicaid funding allowable for Asthma resident education; Environmental assessment services</td>
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<tr>
<td>Oregon</td>
<td>Rule 1115 Waiver allowing for flexible services including asthma home visiting resident education</td>
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<tr>
<td>Rhode Island</td>
<td>Rule 1115 Waiver allowing for lead remediation</td>
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<tr>
<td>Virginia</td>
<td>Rule 1115 Waiver for asthma interventions</td>
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Local Policies for Rental Housing

Best Practices in Emerging Programs
• Registration of all rental properties
• Landlord education opportunities
• Ordinances focused on health, safety, and thermal regulation
• Inspections for enforcement of property maintenance codes & lead safety
• Proactive inspections, controls to curb evictions
• Funding support for non-capitalized landlords

Detroit to make changes to its rental registry ordinance due to limited compliance

The city had hoped to bring all rentals into compliance in two years, but that timeline has proved unrealistic

By Sarah Alvarez | Nov 8, 2019, 10:41am EST
## Call to Action

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<th>Capitalize on the Opportunities to Integrate Energy, Health and Housing Sectors</th>
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<tbody>
<tr>
<td>Capture Broader Impact Data on Health, Social and Educational Outcomes to Justify Investments &amp; Engage with Non-Traditional Partners</td>
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<td>Develop Diverse Partnerships to Align Funding and Programs</td>
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<td>Share Successful Models to Support Scaling of Best Practices</td>
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<td>Support Local Policy Development for Property Maintenance that Mitigates Displacement</td>
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