



**Green & Healthy Homes Initiative™**

### Breaking the link between unhealthy housing and unhealthy children

American Public Health Association 141<sup>st</sup> Annual Meeting  
November 4, 2013  
Ruth Ann Norton, Executive Director

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**Green & Healthy Homes Initiative™**

### Innovate: The Launch of GHHI - 2008



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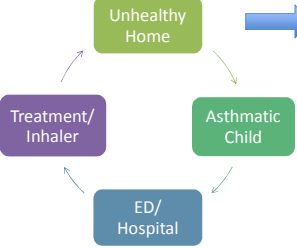
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### Address Root Causes



- Poorly insulated
- Mold
- Lead paint hazards
- Pest infestations

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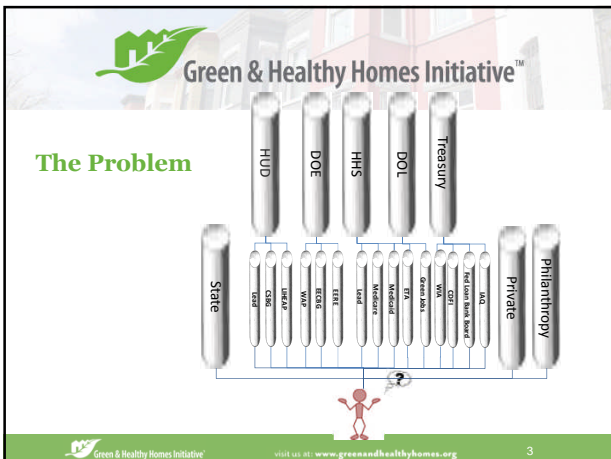
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**Green & Healthy Homes Initiative™**

**Single Portal Intake & Shared Data Platform  
“No Wrong Door”**

- Eliminates fractured service delivery – delivers maximum response
- Creates efficiencies and improves access to “care”
- One time enrollment and eligibility determination
- Increases engagement and decreases lost work time, wasted resources
- Eliminates missed opportunities
- Allows priority on making homes and families whole

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**Green & Healthy Homes Initiative™**

**Comprehensive Environmental  
Assessment/Energy Audit**

- Single tool across agencies – everyone talks the same language
- Looks at energy, health, safety and sustainability
- Fewer home visits required and less client drop-out
- Improves targeting strategies
- Results in comprehensive Scope of Work
- Allows for better alignment and leveraging of resources

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**Green & Healthy Homes Initiative™**

**Comprehensive Assessment & Resident  
Education Together**

**Environmental Assessor/Energy Auditor**

- Comprehensive Environmental Assessment / Energy Audit
- Develop scopes of work for properties
- Conduct post intervention assessments and audits

**Community Environmental Health & Energy Educator**

- Conduct resident education during assessment
- Coordinate pre and post client health surveys
- Develop recommended action plans for the residents
- Coordinate referrals and follow-up client services
- Distribute GHHI Prevention Kit

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## Green & Healthy Homes Initiative™

### Integrated Single Stream Interventions

- Systematic **braiding of funds** to achieve goals
- Maximize existing resources
- Reduced inefficiencies of multiple contractors
- Lead hazard control and reduction
- Healthy Homes Interventions
  - Indoor allergens
  - Safety hazards
  - Other environmental health hazards
- Energy Efficiency / Weatherization

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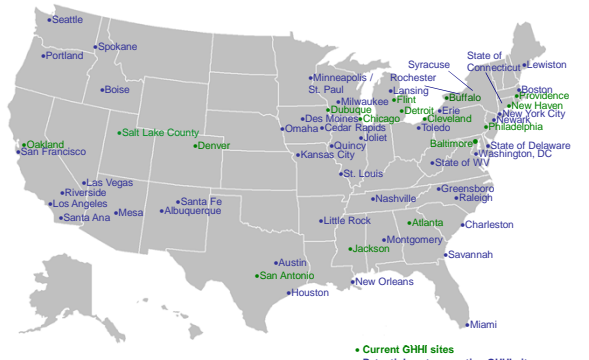
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### Current & Next Generation GHHI Sites



Legend:  
• Current GHHI sites  
• Potential next generation GHHI sites

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Case Study 1



#### Background

- Single-family home built in 1890
- Child age 5 with poorly controlled asthma; father with asthma; mother was pregnant at time of enrollment

#### Housing Assessment Results

- Lead paint, mold in kitchen & basement, no handrails on steps
- Insufficient venting in bathroom & of dryer
- Overloaded circuits

#### Interventions Completed

- Lead hazards remediated (paint stabilized, windows replaced)
- Carpeting replaced with wood flooring, furnace air purifier installed
- Plumbing leaks corrected to reduce mold/moisture, outside steps fixed

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Case Study 1 continued 

**Health Outcomes**

- Elimination of all asthma-related ED visits & hospitalizations:
  - 12 months pre-GHHI, 1 ED visit & 2 hospitalizations for asthma
  - 12 months post-intervention, NO visits to ED or hospital for asthma
- Estimated medical cost savings: \$12,500 in first year

**Green Outcomes**

- Family did not qualify for weatherization at time of application for Healthy Homes program. GHHI lead partner (Community Foundation of Dubuque) will re-refer family.

**Project Funding**

- HUD Healthy Homes Production Program
- Project cost = \$9,820

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Case Study 2 

**Background**

- Two-family home built in 1926, owner-occupied
- Parents, 2 sons (ages 18 and 20) and 1 daughter (age 12)
- Daughter has poorly controlled asthma

**Housing Assessment Results**

- Unvented appliances and elevated levels of carbon monoxide
- Lack of insulation and other energy efficiency measures
- Electrical hazards

**Interventions Completed**

- Full insulation of walls and attic
- Water pipes insulated, weather stripping installed, new doors and windows
- Bathroom, dryer and gas kitchen stove vented
- Gutters repaired, fall prevention measures installed

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Case Study 2 continued 

**Health Outcomes**  
Improvements in child's asthma symptoms

Self report measure	12 months pre	12 months post
Urgent care visits	1 time	0 times
Emergency Room visits	2 times	0 times
Nocturnal wakings (measured 1 month pre-post)	6 times	3 times

Estimated savings in avoidable medical costs for asthma: \$3,600

**Green Outcomes**  
Pre-post survey of homeowner:

- Improvement in indoor temperature in winter - from "very cold" to "comfortable"
- Lower utility bills
- Less trouble meeting expenses - before GHHI homeowner had to delay mortgage payment to pay utilities 2-3 times; 0 times post

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Case Study 3 

**Background**

- Row home built in 1954, owned by family for 34 years
- Parents, daughter and son (age 9) reside in home
- Son has poorly controlled asthma

**Housing Assessment Results**

- Lead hazards, mold, mouse infestation
- Improper drainage, insufficient gutters & downspouts
- Inefficient water heater, lack of insulation

**Interventions Completed**

- Carpets replaced with wood flooring, integrated pest management, air filter unit for IAQ, HEPA vacuum, mattress & pillow covers, dehumidifier
- Air sealing, wall & pipe insulation, programmable thermostat, CFLs, low flow showerhead and faucet aerators

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Case Study 3 continued 

**Health Outcomes**  
Improvements in child's asthma symptoms

Self report measure	6 months pre	6 months post
Described control	"Somewhat controlled"	"Well controlled"
Calls to doctor	3 calls	0 calls
Unscheduled doctor's visits	2 visits	0 visits
Missed school	5+ days	0 days
Interrupted work for caregiver	4 times	0 times

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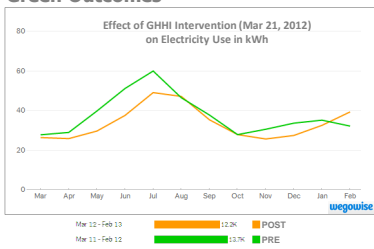
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Case Study 3 continued 

**Green Outcomes**

Effect of GHHI Intervention (Mar 21, 2012) on Electricity Use in kWh



1<sup>st</sup> Year Utility Savings

- 11% decline in electricity use
- 11% decline in natural gas use
- \$264 savings on utility costs in first year

**Project Funding**

- DOE Weatherization Innovation Pilot Program, HUD Healthy Homes Demonstration, HUD Community Development Block Grant
- Project Cost: \$6,746

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**Green & Healthy Homes Initiative™**

**Impact and Benefits of GHHI**

- Unit production is underway with over 4,500 GHHI units completed and 3,000 units in pipeline - initial goal was 3,500 units
- Corporate and philanthropic foundations have committed over **\$30 million** to support local GHHI efforts

- ✓ Health and Safety Benefits - significant reduction in asthma episodes, increased school attendance, fewer missed work days for parents, and reduced medical costs
- ✓ Energy Consumption reductions
- ✓ Over 1,800 persons trained for the Green & Healthy Homes Workforce with up to \$4,000 increase in base wages

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**Green & Healthy Homes Initiative™**

**Ruth Ann Norton**  
Executive Director  
[ranorton@ghhi.org](mailto:ranorton@ghhi.org)  
410-534-6447  
[www.greenandhealthyhomes.org](http://www.greenandhealthyhomes.org)

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