Taking Hospital Community Benefit Policy to the Next Level: Advancing Community Health
GHHI model

Housing is a platform for health

- Single Intake System
- Comprehensive Assessment
- Coordinated Services
- Integrated Interventions
- Cross-Trained Workers
- Shared Data

 ✓ Lead Hazard Reduction
 ✓ Asthma Trigger Control
 ✓ Fall/Injury Prevention
 ✓ Energy Efficiency
 ✓ Weatherization

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GHHI model

GHHI’s comprehensive model addresses health, safety, and energy efficiency needs in homes.

1. **Intake**
   - Receive referral

2. **1st home visit**
   - Perform assessment and education

3. **Services**
   - Provide home remediation and education services

4. **Evaluation**
   - Evaluate outcomes

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One Family’s Story

Dewayne Davis, age 8, suffered from asthma caused by his unhealthy, energy-inefficient home which was full of asthma triggers.

- Old carpets = allergens
- Water leaks = mold hazards
- Deteriorated windows = air leaks
- Broken hot water heater and furnace
- Defective gutters = water leaks
- Chipping paint = lead hazard
- Broken tile = safety hazard
- Broken ducts = higher heating bills
A Solution Through Braiding

An integrated approach cost 25% less to implement ($12,057 vs $16,096), has kept DeWayne out of the hospital for asthma-related visits, improved his school attendance and reduced the family’s monthly heating bills—and helped his mother achieve as well.

- Remove old carpets
- Remediate mold, install dehumidifier
- Install Energy Star windows
- Install furnace and hot water heater
- Replace broken gutters
- Stabilize chipping paint
- Resurface uneven floors
- Seal ducts, blow insulation

HUD (HHDP)
Philanthropy
DOE (WAP)
Effects of Lead Poisoning on Children

- Learning disabilities
- Attention Deficit Disorder (ADD)
- Hyperactivity
- Decreased intelligence (loss of IQ points)
- Speech and language delays
- Increased violent, aggressive behavior, and juvenile delinquency
- 7 times more likely to drop out of school
- 6 times more likely to be in the criminal justice system
Asthma

• 25 million Americans with asthma, including over 6.8 million children
• $50.1 billion in asthma-related medical costs per year
• 3,500 asthma-related deaths annually
• Asthma accounts for over 15 million doctor visits and nearly 2 million ER visits each year
• 14.4 million missed school days from asthma
• 14.2 million missed work days from asthma
Household Injury

• Home injuries cause more than 10 million ER visits per year
• 18,000 unintentional home injury deaths occur each year, and household injury is the leading cause of death among children
• 13 million preventable home-related injuries occur annually, costing $222 billion in medical costs
The Business Case for Lead Poisoning Prevention

• 535,000 children estimated with EBL > 5 mg/dL

• Monetized Benefits of Prevention = 2.2 to 4.7 IQ point increase results in increased lifetime worker productivity @ $954,000 per child = $110 to $319 billion

  (discounted 2000 dollars for each year’s group of 3.8 million two-year old children) Source: CDC

• For every $1 spent on lead hazard control programs there is a $17-$221 return on investment

  Source: HUD, Gould
The Business Case - Asthma

- Return on investment: HHS’s economic review of published studies showed a return of $5.3 to $14 for each $1 invested in environmental asthma interventions.
- MN Dept of Health - Reducing Environmental Triggers of Asthma program produces cost savings of $1,960 per patient over 1-yr period.
- Seattle King County Healthy Homes II project found additional benefits of adding environmental trigger reduction above education alone.
- Costs of ER visit can be $500-$1100. Cost of hospitalization can be $5000-$12,000.
- Intervention intensity can be stratified by disease severity.
Evidence base for healthy homes

Lead:

• Preventing lead exposure among children has been estimated to improve intelligence and behavior, resulting in increased earning potential and lower health care costs

Fall injuries:

• Unintentional falls were the #1 reason adults over 45 visited the ER
• 54% of all falling-related deaths of older people are caused by seniors falling down at home
• Grab bars, non-slip mats, entry and exit improvements, and reducing trip hazards greatly reduce falling risks
Healthy Homes Technical Study

Analysis of the impact of GHHI interventions

The study enrolled ~240 (120 Tier I and 120 Tier II) participants from GHHI’s Safe At Home program.

Primary Outcomes include:

• Medicaid utilization and cost reductions
• Improvements in asthma-related health outcomes
• Decreased days of work and days of school lost
• Improved energy efficiency

Will provide the rationale to:

• Leverage additional funds to expand proven home interventions
• Better incorporate upstream health interventions into the continuum of health care service delivery
• Move towards sustainable health financing for home interventions positively impacting health
GHHI is currently leading transaction structuring work in Baltimore with Social Finance for an asthma-focused PFS project.
GHHI’s PFS work across the country

GHHI is also leading 10 asthma-focused PFS feasibility studies with healthcare and service provider partners across the country.

Funders of asthma PFS feasibility studies:
- GHHI feasibility studies
- GHHI transaction structuring

Transaction structuring:
- Baltimore, MD

Feasibility studies:
- Bronx, NY
- Buffalo, NY
- Chicago, IL
- Grand Rapids, MI
- Houston, TX
- Memphis, TN
- Philadelphia, PA
- Rhode Island State
- Salt Lake City, UT
- Springfield, MA
Challenges and Opportunities for community benefits

• Common funding sources for healthy home services: HUD, DOE, CDBG, philanthropy, utilities, and state and local housing funds do not meet the need.

• Currently no standard set of codes for healthy homes measures and approved costs for services

• Coordination of care between medical providers and community based services is still improving. New technology and data capacity can lead to quicker referrals to community-based services

• Expanding role for community health workers and non-clinical professionals

• Shift from fee for service to value based care and alternative payment models
GHHI’s long term vision

End Goals

- Healthy homes services designated as medical costs
- Physicians writing prescriptions for healthy homes services
- Housing professionals being a new frontline for healthcare
- Increased data on the broad impact of healthy homes

A healthcare system that sustainably addresses the social determinants of health, focusing on prevention rather than costly acute care
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Healthy Homes has a strong evidence base and business case

Housing conditions and the built environment are social determinants of health

- Surgeon General’s Call to Action to Promote Healthy homes (2009)
- CDC and HUD Guides to Healthy Homes Measures
- NIH Guidelines for asthma management includes home interventions
- HHS’ Guide to Community Preventive Services
- Billions lost annually
  - $43.4B = lead poisoning
  - $50.1B = asthma
  - $19B = fall injuries for seniors
  - 40% of asthma attacks from home triggers

http://www.greenandhealthyhomes.org/sites/default/files/GHII_Improving_Health_Economic%20and_Social_Outcomes_through_Integrated_Housing_Intervention.pdf
GHHI Outcomes

GHHI’s intervention produces healthier, safer, and greener homes in low-income communities…and cost savings to the healthcare system.

https://youtu.be/rbF71lDmt4k
Goal: Decrease healthcare costs and improve health outcomes in low-income communities through integrated housing interventions.

**Asthma-related outcomes reported in *Environmental Justice***

- **66% reduction** in asthma-related hospitalizations
- **28% reduction** in asthma-related ER visits
- **50% increase** in participants never having to visit the doctor for asthma
- **62% increase** in participants reporting 0 school absences due to asthma
- **88% increase** in participants reporting 0 work absences due to child’s asthma

**GHHI awarded the National Environmental Leadership Award in Asthma Management in 2015 by EPA**