



**Green & Healthy  
Homes Initiative®**

# **Investing in Health and Home: A High-Impact Strategy**

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Breaking the link  
between unhealthy  
homes and  
unhealthy families

# Our Impact in Maryland

## Lead poisoning cases in Maryland continue to drop

**AP** By The Associated Press  
October 25, 2017 2:26 pm



BALTIMORE (AP) — State environmental officials say the number of childhood lead poisoning cases in Maryland has dropped to its lowest level since testing was implemented nearly 25 years ago.

**98%** reduction in childhood lead poisoning – equivalent of 65,000 children according to threshold of 5 ug/dL



**\$44.5** billion in prevented losses of lifetime earnings put back into the Maryland economy (Duke University)



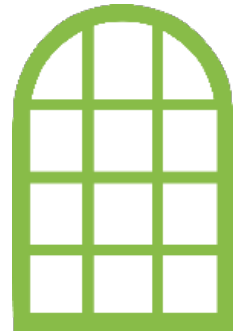
# The Burden of Sub-Standard Housing

## Unaffordable, inefficient, and unhealthy



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



\$43B+ spent on lead poisoning

**Over \$155B in economic costs related to these hazards**



# Becoming More Obvious:

## The impacts of sub-standard housing

### Economic Impacts

- Reduced productivity
- Lower job security
- Less access to benefits

### Health Impacts

- Environmental hazards
  - lead paint
  - asthma triggers
- Mental health conditions
  - Stress
  - anxiety
- Childhood stress
  - chronic health conditions

### Education Impacts

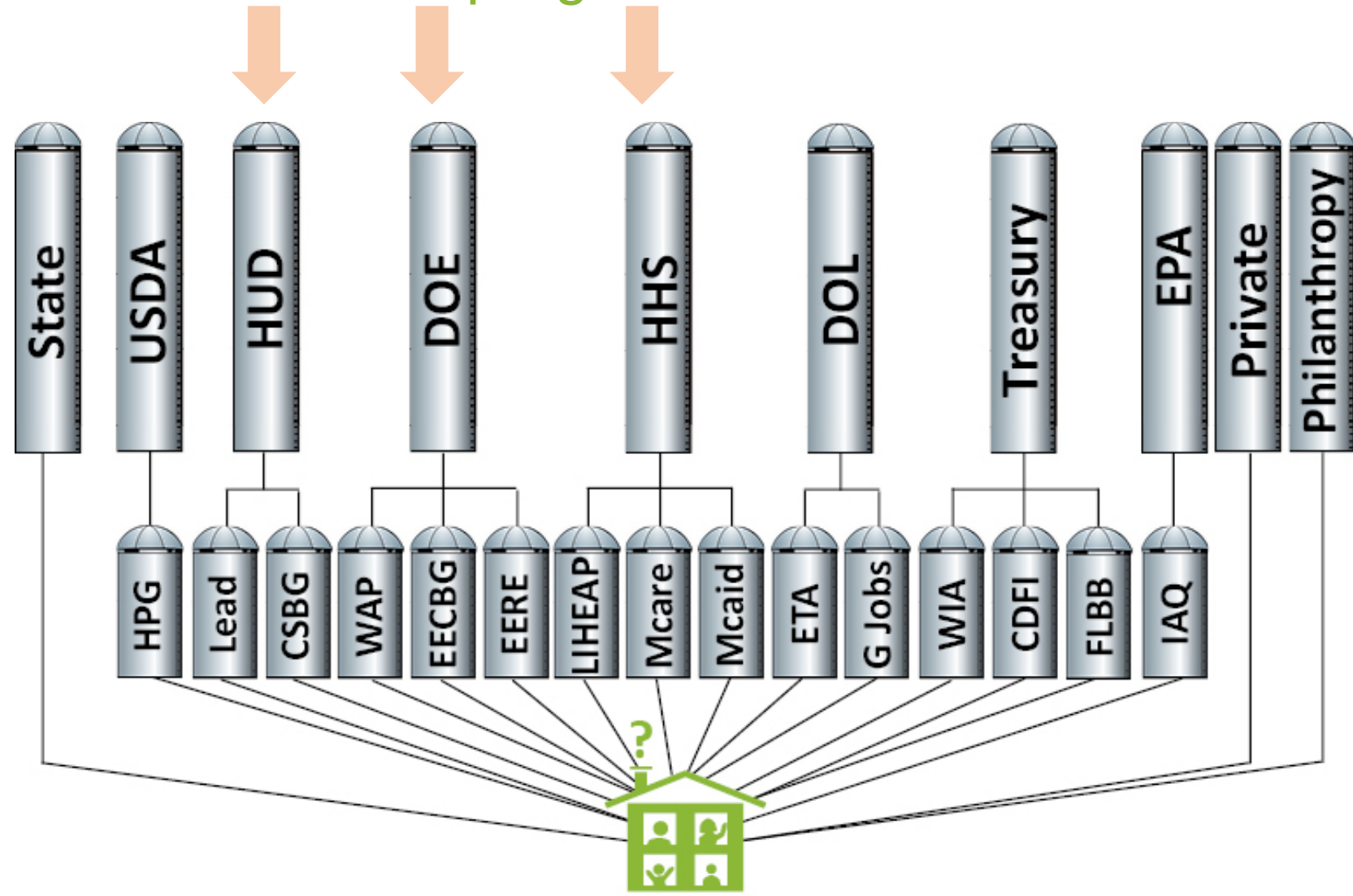
- Poor grade level performance
- Lower graduation rates
- Lost earning potential

**50% displacement rate** for households below poverty line, often due stress, inability to pay rent and bills, and poor quality or unsafe housing.



# A Problem of Silos:

Access to valuable programs is not streamlined



Even federal programs have different eligibility criteria

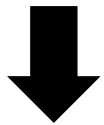
Program:	Criteria:
HUD CDBG	80% of AMI
HUD Lead	80% of AMI
DOE WAP	200% of FLP
HHS LIHEAP	125% of FLP

# The GHHI Solution:

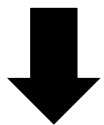
Address the whole home



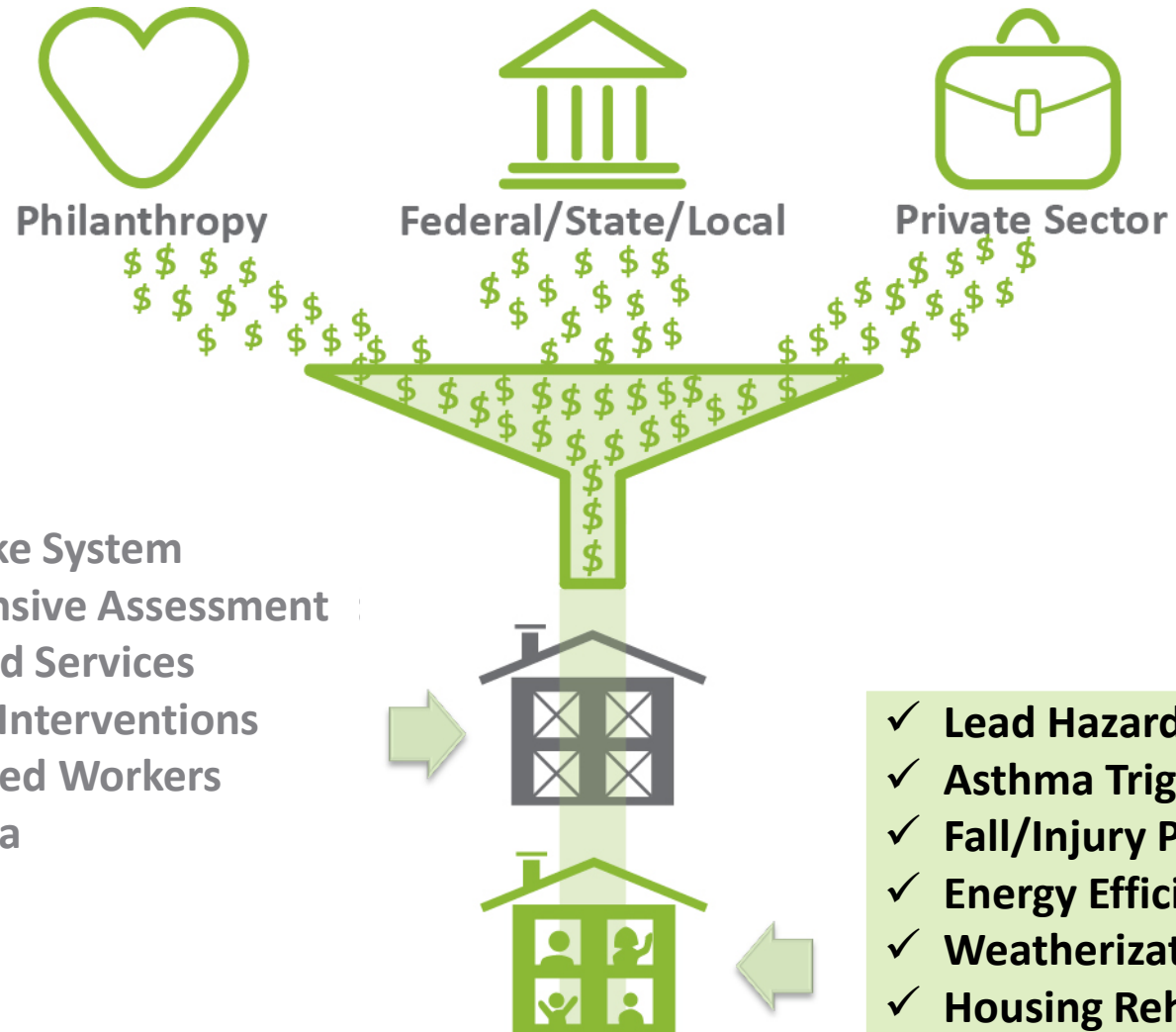
**Align**  
services & funding



**Braid**  
relevant resources



**Coordinate**  
service delivery





# The 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





# 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

# Lesson Learned: Define the Business Case



Example: the case to fund early lead and asthma interventions

## Lead Poisoning Prevention



### Impacts during childhood

- 700% increase in school drop out rate
- 600% increase risk of juvenile delinquency



### Impacts in adulthood

- Diminished earnings from lower IQ
- Higher likelihood of incarceration

**\$1**  
invested in preventive  
remediation



**\$7 - \$221**  
return on investment

**Increased lifetime earnings of \$1,024,000**  
per child if lead poisoning prevented

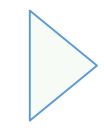
## Environmental Control of Asthma

Asthma results in **\$50.1B** in annual medical costs  
(40% of costs are tied to triggers in the home)

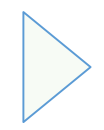


Cost of ER visit  
**\$500-\$1,000**

Cost of hospitalization  
**\$7,500-20,000**



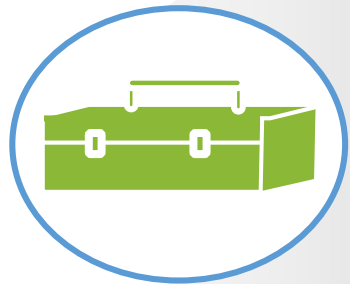
**\$1**  
invested in asthma  
interventions



**\$5.30 - \$14**  
return on investment

Sources: HUD, Gould, RWJ Commission on Building a Healthier America, HHS economic review of published studies

# Tapping into Innovative Healthcare Funding



Medicaid, CHIP Waivers & State Plan Amendments



Hospital Community Benefits



Pay for Success



MCOs and Value-based Payments



Medicare Advantage Plans



Administrative Resources

# Leading Medicaid/CHIP Policy Innovations – Maryland Program

## **GHHI helped develop and secure CMS and State of Maryland Medicaid Funding Support for Housing and Health Services**

- GHHI and the Maryland Department of Health created a Medicaid/CHIP program model for lead hazard reduction and asthma trigger reduction services to use CHIP funds preventively

**Maryland Example:** \$14.4 million program utilizing Maryland CHIP funds in 2017-2019 for:

- In-home resident education for lead poisoning prevention and asthma
- Environmental assessment for lead hazards and asthma triggers in the home
- Lead hazard remediation and asthma trigger reduction (IPM, mold, dust mites) interventions
- GHHI providing program match funding

# In Practice: GHHI-Amerigroup Partnership



## Direct payment for services

### Prevention services provided to reduce asthma episodes:

- GHHI provides “Tier 1” services, which include:
  - Asthma resident education home visits and phone calls
  - Home prevention supplies
  - Environmental assessment
  - Integrated pest management

### Compensation:

- The Amerigroup health plan pays for each member who is enrolled in the program:
  - 75% paid after the first home visit
  - 25% paid after month 5 of enrollment (after the two additional home visits are conducted)



# Breathe Easy East Baltimore

A multi-pronged, community-based approach to reducing the burden of pediatric asthma

A partnership between:





# The Breathe Easy East Baltimore Model

The BEE Program conducts activities in three areas in order to serve 1,500 clients and achieve program goals.



## Asthma Control and Prevention

- Medical Interventions
  - Directly-Observed Therapy
  - AIR Team
- Non-Medical Interventions
  - Housing Interventions (Tiers I, II, and III)
  - In-Home Education



## Community Engagement

- Workforce Development
- Community Education



## Surveillance and Data Mapping

- Population-based asthma surveillance
- High-risk asthma surveillance
- Housing surveillance



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MEDICINE

living  
classrooms learning  
by doing

BALTIMORE  
CITY HEALTH  
DEPARTMENT



JOHNS HOPKINS  
BLOOMBERG SCHOOL  
of PUBLIC HEALTH



Green & Healthy  
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# Community Engagement: Workforce Development



BEE Baltimore will launch an unprecedented Target Investment Zone-wide public health strategy to disseminate awareness, education and referral resources to the community.

- Residents of the Target Investment Zone will be trained to work on the housing intervention teams as:
  - Contractors to address environmental asthma triggers
  - Community health workers to address family education and support needs

**Workforce Development interventions will:**



**Help meet the immediate needs of families affected by asthma**



**Provide skilled job opportunities to residents of the Target Investment Zone**



**Develop a workforce to perpetuate BEE interventions beyond the pilot stage**

# Spurring Innovation in Public Housing: O'Donnell Heights Asthma Initiative



**What:** A \$200,000 pilot project in collaboration with the Housing Authority of Baltimore City (HABC)

**Goals:** Recruit, hire and train 2 full-time resident Community Health Workers

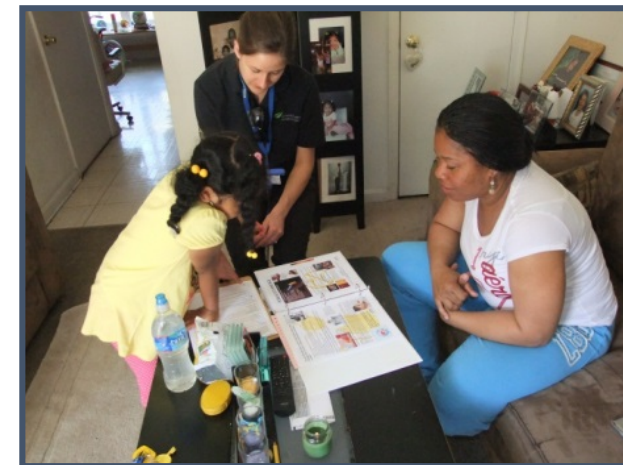
Conduct healthy housing trainings and safe practices for:

- HABC maintenance personnel
- Resident Advisory Board
- O'Donnell Heights community residents

Conduct healthy homes interventions in 50 public housing units

Set model standards for environmental assessment, quality assurance and control in public housing for national replication

Establish a connection between clinics and public housing for housing interventions





# Housing Upgrades to Benefit Seniors (HUBS) Model



# Investing Hospital Community Benefit Dollars Upstream

- To maintain non-profit status, hospitals have to utilize resources for community benefit (traditionally used to cover loss for uninsured and underinsured patients)
- Every non-profit hospital has to do a community health needs assessment every 3 years
- Housing interventions are eligible community benefit activities



**ELEVATE ENERGY**  
Smarter energy use for all

## **Pilot:**

- Uninsured asthmatics who are frequent flyers
- Using community benefit and philanthropic resources to serve the patients
- Tracking the results: Do the patients' utilization go down?
- Presence now expanding to other hospitals in their system, and Elevate is partnering with a local utility, ComEd

# State-Level Impacts

## Integrating Health, Energy, and Housing in New York



- Goal** Build capacity for services throughout the state and design an integrated delivery model
- Outcome** Reduce energy usage, asthma episodes, household injury and lead poisoning and related energy and medical costs
- Approach** Evaluate the possibility of supporting energy, health and housing services through sustainable public and private funding.
- Partners** NYSERDA, NYSDOH, NYHCR



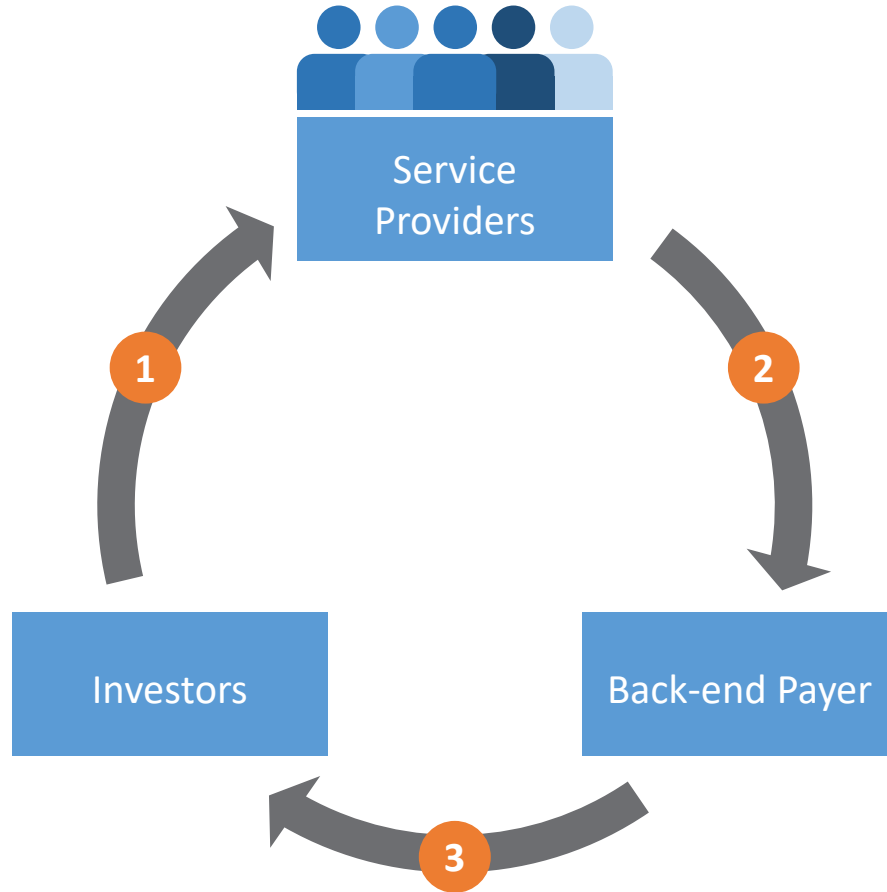
# State-Wide Partnerships

## Integrating Health, Energy, and Housing in Connecticut





# How does Pay for Success work?

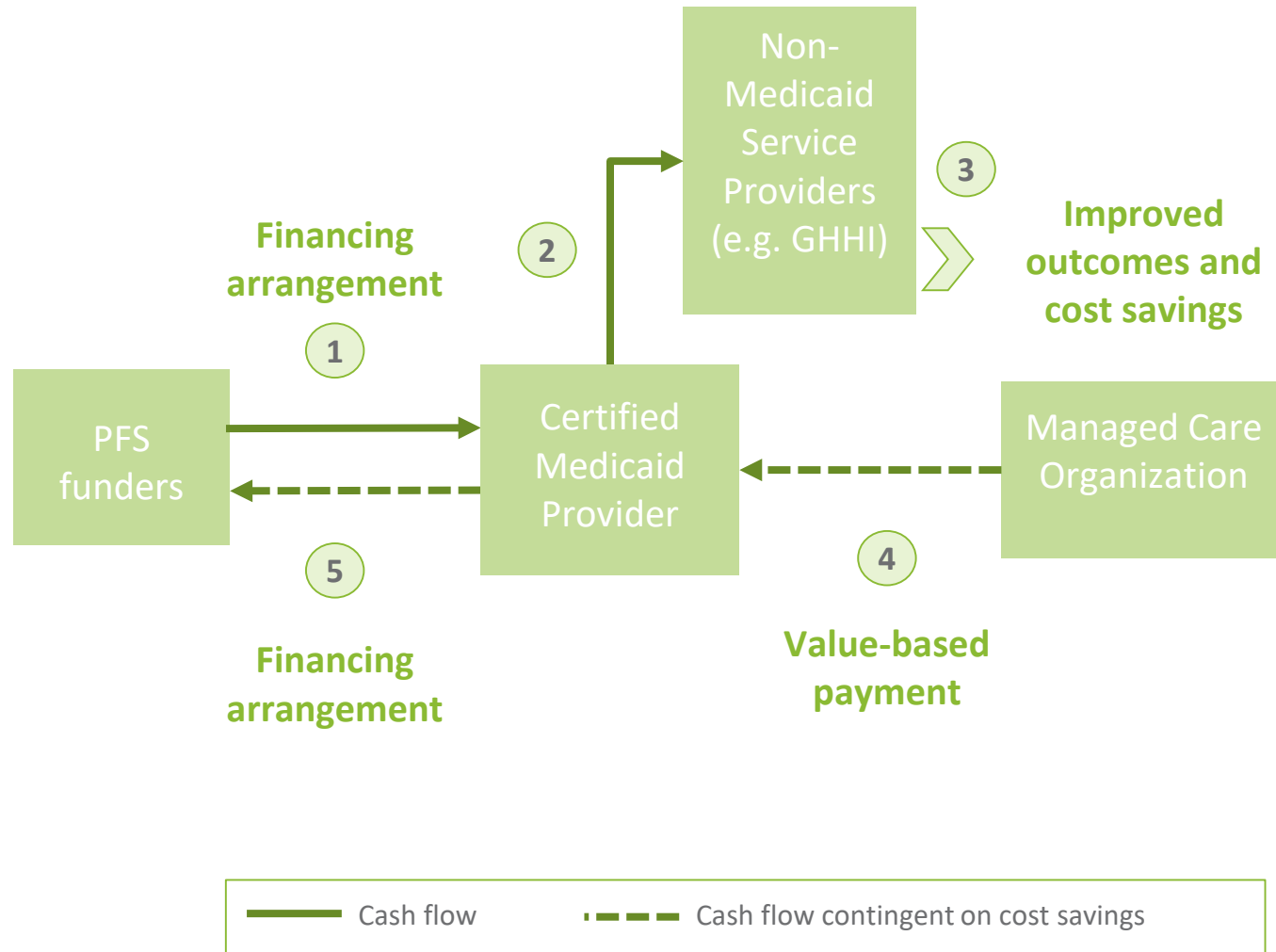


## Steps

- 1 Investors provide upfront capital to scale evidence-based services
- 2 Intervention results in a social impact, often cost savings, that the back-end payer values
- 3 Payer repays investors once outcomes are verified by an independent Evaluator

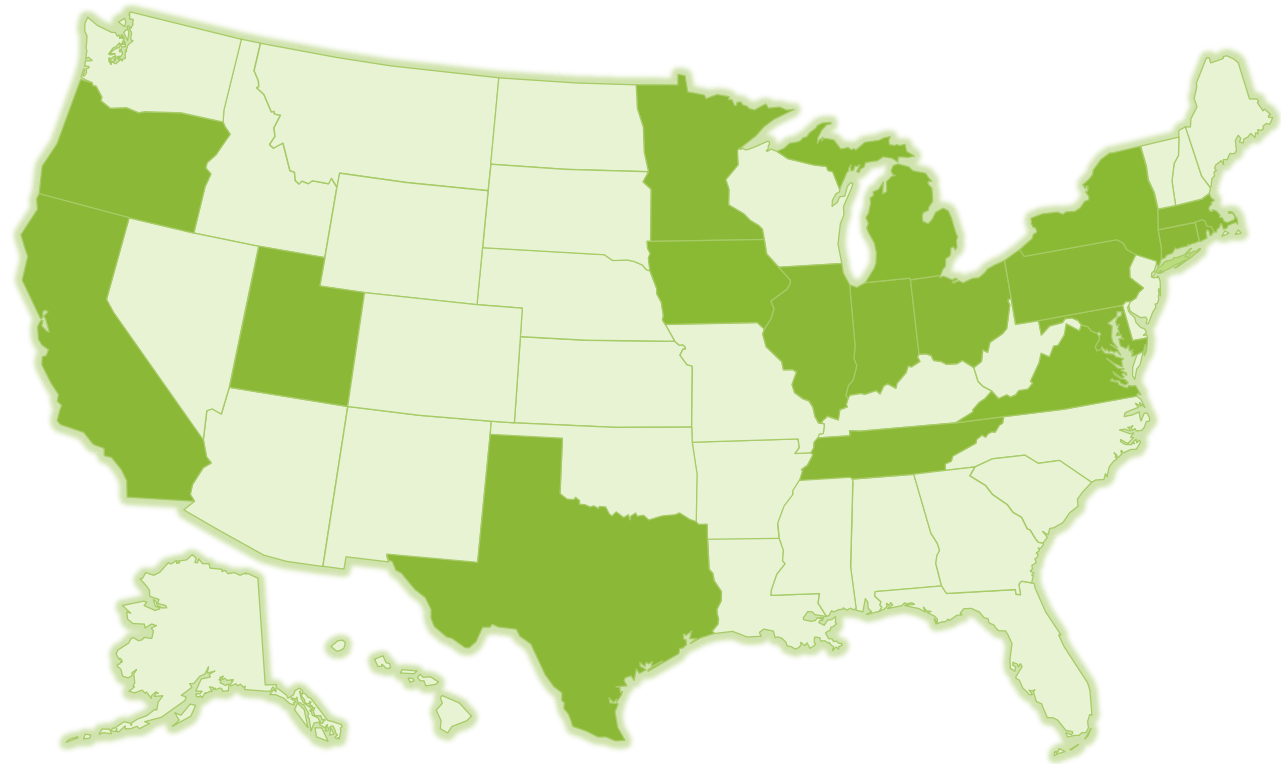
# Pay for Success in the context of Medicaid Managed Care

We have designed our projects to fit existing Medicaid regulations





# GHHI's national innovative financing portfolio



- Baltimore - Priority Partners MCO
- Buffalo - Oishei Children's Hospital and IHA MCO
- Chattanooga - green|spaces and Erlanger Children's hospital
- Chicago - Presence Health, Elevate Energy, & NextLevel MCO
- Cincinnati - People Working Cooperatively
- Connecticut Medicaid and CT Greenbank
- Grand Rapids - Priority Health MCO, Healthy Homes Coalition of West Michigan
- Houston - UnitedHealthcare & Baylor
- Houston - Community Health Choice MCO
- Indiana - Indiana Joint Asthma Coalition
- Iowa - Healthy Homes Des Moines
- Marin - Contra Costa Health Services & MCE
- Memphis - Le Bonheur Children's Hospital & UnitedHealthcare, Amerigroup, and BlueCare
- Minneapolis - MN Energy Efficiency For All
- New York City - Affinity Health Plan, AIRnyc, & AEA
- New York City - LISC
- New York Medicaid and NYSERDA
- Oregon - Community Services Consortium
- Philadelphia - National Nursing Care Consortium
- Richmond City Health District
- Rhode Island - State Medicaid and Integra Accountable Entity
- San Antonio - SA Asthma Collaborative
- Salt Lake - University of Utah Health Plans and Salt Lake County
- Springfield - Health New England MCO, Baystate Health, Public Health Institute of Western Mass
- Worcester - UMass Memorial Hospital

## Funders



# Discussion

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