Using Energy Efficiency to Improve Health and Housing

Presented at the 2019 MES Resilience, Health and Energy

February 20, 2019
The Impact of Housing and Energy Insecurity

**Economic Impacts**
- Reduced productivity
- Lower job security
- Fewer benefits
  - Paid time off
  - Health insurance

**Health Impacts**
- Exposure to environmental hazards
  - Lead based paint
  - Asthma triggers
- Mental health conditions
  - Stress
  - Anxiety
  - Depression
- Childhood stress
  - Chronic health conditions

**Education Impacts**
- Poor grade level performance
- Lower graduation rates
- Lost earning potential

*Source: Green and Health Housing Initiative*
The Pilot

Asthma in the Presence Health Saints
Mary and Elizabeth Service Area
The Team

**Presence Health**

Identifies and enrolls high-utilizing asthma patients, provides asthma education and PCP connection.

**ELEVATE ENERGY**

Smarter energy use for all

Leverages expertise in energy efficiency and weatherization sectors to assess and remediate environmental triggers of asthma.

**Green & Healthy Homes Initiative**

Provides comprehensive technical assistance modules, including stakeholder analysis, intervention planning, and sustainable funding options ranging from Pay For Success (PFS) financing to direct reimbursement.
Pilot Details

- **Timeframe:** December 2017 to September 2018
- **Budget:** $100,000 (philanthropy, community benefit, in-kind contributions)
- **Eligibility:** At least 1 ED or inpatient admit for asthma in past 12 months, uninsured/Medicaid, under 65 years old
- **Enrollment:** 20 patients, identified through Presence Health records
- **Intervention:** HEPA vacuum/air filter, green cleaning, mattress and pillow cover (Tier 1); minor construction (Tier 2)
- **Data:** Presence and Elevate are using Efforts to Outcomes (case management software) to track client cases
A community served by our hospital suffered very high rates of hospitalization for asthma, especially among children.

Illinois rate of hospitalization among children was 156 per 100,000 with a range from 63.5 to 233.

West Side Chicago rates for children ranged from 145 to 487 per 100,000.

Source: Presence Health
Case #91740

- 3 unit building
- Patient lives in basement unit
- Patient is 19 years old
- Lives with his father and his younger siblings
- Hospitalized for asthma within the past 12 months
- Unemployed
Issue: Point Source Moisture/Mold (before)

Moldy drywall by bathroom, kitchen, and hallway. Additionally, the Combustion Appliance Zone (CAZ) was not properly closed off.
Issue: Point Source Moisture/Mold (after)

Moldy walls removed; new water resistant drywall was installed. Additionally, a door was added to properly close the CAZ.
Domestic Water Heater is negatively pitched. Additionally, we found the flue pipe had material blocking the full use of the pipe.
Preliminary Results

- **19 out of 20** participants improved their Asthma Control Test (ACT) score (1 participant was lost to follow up)
- **18 out of 20** reached a **score of at least 19**. (19+ = participant has “controlled” asthma)
- The average improvement was 7.11 points—a **56%** improvement over average baseline ACT score
- **72%** of those who responded experienced reduced interference with work and school due to asthma and a reduced reliance on their rescue inhaler
Preliminary Results

- Average Tier 1: $378.29
- Average Tier 2: $2,230.86
- Total cost $25,412.61 of the supplies

Return on Investment (ROI) for Asthma Interventions
$5.30 to $14.00

Pilot ROI= $ 134,686 to $355,776

Source: Journal of public health management and practice
Program Sustainability: Healthcare

Near-term (Pilot funding)

Philanthropic Support + Community Benefit

Long-term (Sustainable funding)

Medicaid Reimbursement Under Existing Rules/Regulations

Medicaid Policy Change to Expand Reimbursement
Thank you!

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