Health Homes: Connecting Building Science and Medical Science

Homes Within Reach Conference

Tuesday, December 5, 2017
The Department of Human Services’ (DHS) five-year housing strategy is a comprehensive plan to connect Pennsylvanians to affordable, accessible, integrated and supportive housing. DHS will leverage internal and external resources and collaborate with all levels of government and private agencies to make housing resources and services more accessible and available to a wide range of individuals served by DHS.
Three core populations:

1. Individuals who live in institutions, but could live in the community with housing services and supports.

2. Individuals and families who experience homelessness or are at-risk of homelessness.

3. Individuals who have extremely low incomes and are rent burdened.
Connecting people to housing

• Build better local and state housing partnerships.

• Provide IT tools to the Local Referral Network.

• Expand the Section 811 PRA program in partnership with PHFA.
Supporting Pennsylvanians Through Housing

Strengthening services that address housing needs

• Maximize Medicaid funding for housing-related services and supports.

• Increase housing opportunities and services for individuals in the criminal justice system with mental illness and substance use disorder.
Expanding funding opportunities for housing

• Develop public and private partnerships.

• Target existing DHS resources for housing programs.

• Redirect existing homeless and housing services resources toward housing; partner with DCED, PHFA, and the Homeless Continua of Care.
Measuring and communicating progress

- Track metrics and measure outcomes.
- Continually improve DHS programs.
- Communicate the progress of the DHS Housing Strategy to stakeholders and advocates.
To read the DHS Five Year Housing Strategy, please visit:

www.dhs.pa.gov/citizens/housing

PARTNERS

Thank you to the Pennsylvania Housing Finance Agency and the Pennsylvania Department of Community and Economic Development for partnering with DHS to support Pennsylvanians through housing.
For more information or to get involved, please contact:

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Quality Housing

A Choice Some CANNOT Make
• 35% of children live in homes with high cost burden
• 20% of children live in poverty
• Old homes: many built before 1950

http://datacenter.kidscout.org/~media/67/2013KC_state_profile_PA.pdf
Scenario

- Hannah works at a restaurant and gets paid $10/hour
- Average work week: 30 hours
- Average rent: $600
- Weekly income with taxes: $257.84
- Yearly income: $13,407.68
How Do American Families Spend Their Income?

Low-Income Household

- Food: $2,815.61
- Housing: $7,508.30
- Health Care: $1,474.84
- Education: $134.07
- Transport: $2,949.68
- Alcohol: $134.07
- Entertainment: $804.46
- Other*: $2,681.53

A family with an annual income of $17,563 will usually spend more than it brings in yearly, around $24,806. Housing, the biggest single expenditure for such a household, accounts for 40 percent of all expenditures, and 56 percent of annual income. For the average American household, housing accounts for 34 percent of all expenditures, or 26 percent of annual income.
What WE Are Doing

• Focus on vulnerable counties
• Public health 3.0 events
• Pennsylvania Interagency Health Equity Team (PIHET)
• Health Equity Report
Public Health 3.0

Local Focus

West

- Greene
- Cambria
- Blair
- Fayette

72 Stakeholders Engaged

Northeast

- Carbon
- Columbia
- Union
- Snyder
- Schuylkill
- Northumberland

89 Stakeholders Engaged

Central

- Perry
- Dauphin

104 Stakeholders Engaged

Southeast

- Philadelphia

TBD Stakeholders Engaged
PIHET Department Agencies

- Health
- Drug and Alcohol
- Environmental Protection
- Aging
- DHS
- Education
- Historical and Museum Commission
- DCNR
- Labor and Industry
- Corrections
- Economic Development
- Transportation
- PA Housing Finance Agency
- Agriculture
Thank You!!

David Saunders
davidsaund@pa.gov
Get Energy Smarter
Conservation Consultants Inc. (CCI) is a Pittsburgh-based non-profit, founded in 1978.

We advance healthy, whole home performance and energy conservation.

Our work includes assessments of energy, health and safety factors in homes and small commercial buildings; related advocacy; and teaching professionals & community members.

Technical Expertise • Education • Advocacy

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**Pennsylvania - EPA Map of Radon Zones**

The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

This map is not intended to determine if a home in a given zone should be tested for radon.

*All homes should be tested, regardless of zone designation.*

[Zone Legend]

**IMPORTANT:** Consult the publication entitled "Preliminary Geologic Radon Potential Assessment of Pennsylvania" (USGS Open-file Report 03-202-C) before using this map. http://energy.cr.usgs.gov/radon/prprint.html This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.
Home Construction Year (County Database)

Condition of Homes

Self-Reported Home Issues

PENNSYLVANIA – EPA Map of Radon Zones

The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

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IMPORANT: Consult the publication entitled “Preliminary Geologic Radon Potential Assessment of Pennsylvania” (USGS Open-File Report 93-252-C) before using this map.

http://www.epa.gov/radon/zonemap.html
Place-based neighborhood impact program, leveraging neighbor-to-neighbor outreach to improve health, efficiency, and comfort of Pittsburgh homes – Energy Efficiency Challenge (500 homes) – Weatherization Plus (20 homes)

Program Overview

GRASSROOTSGREENHOMES
Energy Coach volunteers
• Neighborhood liaisons
Partnering with other organizations
• Cross-promotion
Outreach and Collaboration
### Energy Efficiency Challenge

#### Overall Average Adoption Rates for Tools

<table>
<thead>
<tr>
<th></th>
<th>Gas (MCF)</th>
<th>Electric (kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency Challenge</td>
<td>-4% (overall)</td>
<td>-12% (summer)</td>
</tr>
<tr>
<td>(approx. 160 participants)</td>
<td></td>
<td>-3% (winter)</td>
</tr>
</tbody>
</table>

#### Overall Average Adoption Rates for Tips

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe my home is more energy efficient since participating in GGH.</td>
<td>4.38</td>
</tr>
<tr>
<td>I believe my home is healthier since participating in GGH.</td>
<td>3.75</td>
</tr>
<tr>
<td>I feel more comfortable coaching my friends and neighbors about things they can do to improve their homes since participating in GGH.</td>
<td>3.75</td>
</tr>
<tr>
<td>Test Out Invoice #</td>
<td>Mold Test Results (Aspergillus/ Penicillium)</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>00013 GR-TO</td>
<td></td>
</tr>
<tr>
<td>00014 GR-TO</td>
<td>Yes (windows, doors, paneling)</td>
</tr>
<tr>
<td>00009 GR-TO</td>
<td><em>High</em></td>
</tr>
<tr>
<td>00010 GR-TO</td>
<td>No</td>
</tr>
</tbody>
</table>

AVERAGE 23% ENERGY SAVINGS
Lessons Learned

Participant Engagement

1. Incredible amount of effort required for multiple touches over extended period of time
2. Distinct structure and clear message are essential when engaging volunteers
3. Simplicity and repetition are the keys to success in your program

Program Coordination

1. Can’t change utility offerings, but you can supplement them
2. Order of operations is crucial when coordinating services
3. Home Health is inextricable from Energy Efficiency, but more abstract and harder to demonstrate
The Case for Healthier Homes

PROTECT CHILDREN

PROTECT PEOPLE WHO RENT

DECLARE HEALTHY HOMES A PUBLIC HEALTH POLICY PRIORITY

ARM THE PUBLIC WITH ACCESS TO INFORMATION

GUARANTEE GOALS THROUGH MONITORING AND REPORTING
Leaders:
- Massachusetts
- Portland, OR
- Vermont
Leaders:
• Burlington, VT
• Texas
• Boulder County, CO
Leaders:
• Portland, OR
• Cleveland, OH
• Boulder County, CO
Leaders:
• Baltimore, MD
• Portland, OR
Connecting Building Science to Medical Science

Presenter: Steve Luxton
Homes Within Reach Conference 2017
Connecting Building Science to Medical Science

Unsafe housing is a danger to the health of millions of people across the United States. Minorities and lower income families have significantly higher odds of living in inadequate housing. And they pay a steep price in their own health.”

Kathleen Sebelius, Secretary of Health and Human Services
National Healthy Homes Conference, Denver, CO
June 23, 2011
Connecting Building Science to Medical Science

The goal is to blend home repair into weatherization – This will not only improve health and safety but facilitate more energy efficiency work, lowering the burden of high energy bills.
Connecting Building Science to Medical Science

The primary reason for deferrals in Philadelphia is uncontrolled moisture intrusion, i.e.,
- Roof leaks
- Plumbing leaks
- Basement /crawl space seepage
Poverty in Philadelphia

Among the nation’s top 10 large cities, Philadelphia has the highest percentage of people in poverty and deep poverty.

2015 Federal Poverty Guidelines

<table>
<thead>
<tr>
<th>Household size</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$11,770</td>
</tr>
<tr>
<td>2</td>
<td>$15,930</td>
</tr>
<tr>
<td>3</td>
<td>$20,090</td>
</tr>
<tr>
<td>4</td>
<td>$24,250</td>
</tr>
<tr>
<td>5</td>
<td>$28,410</td>
</tr>
</tbody>
</table>

The Demographics of Poverty

- Under 18: 36.9%
- >64: 16.5%
- White: 18.3%
- Black: 31.4%
- Asian: 24.3%
- Hispanic: 42.9%
- Native born: 26.2%
- Foreign born: 24.8%

The Geography of Poverty

% Below Poverty:
- 26.3% to 36.2%
- 36.2% to 50.6%
- 50.6% to 84.7%

26% in poverty
12.3% in deep poverty
Poor quality housing and its impact on children

HAZARD

Physical
- Structural problems
- Leaks and moisture
- Mold
- Chipping lead paint
- Rodents and Pests
- Lack of utilities
- Cracks and holes in walls

Behavioral
- Indoor smoking
- Clutter/hoarding
- Use of pesticides
- Lack of cleanliness

Socioeconomic
- Lack of affordability
- Behind in rent
- No lease
- Overcrowding
- History of eviction

Political/Bureaucratic
- Lack of code enforcement
- Lack of collection of fees, fines and penalties
- Insufficient supply of affordable housing

HARM TO CHILDREN

Physical Health
- Asthma
- Long term lung damage
- Increased risk obesity
- Lead Poisoning
- Lowered IQ
- Slower growth
- Learning & Behavior Problems
- Hearing & Speech Problems
- Injury
- Disability

Emotional Health
- Depression
- Behavioral problems
- Fear
- Anxiety

IMPACT

Physical Health
- Frequent ER visits
- Hospitalization
- High medical costs

Housing Related
- Eviction
- Homelessness
- Frequent moves & Housing Instability

School Related
- Missed school
- Frequent change of schools
- Poor school performance

Child Welfare
- Parental loss of custody
- Delayed reunification in child welfare

<table>
<thead>
<tr>
<th>Condition</th>
<th>% Philadelphia</th>
<th>% National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rodents in home in past 3 months</td>
<td>23</td>
<td>6</td>
</tr>
<tr>
<td>Leak(s) inside home</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Open cracks or holes inside homes</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Moderate or severe physical problems with home</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Lacking a working smoke detector</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Hole in Roof</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Broken plaster or peeling paint inside home</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Broken windows</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Holes in floors</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Rooms without electric outlets</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Overall rating of structure is poor</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Foundation crumbling, cracks or holes</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

[American Housing Survey (2009)]
Healthy Homes Healthy Kids
% of Properties with Health and Safety Hazards

- Safety Hazards: 100%
- Lead Hazards: 56%
- Pests: 100%
- Inadequate or Missing CO detectors: 100%
- Mold/Moisture: 81%
- Allergens: 69%

(January 2013 – December 2014) N=160
Philadelphia row homes’ #1 problem
Leaking low-slope flat roofs

Most roofs consist of poorly installed asphaltic-based rolled roofing, layer upon layer...upon layer

Ideally, modified bitumen is the roofing material of choice.
Connecting Building Science to Medical Science
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Philadelphia row homes’ #2 problem:

- Sewage line leakage in the basement and plumbing leaks
Connecting Building Science to Medical Science
Connecting Building Science to Medical Science

Removing old carpeting can make all the difference
Connecting Building Science to Medical Science

Weatherization, home repair and local health agencies will need to coordinate in a concerted effort to identify and mitigate the undeniable negative impacts of unhealthy homes.

Develop data bases of outcomes to measure the impact of the efforts.
Thank you

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