What is CHEER?

• Comfortable
• Healthy
• Energy Efficient
• Renewable
CHEER’s Purpose

• Serving low and middle income Middletown residents

• Targeting 1-4 units of family housing

• Responds to ‘hurdles’ to energy efficiency and other needs:
  • **Health and Safety:** asbestos, mold, knob and tube wiring, lead paint
  • **Livability:** broken doors, windows, unsafe stairs, etc.
  • Clearing the path for **energy efficiency**
  • **Access** to lower cost, renewable energy
CHEER’s Approach

• Building trust between homeowners and renters

• CHEER serves 3 types of housing units
  • Single family homes (especially elderly on limited fixed incomes)
  • Homeowner sharing home with renter(s)
  • Rental units (1-4 unit building)

• In low-income sector, these two groups are usually antagonistic
  • Homeowners are reluctant to invest in their low-income properties
  • Homeowners are afraid that CHEER is serving as the building code police
  • Renters are afraid home improvements will lead to increased rents
  • Renters are reluctant to ask for improvements or disturb homeowner in any way
CHEER Project Example

• 2-family Home Energy Solutions - Income Eligible (HES-IE) property
  • Scope: lighting improvements, air-sealing, boiler tune-up
  • Leveraged Energy Efficiency Fund ($1,000)

• Hurdles Overcome
  • Inspect knob and tube wiring; de-energized ($200)
  • Remediate lead paint ($400)
  • Clean 2 boiler flues ($450)
  • Fix broken front steps ($500)
  • Total Cost to CHEER budget $1,550

Total value to homeowner $2,550
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Sources

• The key sources used here are:

  • “Leveraging the Social Determinants of Health: What Works?,” Taylor et al, 2015 (LSDH in short)

Comfortable

• “Neighborhoods [like some poor, segregated ones in Baltimore] with poorly maintained houses or a large number of abandoned properties . . . face a high risk of mouse infestation.”

• Every year, more than 5,000 Baltimore children go to the emergency room for an asthma attack—and according to research from Johns Hopkins, mouse allergen is the biggest environmental factor in those attacks.

• The allergen, found in mouse urine, travels through the air on dust. Johns Hopkins researchers have found high levels of it on most of the beds of poor Baltimore kids they have tested.

• When kids inhale the allergen, it can spark inflammation and mucus buildup in their lungs, making them cough and wheeze.

• These attacks can cause long-term harm: children with asthma are more likely to be obese and in overall poorer health as adults.

• Olga Khazan, “Being Black in America Can Be Hazardous to Your Health,” The Atlantic (July/August 2018), p. 79
• “On average, Americans spend 90% of their time indoors (Klepeis et al. 2001). Energy efficiency measures can protect health by reducing exposure to hazards in indoor environments.”

  1. Adding insulation and sealing holes and cracks where cold air and drafts can come into a house reduces exposure to extreme and fluctuating temperatures, both of which trigger asthma attacks (AAFA 2017).

  2. Air sealing keeps out pests such as cockroaches and mice, which bring asthma-triggering allergens and carry disease (ACCAAI 2014).

  3. Air sealing also reduces excessive moisture that can lead to mold growth and exacerbate a variety of respiratory illnesses.

  4. Repairing or replacing old or malfunctioning appliances can eliminate backdraft, which introduces carbon monoxide and other air pollutants into the home (CDC 2017c).

  5. Identifying malfunctioning smoke detectors, lead paint, radon exposure, and trip and fall hazards helps us mitigate additional health risks.

• “These measures can save lives. . . . [These programs] particularly benefit children, the elderly, and families of color—all of whom suffer disproportionately from respiratory illnesses such as asthma (ODPHP 2017),” (SESL, pp. 24-5).
Energy Efficient

“Energy savings are expected to be $7 for every $1 spent on efficiency measures.”*

John Greeno, CHEER’s contracting partner, New England Conservation Services (NECS)

*7 to 1 ROI in 2017 annual CT EEB report
Energy Efficient

• “An NAACP analysis of 378 coal-fired power plants found that the average per capita income of the 6 million people living within three miles of the plants was $18,400 per year (Wilson et al. 2012).” (SESL, p. 24)

• “In addition to improving ambient air quality, energy efficiency programs can be designed to consider the disproportionate environmental and health burdens that some communities face.”
  • To ameliorate the challenges of living with asthma and other respiratory illnesses
  • To address the energy burdens of families struggling to heat their homes
  • To free up resources to put healthy food on the table

• “Energy efficiency addresses many of the social determinants of health by improving housing conditions, protecting the environment, creating economic opportunities, and reducing costs for families.” (SESL, p. 9)
Equitable distribution of resources

- Making solar or other renewal energy sources available to low income families
- Making energy affordable to low income people

The fewer fossil-fueled power plants, the less health-harming pollution

- “Pollution from fossil-fueled power plants continues to cause nearly 20 deaths in the United States every day (Clean Energy Task Force 2017). These power plants generate a long list of health-harming pollutants, including fine particulate matter . . . and nitrogen oxide.”

Four diseases in particular have been directly linked to these pollutants:

1. Lung cancer, which kills more men and women in the United States than any other form of cancer
2. These same pollutants exacerbate chronic obstructive pulmonary disease (COPD)
3. Pollution triggers asthma, a chronic disease already at epidemic levels
4. Pollutants contribute to coronary heart disease . . . leading to increased hospitalizations for heart attacks and congestive heart failure, (SESL, pp. 10-11).
Summary 1

• “There is strong evidence that increased investment in selected social services as well as various models of partnership between health care and social services can confer substantial health benefits and reduce health costs for targeted populations,” (LSDH, p. 3-4).

• “The evidence supporting the direct relationship between housing interventions and health outcomes within low-income or otherwise vulnerable populations is expansive.”

• The three main housing interventions that have been successful are
  1. Enabling access to housing
  2. Creating a supportive housing environment
  3. Expanding the availability of affordable housing to families in lower-poverty neighborhoods. (LSDH, p. 11)
Summary 2

- There is a new study in *Pediatrics* (“Children’s Health Watch”: Feb. 2018), which was cited in a talk given by Dr. Megan Sandel (Boston Medical Center) at “How We Build, How We Live: The Impact of Housing on Our Health and Wellness,” delivered in Hartford, CT, on June 8, 2018 (sponsored by the CT Green Bank).
- The focus of this section of the talk was on the “3 categories of housing instability”—“homeless, hidden homeless, and housing insecure (moving twice per year or more).”
- In the *Pediatrics* study, they looked at 22,234 families and found that 34% had “housing instability”—“26% were behind on rent at some point during the year” and “8% had multiple moves.” Also “12% had a history of homelessness.”
- Dr. Sandel stressed that a key finding of this study was that the “caregiver’s health (usually the mother) is actually worse than the children’s health.” As much as we all want to focus on children as the most “vulnerable” members of our populations, it is important to keep in mind that an unhealthy mother (or other caregiver) certainly cannot help the health of her children.
“If there is no struggle there is no progress. Those who profess to favor freedom and yet deprecate agitation, are men who want crops without plowing up the ground, they want rain without thunder and lightening. This struggle may be a moral one, or it may be a physical one, and it may be both moral and physical, but it must be a struggle. Power concedes nothing without a demand. It never did and it never will.”

Frederick Douglass, 1857
“We hold it to be self-evident that no class or color should be the exclusive rulers of this country. If there is such a ruling class, there must of course be a subject class, and when this condition is once established, this Government of the people, by the people and for the people, will have perished from the earth.”

Frederick Douglass, 1883
CHEER Steering Committee

• Jen Kleindienst
  • Chair, Middletown Clean Energy Task Force
  • Sustainability Director, Wesleyan University

• Michael Harris, PE, G|Pro, CEM, CIGC, MBA
  • City of Middletown Energy Coordinator

• Chris Holden
  • City of Middletown Deputy Director of Public Works

• Jeff Hush
  • Founder, Food & Movement Therapy
  • Executive Director of the Middletown Green Community Center