

New Programs at the Intersection of Health and Energy Efficiency: Can We Quantify the Impacts?

West &
Company



2025 International Energy
Program Evaluation
Conference

Tuesday, October 7

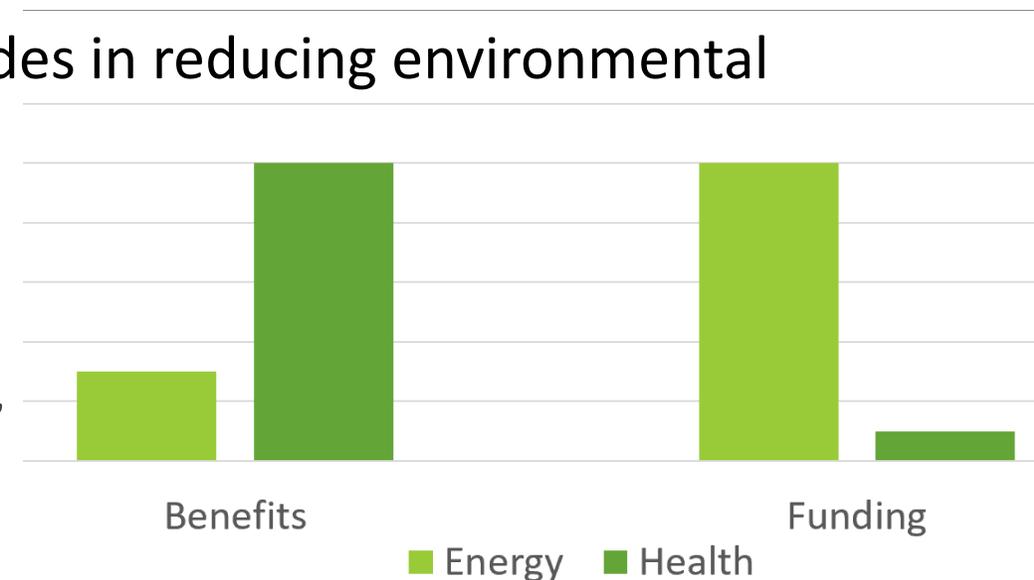
The Problem: Lack of Integration

1 in 5 WAP-audited homes is deferred and of those, 40% are not addressed

Weatherization produces health benefits, but most **funding is still tied to energy savings**

Community-based health programs have made strides in reducing environmental health risks but initiatives tend to be **siloed**

Lack of integration and **separation** between health and energy efficiency programs **limits** scale, sustainability, and potential for holistic impact



Creating an Integrated Care Program: Bridging Gaps Across Sectors

What if we merged programs, with intention, to **create integrated care**

What if we braided funding for **robust integration**

Energy Resilient and Healthy Homes

- foster **partnerships** between sectors
- **align** energy efficiency with health and safety
- **coordinated**, data-informed approach

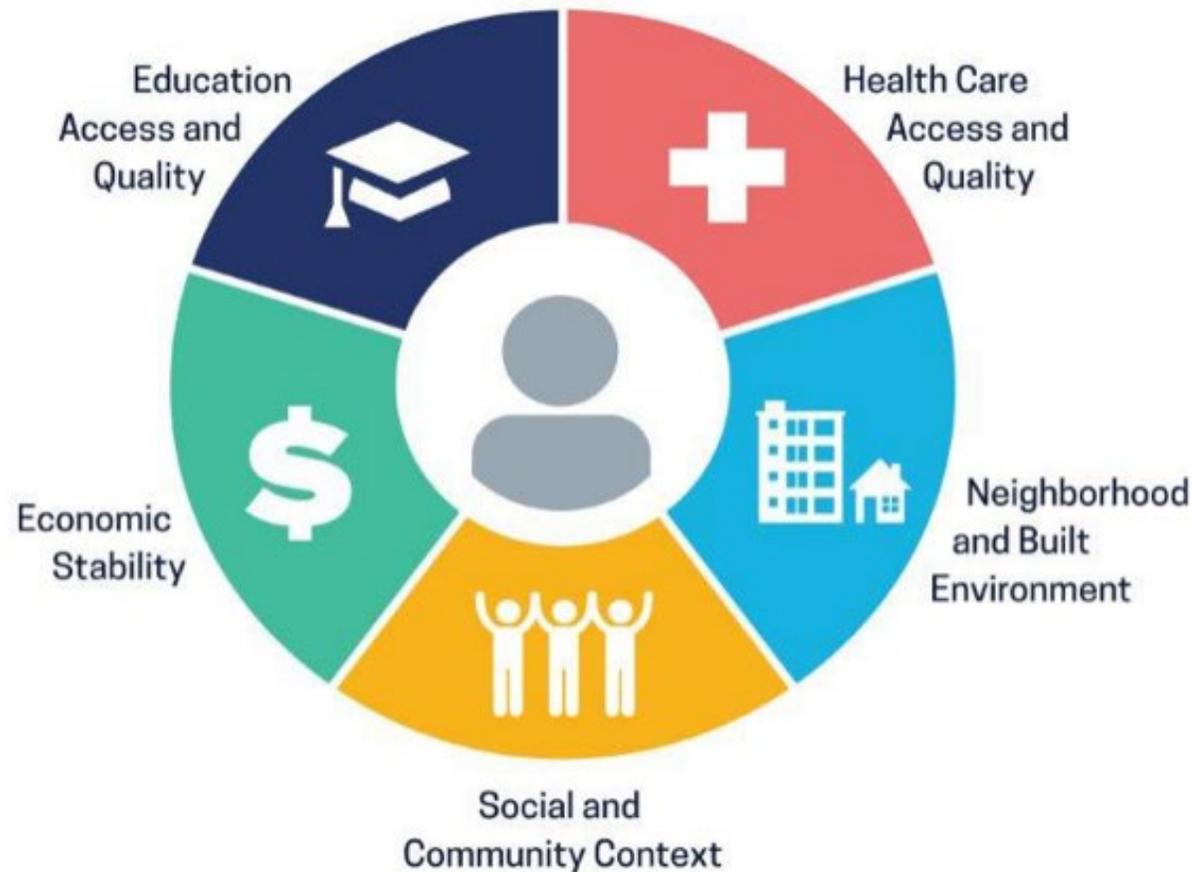


Energy Resilience, Healthy Homes, and Social Determinants of Health

Energy Resilience: health, safety, and pre-weatherization repairs, weatherization and energy efficiency improvements

Healthy Homes: comprehensive in-office and/or in-home assessment to identify issues and take action

Social Determinants of Health: Built in recognition & measurement of factors influencing energy and health outcomes



**1.
Request for action**

Unite Delaware
(Unite Us platform)

Health provider

HELP
Initiative

Faith Community

Housing Agency

Request directly
from client

**2.
Initial assessments
document baseline &
inform workplans**

Community health
worker assessment

Home health & safety
assessment; trip & fall
hazards

Environmental and
IAQ assessment

Asthma checklist

Home energy
checkup, education &
counseling

Direct install measures

**3.
Work plan, budget,
identifies funding**

Home performance
energy audit, BPI
auditor

Home repairs and
remediation

Weatherization

Prioritize and match
work with funding
sources

Healthcare follow-up

**4.
Work assigned,
tracked**

Final review &
approval with client

Refer clients to other
resources as needed

Document workplan,
coordinate
contractors,
timetable, budget

Develop A Robust Evaluation Framework for this Data-Rich Environment

Evaluation Framework served **four primary objectives**:

- **Identify and quantify NEIs**, clearly define performance indicators
- **Support** health, safety, & energy remediation plans per household

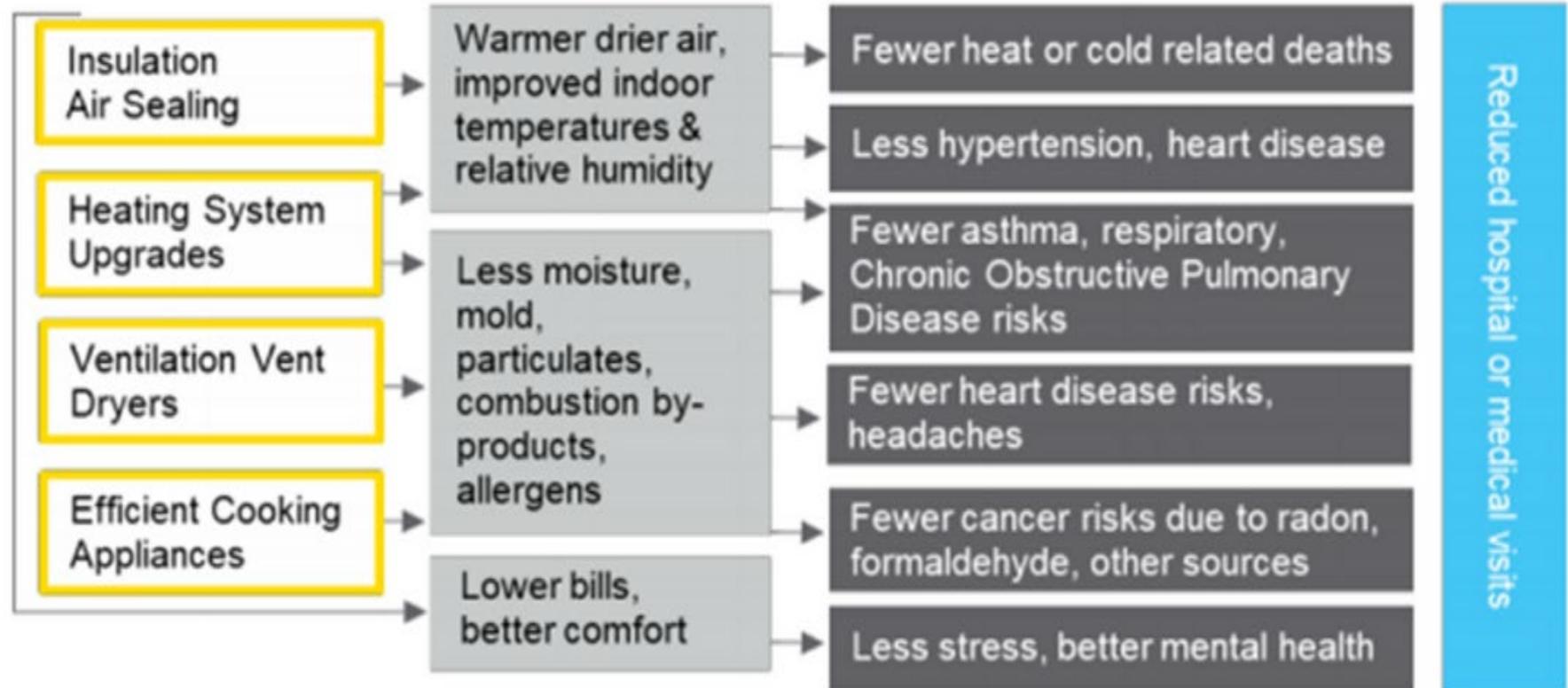
- **Standardize** data elements ensuring consistency
- **Guide technical assistance** through planning and evaluation

Measure NEI based on a **theory of change**

How Can We Quantify Impacts?

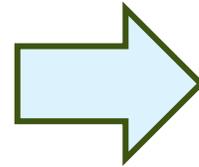
Determine which impacts are observable within the timeframe of the study

Research existing approaches to quantify each metric and build upon existing research



Select Key Performance Indicators and Metrics

- **Agree** upon the metrics
- **Document** requisite inputs
- **Cross-walk** all existing data collection tools against mandatory data
- **Add** data elements if needed
- **Conduct** an evaluability assessment
- **Ensure** instruments collect all data elements required to measure change in each metric



Such as:

- Community health worker assessments with SDOH
- Age in Place interviews
- Home health visit assessments
- Asthma checklists
- Home Repair application
- Energy Audit Interview
- Home Energy Checkup

Examples of Outcomes, Indicators, Metrics

Category	Evaluated Metrics	Contextual
Energy Outcomes	Annual electricity savings & peak demand reduction Annual fuel savings per home	Local, state, national norms for LMI weatherization
Environmental Outcomes	Outdoor and indoor air pollutants GHG emissions	Importance of Climate Change
Economic Indicators	Direct & indirect economic impact Reliance on energy assistance programs	American Community Survey Census data, Housing quality
Health Indicators	Thermal Comfort (home warm or cool enough) Health related to environment (asthma, skin, etc.)	Mortality Hospital Admissions CMS population data
SDOH	Employment, work attendance Housing (Stability, quality)	Neighborhood Security Incarceration

Lessons from Early Collaboration

LESSONS & BARRIERS

Agreement on shared outcomes matter

Data silos & privacy laws make it difficult to share data

Data burden can be a real problem

Misaligned reporting timelines can complicate coordination

Administrative burden with multiple agencies and funding streams increases compliance and documentation needs

RECOMMENDATIONS

Develop **MOUs and data-sharing agreements** at the onset

Use **integrated case management platforms** that respect privacy and facilitate data sharing

Build on **existing forms and procedures**, do not reinvent processes

Consider **intermediary organizations** to manage funds and reporting

A Few More

RECOMMENDATIONS

Embed technical assistance and evaluation

Identify barriers **before** they undermine outcomes

Help to **shape** design decisions

Use **standardized but flexible** data protocols

- Promote cross-sector collaboration
- Reduce duplication and administrative burden

Integrate care programs

Treat **social and health impacts** as core program goals **alongside energy efficiency**

Advocate for **policy change**

- Inform replication, policy advancement, and long-term investment

Implications for Broader Adoption

- **Operationalizes** interdependence of energy efficiency, health, and housing stability
- **Aligns** with national data systems (e.g., CDC, NHIS)
- Potential to **scale** into larger public health and informatics initiatives

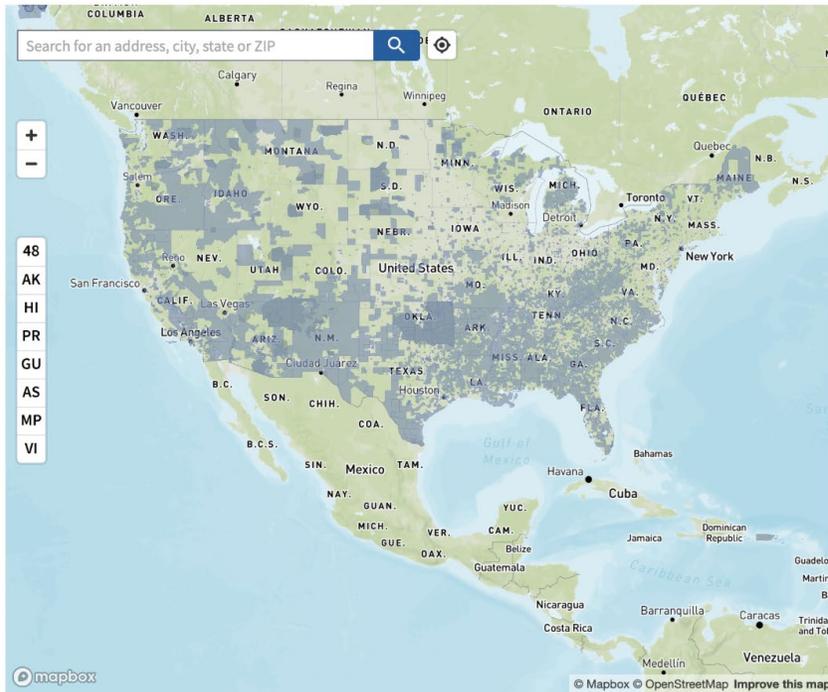
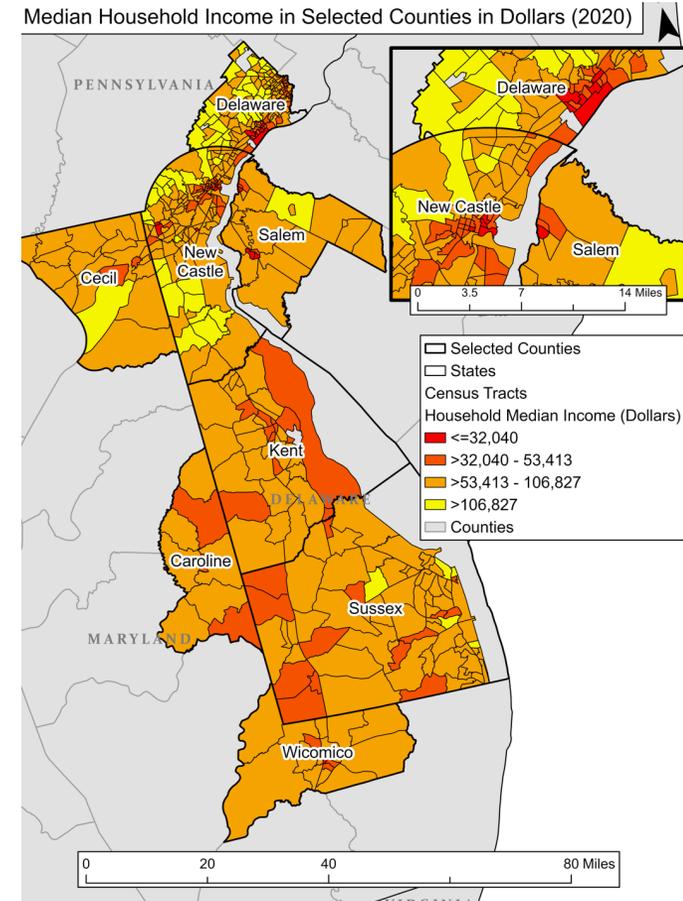
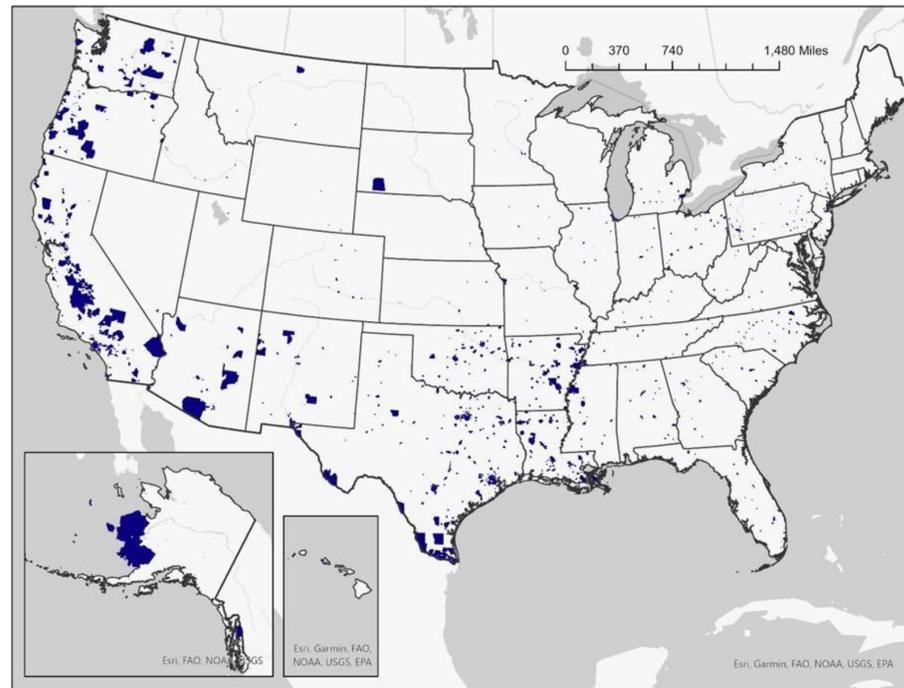
- **Large-scale studies** on respiratory and cardiovascular disease already incorporate housing quality – but omit energy data
- In the future, large medical datasets could **incorporate energy data** through partnerships

- Rich, underutilized energy data represents a significant missed opportunity
- Linking medical and energy datasets would fill a major gap in SDOH research

Targeting Resources and Interventions

Hopkins Housing and Health Collaborative

Housing Quality Metric (HQM): Census Tracts Scoring in the Highest Quartile for all Three Poor Housing Quality Dimensions (n=8,329)



Climate and Economic Justice Screening Tool

U.S. Census Bureau (2020) American Community Survey

*Do the best you can until you know better.
Then when you know better, do better.*

Maya Angelou

Thank you!

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