

# Energy Efficiency and Health Project Updates

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*June 11, 2019*



# Breathe Easy Project

## *Description*

Comparison of 3 types of ventilation systems to meet ASHRAE 62.2: continuous exhaust; intermittent central fan integrated supply with electrically commutated furnace motors (ECM); balanced supply/exhaust with energy recovery ventilator (ERV).

## *Research Questions*

Which ventilation system is better for improving indoor air quality and reducing asthma symptoms? What are the different impacts in terms of energy use and installation cost? Which system represents a more reliable and cost-effective measure?



### *Pilot Details*

- One of 3 different ventilation systems installed in 41 homes
- Measuring indoor/outdoor air pollution and asthma symptoms
- Qualitative assessment of installation costs and experiences
- Research paper to be completed by IIT and Elevate Energy
- Jointly funded by U.S. Department of Housing and Urban Development (HUD) and ComEd



### *Status & Findings*

- Pre-installation data collection and analysis completed Q1 2019
- Ventilation systems were installed during Q1 2019
- Post-installation data collection is underway
- Qualitative analysis of installation completed Q2 2019
- Recruitment and healthy homes assessment completed Q3 2017



### *Addressable Market*

- Single-family and 2-unit residential buildings
- Retrofit or New Construction application
- Health improvements are an important non-energy benefit of energy efficiency
- Income Eligible residents with health needs are a particularly vulnerable ComEd customer segment

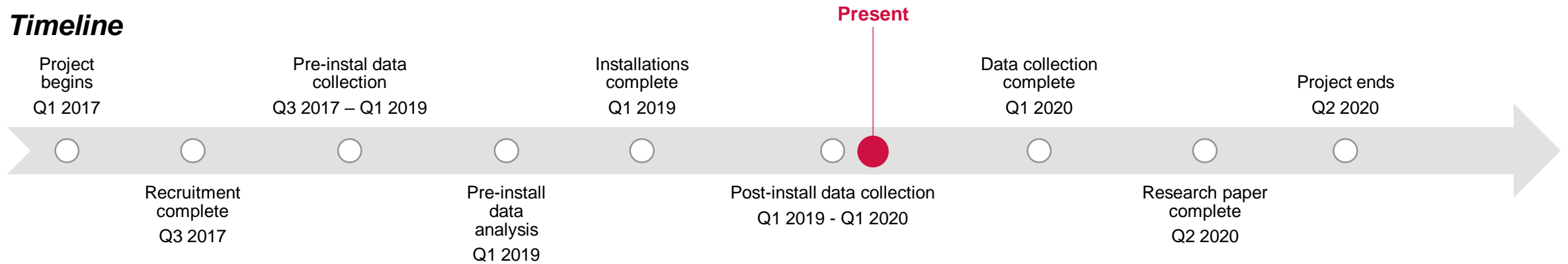


### *At Scale*

- Better recommendations for customers participating in energy efficiency retrofits
- 1 in 12 people in the U.S. have asthma; improved ventilation may also benefit people with COPD or other respiratory ailments
- Health effects of indoor air pollution cost billions of dollars each year, which could be mitigated by improved ventilation

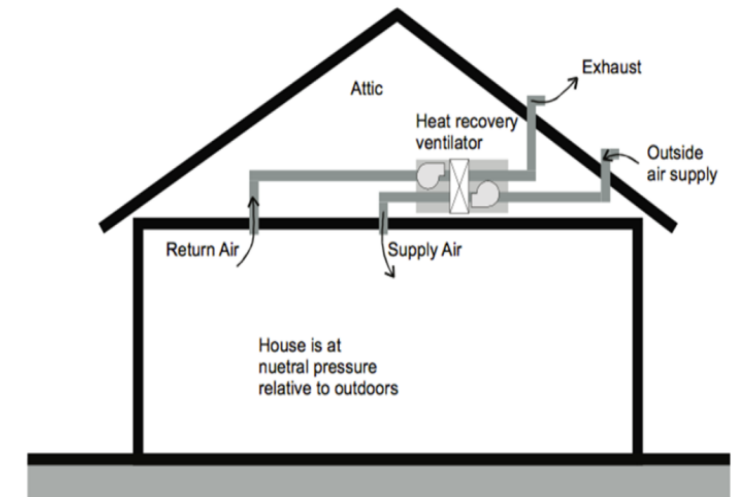
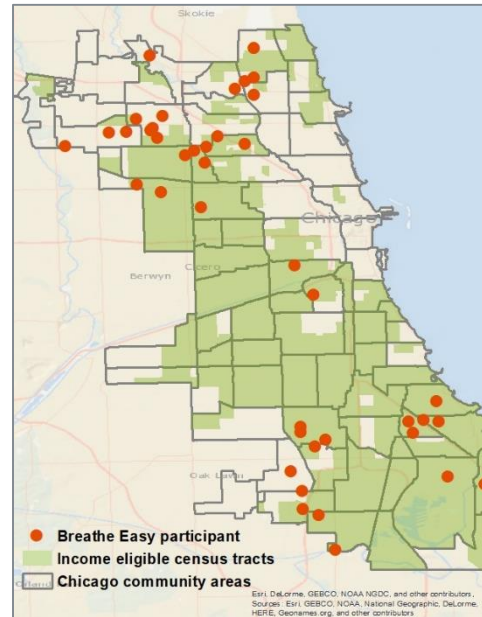
# Breathe Easy Project

## Timeline



## Additional Info

- 28 of the 41 participating homes (68%) are in low-income census tracts
- Most study homes share similar characteristics: 83% built pre-1942, 86% masonry construction, 83% 1 to 1.5 stories.
- Installed ventilation systems: 13 continuous exhaust, 15 intermittent central fan integrated supply, and 13 balanced supply/exhaust with ERV.



**Continuous balanced supply and exhaust**

Diagram source: California Energy Commission

# Healthy Homes Coordinated Delivery Project

## *Description*

Develop a coordinated service delivery model that achieves a whole-home retrofit for ComEd customers with significant health, safety and energy needs while leveraging time and financial resources of ComEd and Presence Health.

## *Research Questions*

Can we identify clusters of families with both high medical and energy needs? Can we utilize cross-trained assessors for a single health and energy assessment? Can we develop a coordinated service delivery model that achieves a whole-home retrofit for ComEd customers with significant health, safety and energy needs?



### *Pilot Details*

- Focus on high-utilizing asthma patients
  - Home visits to provide asthma education, environmental and energy assessments
  - Provide all products to help with their asthma, health and safety
  - Work with landlord to bring health & safety and energy efficiency work in unit and building-wide if possible
  - Jointly funded by Chicago Community Trust and ComEd
- Pilot planning and preparation in Q1 & Q2 2019
  - Recruitment begins Q3 2019
  - Coordinated delivery Q3-Q4 2019
  - Data collection Q3-Q4 2019



### *Status & Findings*



### *Addressable Market*

- Multi-family buildings
- Reaching new customers
- Retrofit application
- Health improvements are an important non-energy benefit of energy efficiency

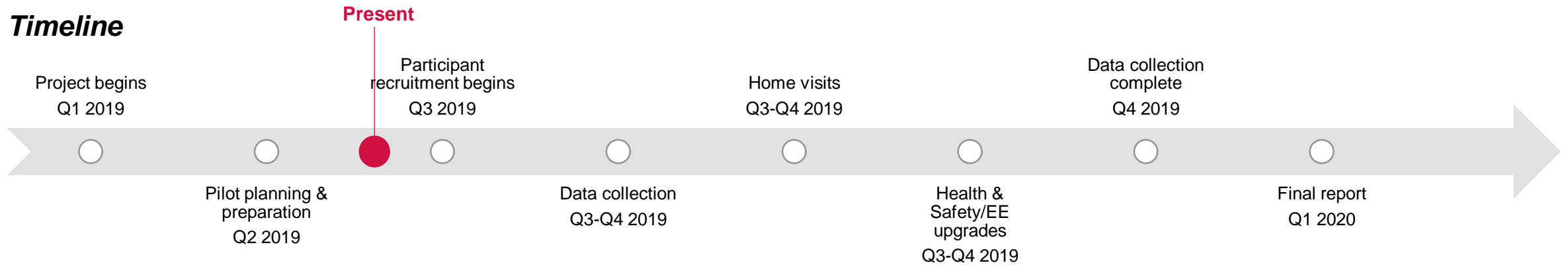


### *At Scale*

- 1 in 12 people in the U.S. have asthma; improved ventilation may also benefit people with COPD or other respiratory ailments
- Asthma costs billions in medical care and lower productivity; healthy home improvements can substantially improve asthma control and reduce the overall cost to society

# Healthy Homes Coordinated Delivery Project

## Timeline



## Additional Info

- This pilot is Phase 2 of this concept
- Phase 1 successfully addressed health and safety in 20 patient homes; 19 out of 20 participants improved their Asthma Control Test (ACT) score
- Phase 2 will see 10 additional patients to be enrolled with the addition of in-depth whole-home retrofits (including energy efficiency!)
- All patients will be uninsured and Medicaid recipients

