A photograph of a suburban street with houses, trees, and a speed limit sign. The street is paved and has a sidewalk. There are several cars parked along the street. The sky is overcast.

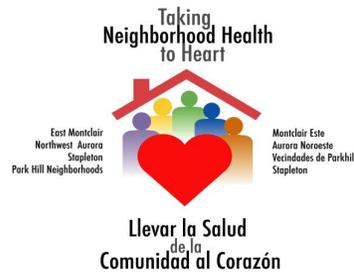
Case Study: Challenges Beyond Data Analysis

Juxtaposing Privacy and Dissemination Using a Pilot CBPR Indoor Air Quality Sampling Campaign

¹LaShonn Billingsley, ²Ashley Collier (MS), & ¹Patti Iwasaki (MSW)

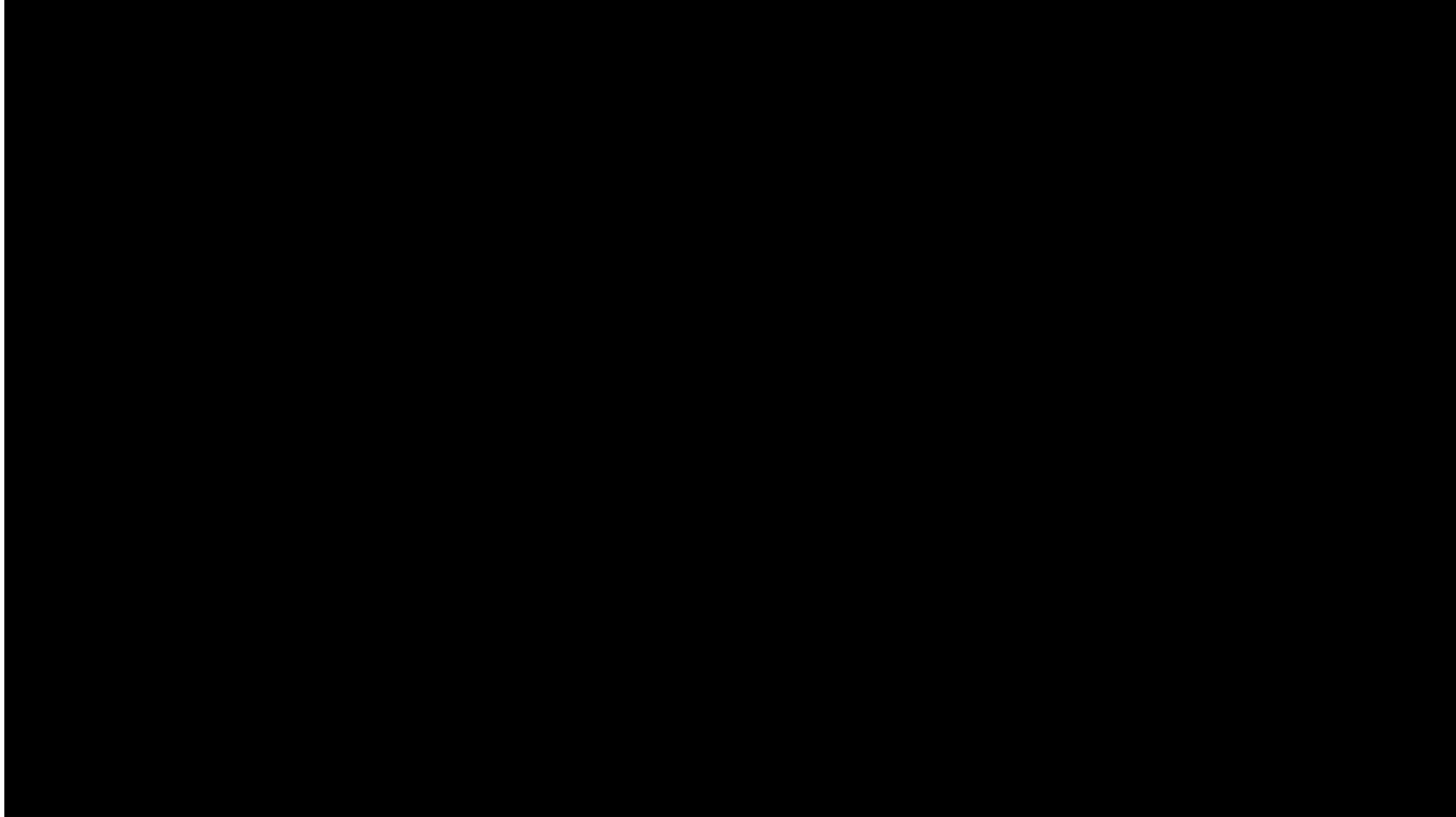
¹Taking Neighborhood Health to Heart; ²University of Colorado, Boulder

Discussion Questions



- What barriers exist to community ownership of data?
- How can we effectively share data with public health officials in a way that strengthens collaboration on solutions? Conversely, how can we deal with opposition from officials?
- How can we maximize the impact of data while minimizing potential harms?

A Short Video...



- experiment.com/iaq



Indoor Air Quality Pilot Project

- Crowd-funded (in part) by peers, colleagues, and the community
- 35 backers

- Simple , non-intrusive sampling methods (passive diffusion)
- Data collected in 15 homes, in target area (determined by TNH2H)
- Data collection completed in all homes ~ *feasible*

experiment Discover Journal My Projects

Investigating Indoor Air Quality in Northeast Denver

By Ashley M. Collier, George Ware, PG Iwasaki, LaShonn Billingsley, Debbi Main, Raj Pandya, and Brian Fauver

Backed by Gina McAfee, Vidyut Pandya, Rajul Pandya, George Ware, Evan, Denny Luan, Billy Williams, Debbi Main, Carol Jones & Greg Withers, Gail Ryan, Eric Collier, Ashley M. Collier, Janice Johnson, Sue Przekwas, Mary McAfee Sealing, and 20 other backers



You're a backer!

\$4,250

Raised

100%

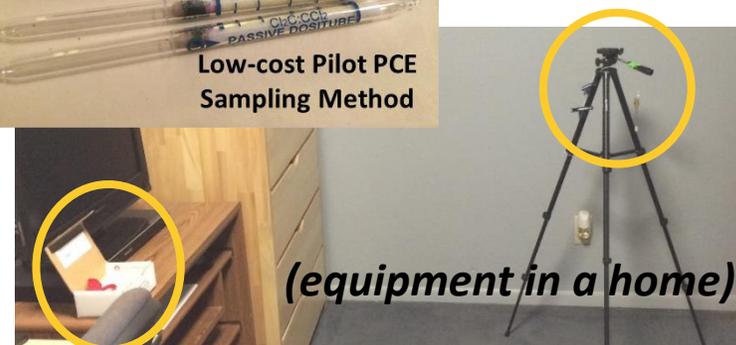
Funded on 8/26/15

Successfully Funded

? How does this work?

University of Colorado Boulder, Taking Neighborhood Health to Heart, AGU TEX, Colorado State

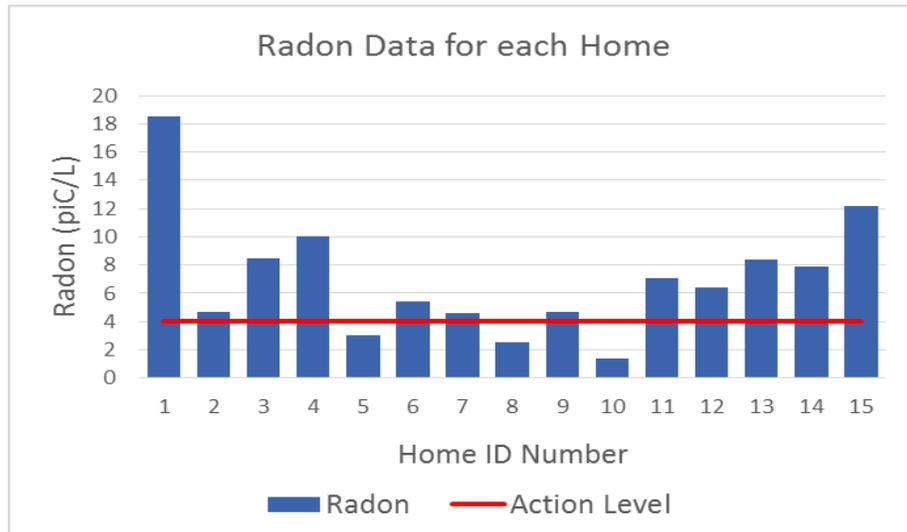
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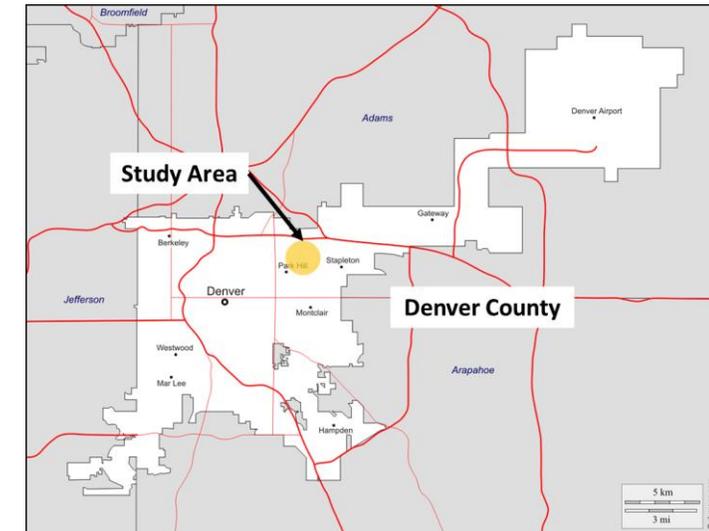
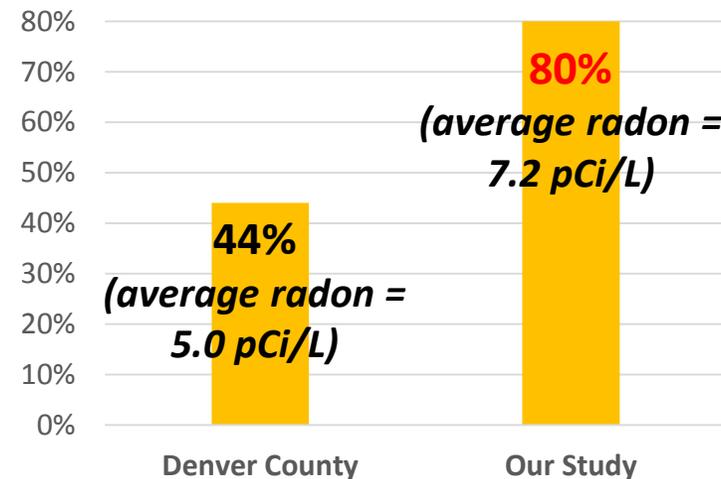
What we found....

- **PCE** – most homes had very low levels and no homes had ‘high’ levels
- **Radon** – more homes with ‘high’ levels than anticipated
- In general, higher levels of pollutants in homes perceived to have poorer ventilation, but no obvious relationship between home age or construction type and radon levels
- Radon responsible for 21,000 lung cancer deaths per year¹

Radon Level (pCi/L)	Chance of Lung Cancer ¹
1.3	2 in 1000
4	7 in 1000
8	15 in 1000
20	36 in 1000



Percent of homes above the ‘action level’



¹<https://www.epa.gov/radon/health-risk-radon>

The Issues



Why dissemination is important...

- State health officials have discovered a disparity²
 - low-income and low-education communities are less likely to know what radon is or have tested their homes
- TNH2H community would benefit from...
 - education, outreach, and increased resources, *particularly for low-income homes
 - continued sampling for organic compounds like PCE because other potentially harmful compounds were present in homes

Concerns regarding data dissemination...

- **Small sample size, small community** – mapping cannot guarantee participant anonymity
- Radon data – may further **stigmatize community** (i.e., may affect property values or home sales)
- Radon data – **disproportionate financial burden** on low-income homeowners to remediate, requirement to disclose test results when selling a home

**a team member was already able to get radon added to a list of work covered by an Emergency Home Repair Program*

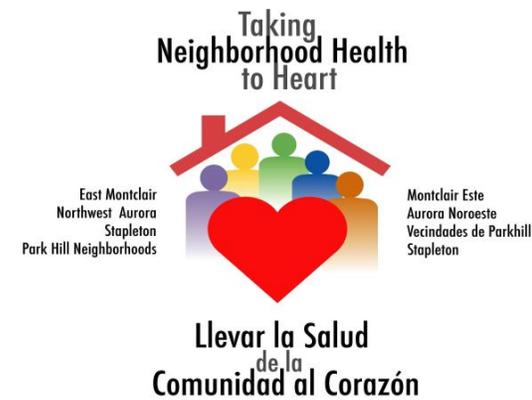
²https://www.colorado.gov/pacific/sites/default/files/HM_radon-study-of-awareness-and-behavior_1.pdf

Adhering to CBPR principles, we...

- 1) Shared data, recommendations, and resources with study participants individually
- 2) Discussion w/ TNH2H about the issues (prior to examining any data)
*Based on discussion revised de-identified data to incorporate feedback
- 3) Participatory analysis of de-identified data with TNH2H members
- 4) CURRENTLY: working to determine next steps



Acknowledgments



Funding and Support thanks to...

- AGU TEX Successful Solutions Grant
- Many wonderful donors through experiment.com (project site: experiment.com/iaq)
- CU Engage Graduate Fellowship Program (acknowledgments to Ben Kirshner PhD)

Additional thanks to all TNH2H members, Ashanta Hardville (Project Coordinator), Hannigan Research Lab (CU Boulder), and Troy Skaggs of APEX Radon

Central Project Team Members

- Taking Neighborhood Health to Heart: George Ware MS, Patricia Iwasaki MSW, Deborah Main PhD, & LaShonn Billingsley
- AGU's Thriving Earth Exchange: Raj Pandya PhD
- University of Colorado, Boulder: Ashley Collier MS, Michael Hannigan PhD

Contact info: ashley.collier@colorado.edu



University of Colorado **Boulder**

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Discussion Questions

- a) **What barriers exist to community ownership of data?** (e.g., involving media can lessen the community's control over how the data is framed)
- b) **How can we effectively share data with public health officials in a way that strengthens collaboration on solutions? Conversely, how can we deal with opposition from officials?** (e.g., discrediting results or downplaying seriousness)
- c) **How can we maximize the impact of data while minimizing potential harms?** (e.g., mapping data may inform the community, but it may stigmatize specific blocks or even affect the property value of individual homes) Also, beyond this project, how do we shift the burden from the individual homeowners to seeing IAQ as a community-wide issue?