Case Study: Challenges Beyond Data Analysis

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

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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
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 year\(^1\)

### Radon Level vs. Chance of Lung Cancer

<table>
<thead>
<tr>
<th>Radon Level (pCi/L)</th>
<th>Chance of Lung Cancer(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>2 in 1000</td>
</tr>
<tr>
<td>4</td>
<td>7 in 1000</td>
</tr>
<tr>
<td>8</td>
<td>15 in 1000</td>
</tr>
<tr>
<td>20</td>
<td>36 in 1000</td>
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</tbody>
</table>

\(^1\)https://www.epa.gov/radon/health-risk-radon
The Issues

Why dissemination is important...

- State health officials have discovered a disparity\(^2\)
  - 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

\(^{\text{*a team member was already able to get radon added to a list of work covered by an Emergency Home Repair Program}}\)

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

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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

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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?