

Developing and Implementing an Environmental Health Needs Assessment

IPHC 2025

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The logo for the University of Iowa, featuring the word "IOWA" in a bold, yellow, sans-serif font. The letters are set against a blue background that is part of a larger blue triangle pointing upwards and to the right, which is a common branding element for the University of Iowa.

IOWA

College of Public Health

Who, what, why?

Environmental Health Sciences Research Center at the University of Iowa College of Public Health,
Community Engagement Core, Funded by NIH P30 ES005605

Why do an Environmental Health Needs Assessment?

- Suggested by reviewers, Key goal is to inform our outreach and engagement strategy

Objectives

- To understand people's concerns about environment and EH, and what they see as solutions
- To understand what populations are more vulnerable, and vulnerable to what

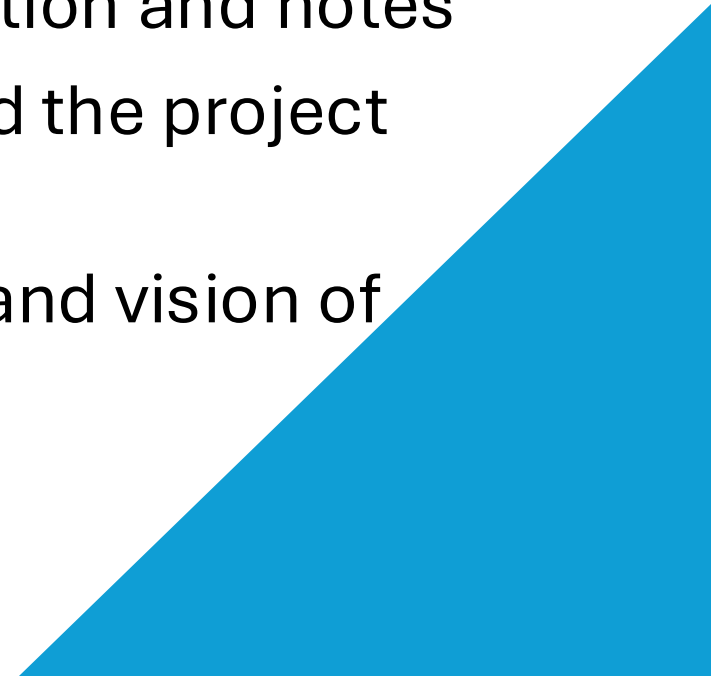
Community and Stakeholders

- People living in the Midwest that are impacted by environmental health issues
- Community orgs and advocates for environmental health issues

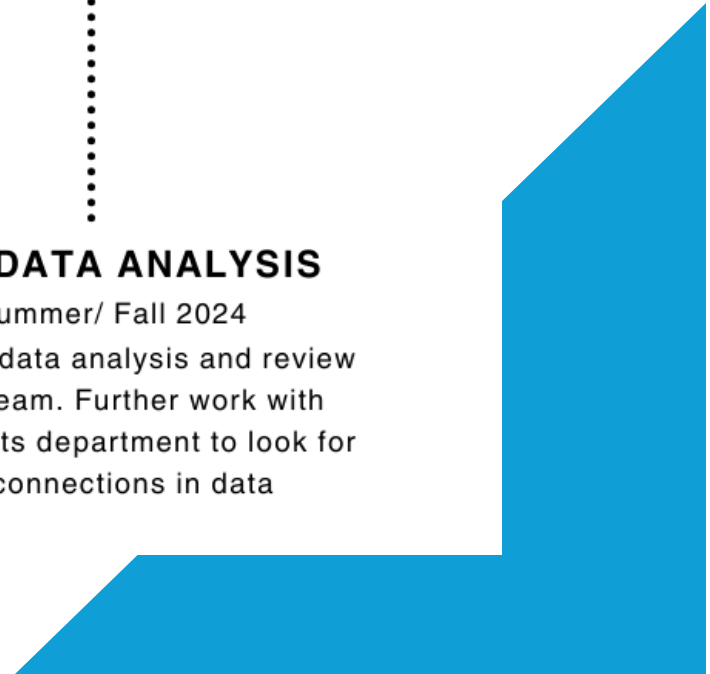
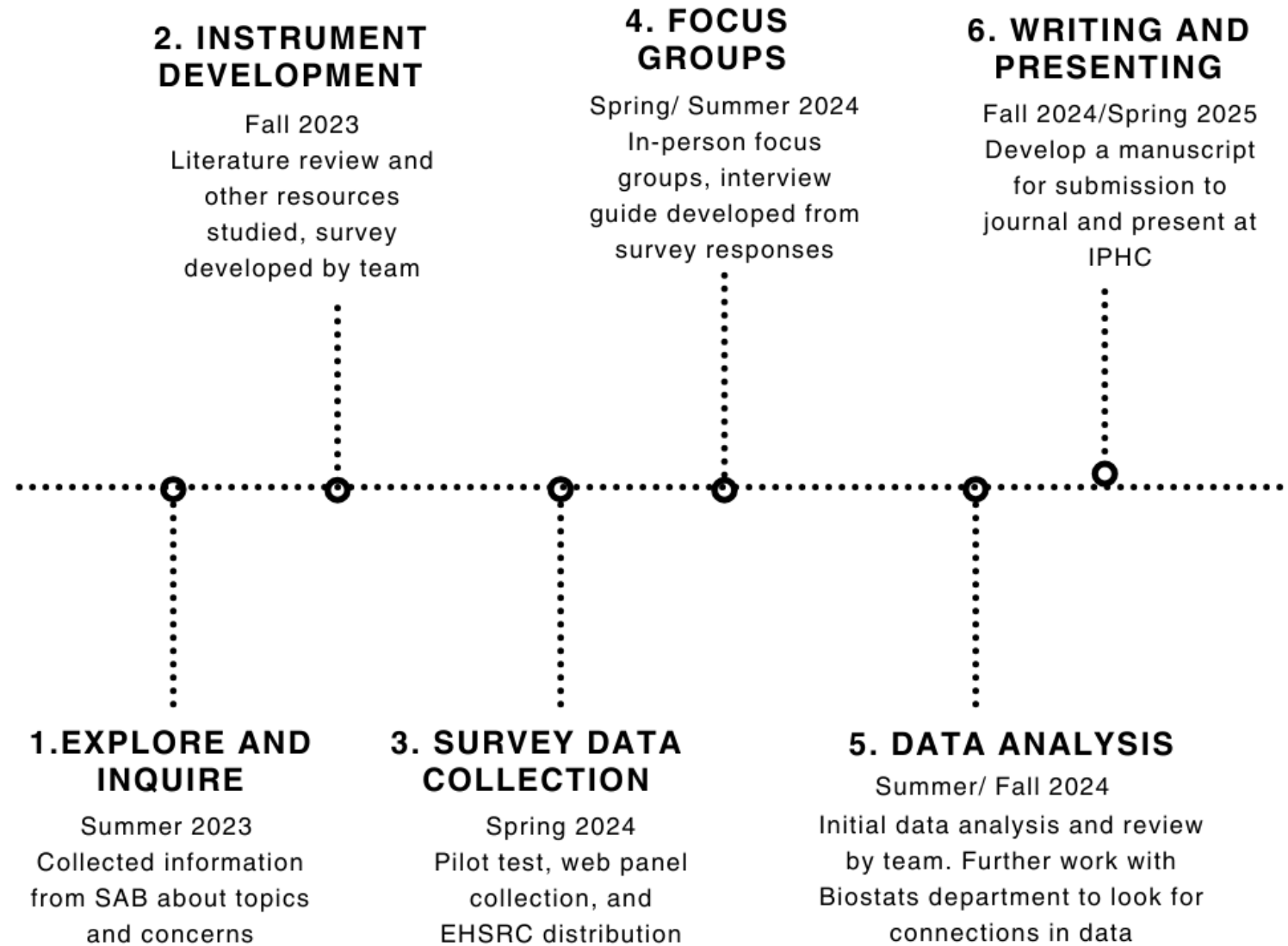


The Team

- Maddie McCabe: Graduate student and post-graduate collaborator. Initial survey analysis, focus group facilitator, qualitative analysis
- Tabitha Kuehn: OEH Staff. Focus group coordination and notes
- Jackie Curnick: CEC Assistant Director. Managed the project implementation
- Brandi Janssen: CEC Director. Overall direction and vision of needs assessment



Timeline of Project



Survey development

- Literature review: Identify major EHI in Midwest
- Larsson et al. (2006) conducted interviews with community leaders in rural areas about environmental health issues
- UI Center for Social Science Innovation reviewed our instrument for clarity and flow

View survey pdf here

bit.ly/NeedsAssessEHSRC



The Four Domains

- **Physiological: What are the problems?**
 - *How concerned are you about each of the following environmental health problems?*
- **Vulnerability: Who is affected by the problem?**
 - *Think about the people, places, organizations, and leadership in your community. Imagine a natural disaster hit your community. What elements of your community would help you recover from that disaster?*
- **Epistemological: How do people know about this problem?**
 - *If you are seeking out environmental health information, what sources do you consult?*
- **Health protection: What is being done or should be done about the problem?**
 - *What individuals or groups are responsible for protecting residents from environmental health issues in our region?*

Feedback from collaborators

- Stakeholder Advisory Board (SAB) generated general areas of inquiry
 - Who should we talk to?
 - What is exciting to you about this? What challenges do you anticipate?
 - Suggestions for specific questions
 - How to integrate policy-level issues
- SAB and University of Iowa environmental health scientists provided feedback on survey instrument
- Community member provided feedback on focus group instrument

Focus groups

- Question development:
 - Identified survey questions to explore further + add dimension of future visioning
- 4 focus groups:
 - University students
 - Older rural adults
 - Immigrant rights group (mix of organization leaders and members) in urban community
 - Predominantly Black church group (became key informant interview) in urban community



Distribution methodology

- Web panel
 - Contracted with Center for Social Science Innovation and Qualtrics to implement a web panel of at least 400 respondents, used quotas to be reflective of region
- EHSRC distribution
 - Snowball survey, advertised in CPHB, EHSRC members and collaborators, Stakeholder Advisory Board members, Science Café attendees



Respondents

- Pilot test (N=49), Winter 2023
- **Web panel distribution in IA, NE, KS, MO (N=416), Feb 2024**
- EHSRC and SAB distribution, (N=94) , March 2024



Demographics

- N416- Web Panel

- Race: White (81%), Other race groups (19%)
- Gender Woman (56.3%), Man (43.5%)
- Location: Iowa (24%), Kansas (24%), Nebraska (25%), Missouri (26%)
- Urban (44%) Suburban (40%) and Rural (15%) Don't know (1%)
- General community member (77%), Representative of community or environmental organization (8%), Academic or researcher (5.5%) teacher (4.5%) Community leader (3%) Policy maker (2%)

- N94 – EHSRC Distribution

- Race/Ethnicity: White (87%), Other race groups (13%)
- Gender: Woman (64%), Man (34%)
- Location: Iowa (98%), Kansas (2%)
- Urban (22%) Suburban (40%) and Rural (34%) Don't know (4%)
- General community member (47%), Representative of community or environmental organization (13%), Academic or researcher (22%) teacher (14%) Community leader (3%), Policy maker (0%)

Focus group recruitment

- Used our networks to find different groups of stakeholders
- Assessed after our first two for what perspectives we may be missing
 - Age, Workers, Racial/Ethnic Diversity, Language Diversity
- Email recruitment > Qualtrics > email confirmation and communication



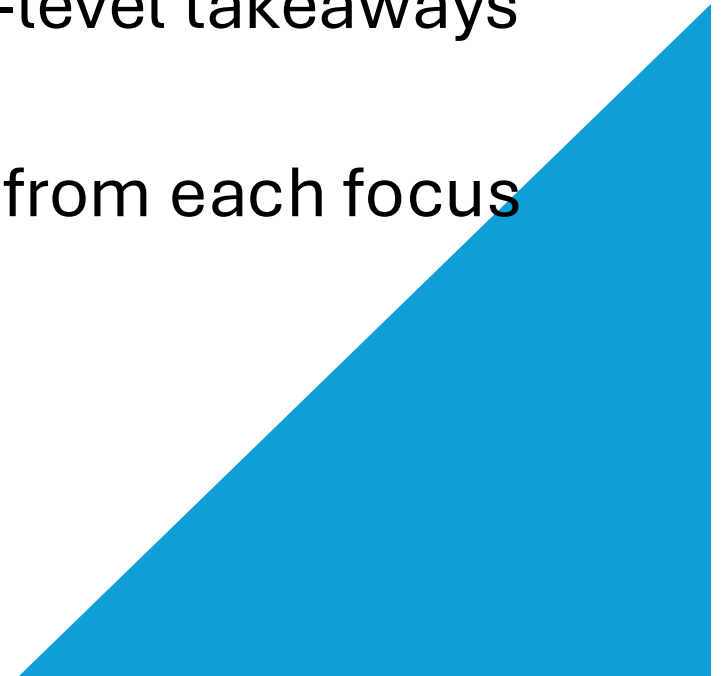
Data analysis (survey)

- Created codebook from pilot survey data for qualitative responses → expanded this for Web Panel distribution findings
- Generated survey report with high-level takeaways for practical use
- Ali Zorn (UI Biostatistician) conducted more sensitive data analysis, accounting for demographic information



Data analysis (FG)

- Combined inductive and deductive coding using Larsson et al. (2006) four domains as framework, then added new codes during review of each transcript
- Generated report for each focus group with high-level takeaways for practical use
- Process made it easy to compare major themes from each focus group



Questions?

Group discussion, ideas, questions...



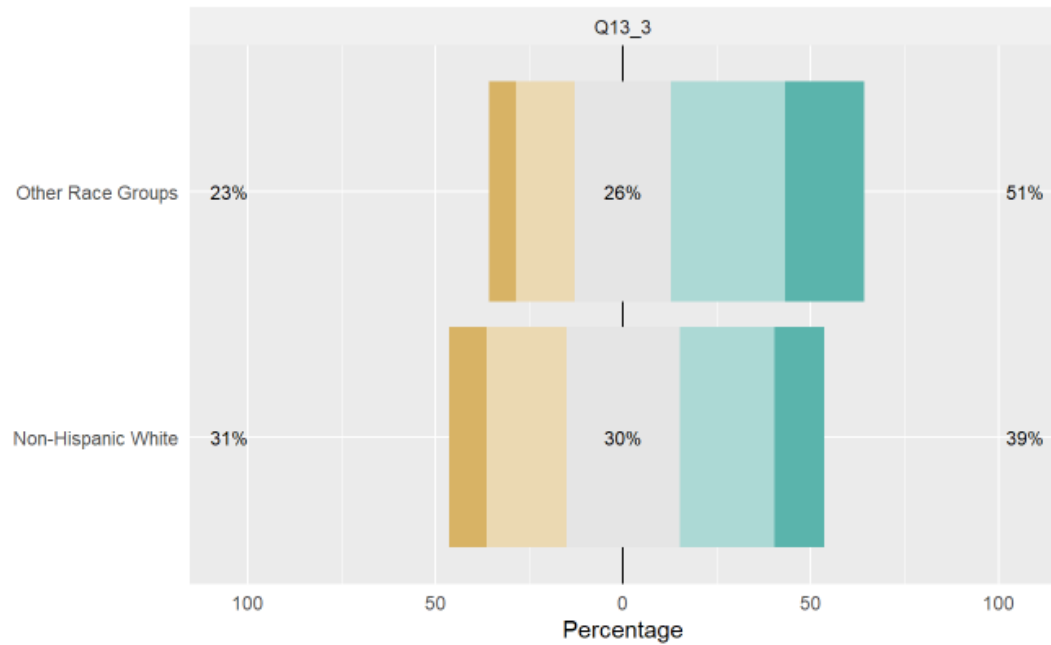
What are the problems?

- How concerned are you about each of the following environmental health issues? (1-not at all, slightly, moderately, very, 5-extremely)

	Mean	Median
Water quality	3.64	4
Outdoor air quality	3.53	4
Climate change	3.44	4
Chemical contaminants	3.39	4
Natural Disasters	3.31	3
Need for clean energy	3.30	3
Conservation	3.25	3
Indoor air quality	3.19	3
Soil Health	3.15	3
Heavy metal exposure	3.09	3

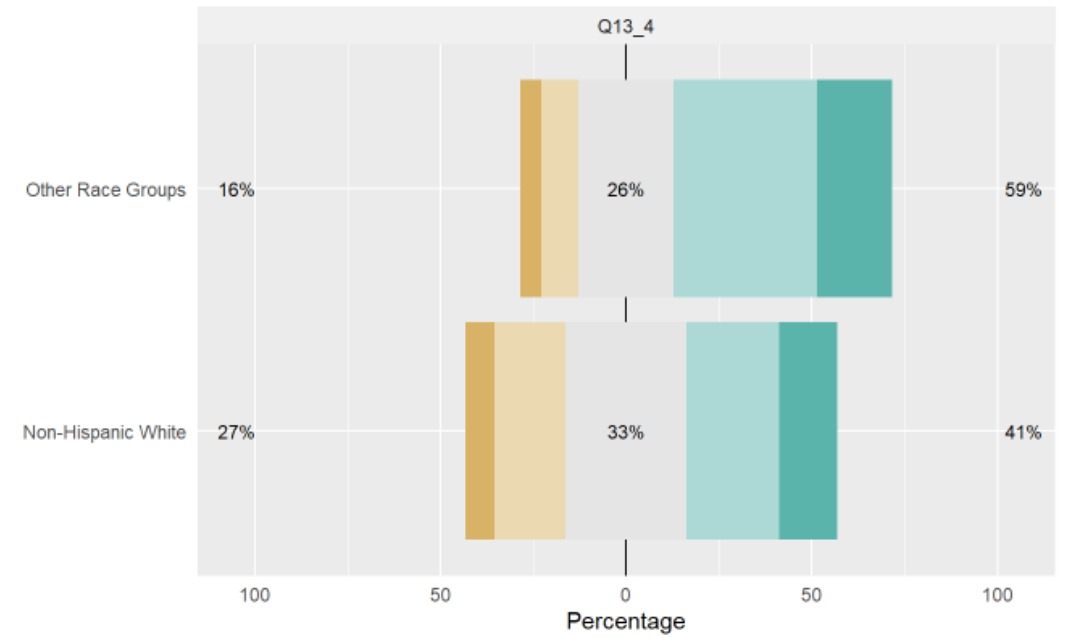
Differences between racial groups

Indoor Air Quality, $p = 0.02$



Response No concern Somewhat concerned Neither concerned or unconcerned Concerned Concerned

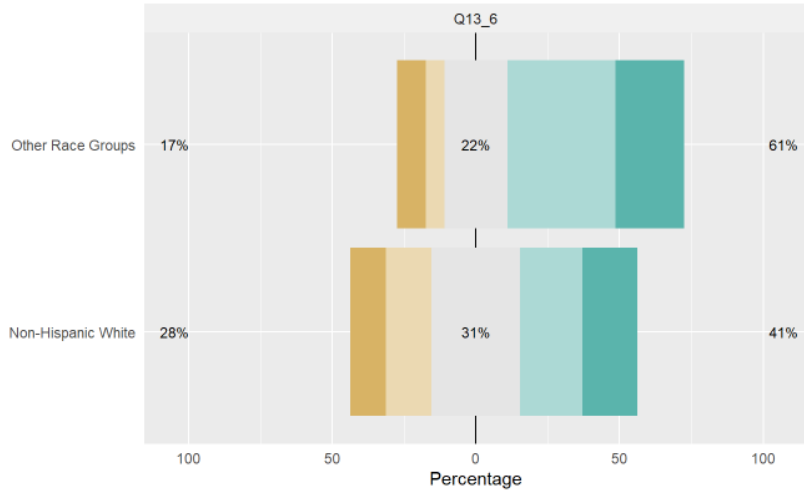
Natural Disasters, $p < 0.01$



Response No concern Somewhat concerned Neither concerned or unconcerned Concerned Concerned

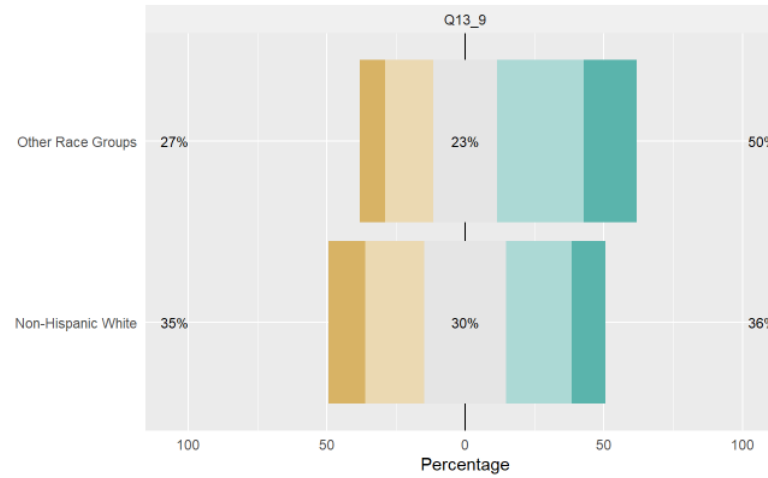
Differences between racial groups

Need for clean energy, $p < 0.01$



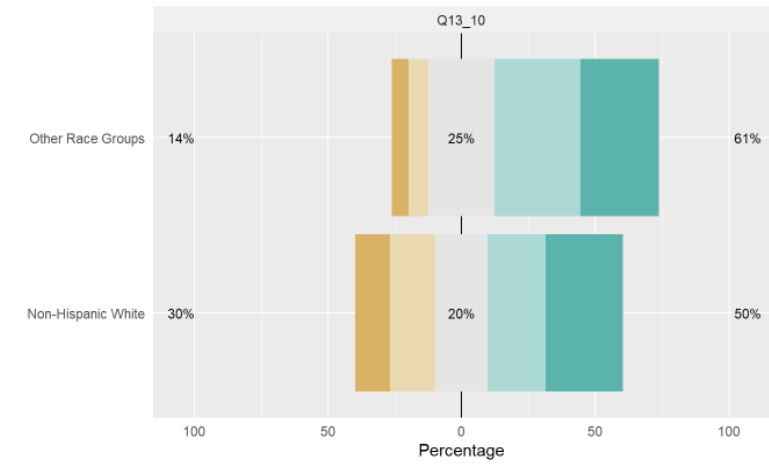
Response No concern Somewhat concerned Neither concerned or unconcerned Concerned

Heavy metal exposure, $p = 0.02$



Response No concern Somewhat concerned Neither concerned or unconcerned Concerned

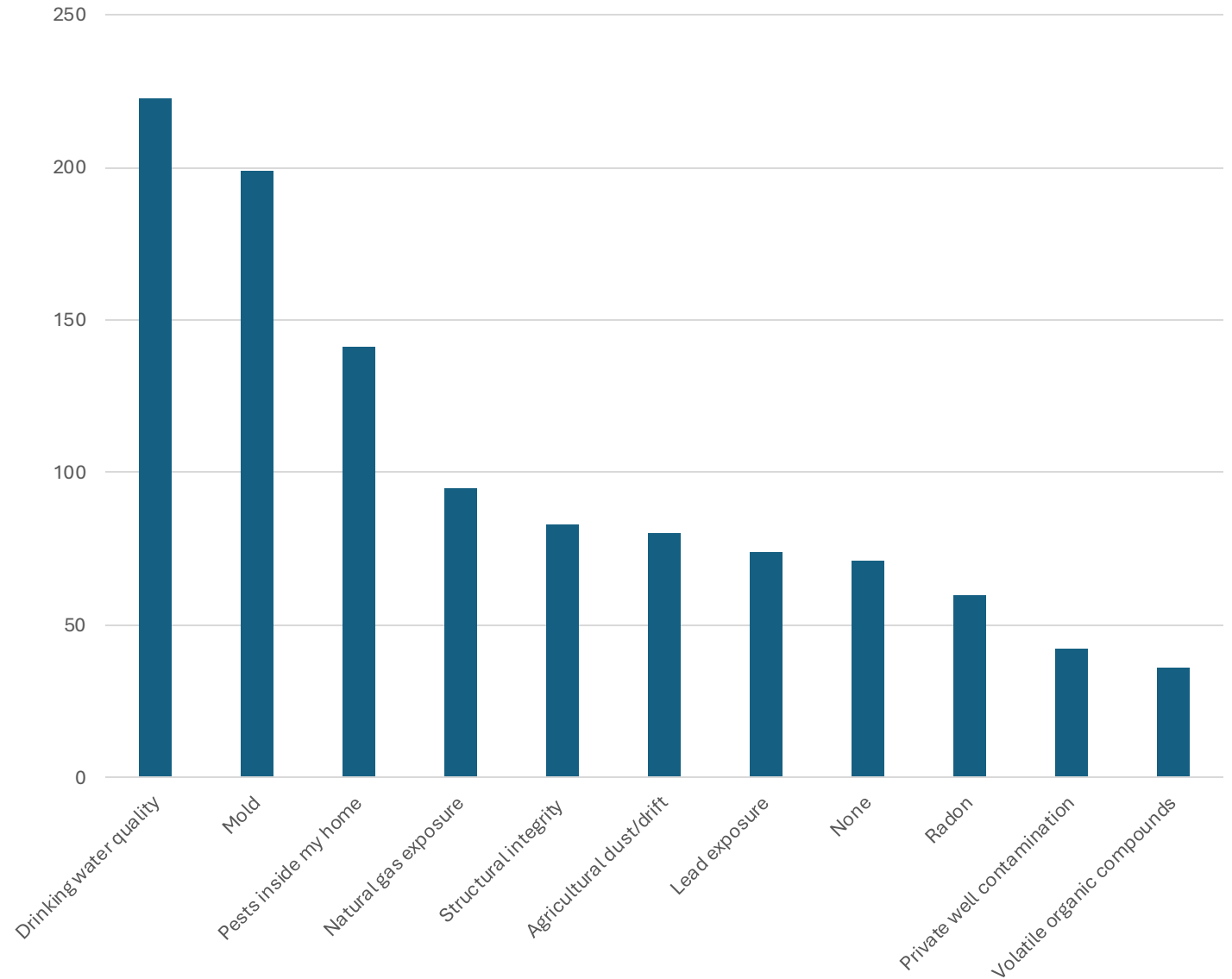
Climate change



Response No concern Somewhat concerned Neither concerned or unconcerned Concerned

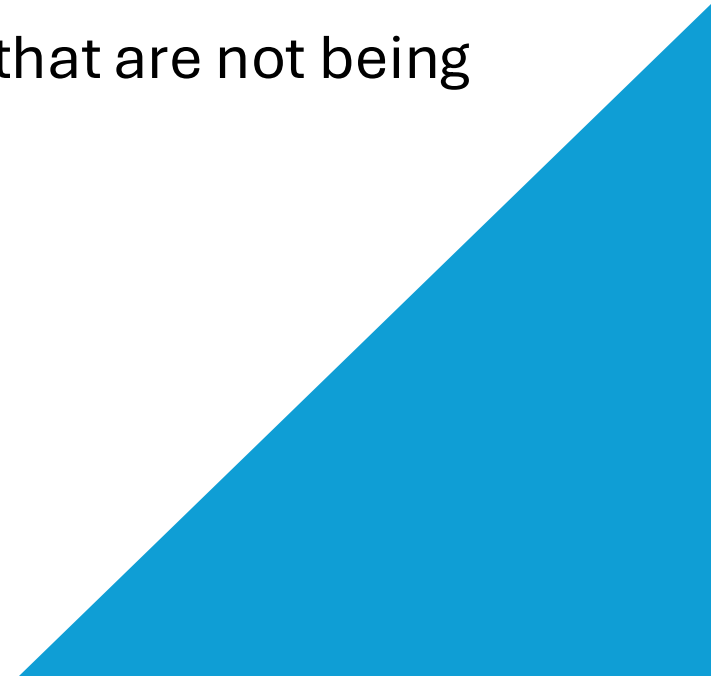
What are the problems?

Think about the place you live right now. Which of the following environmental health issues are you concerned about in your home? (Select all that apply)

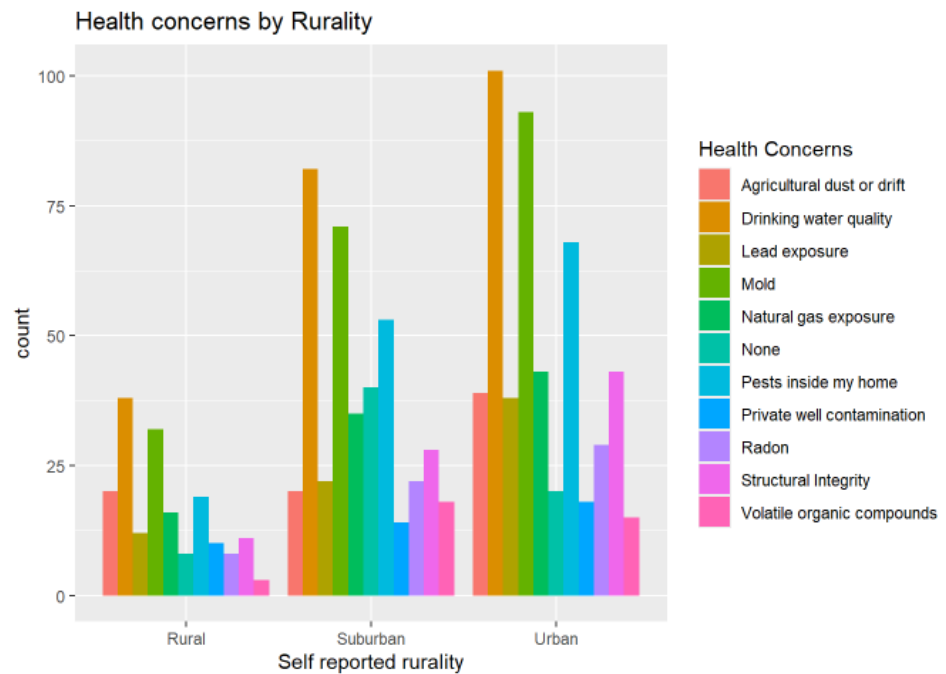


Focus groups: What are the problems?

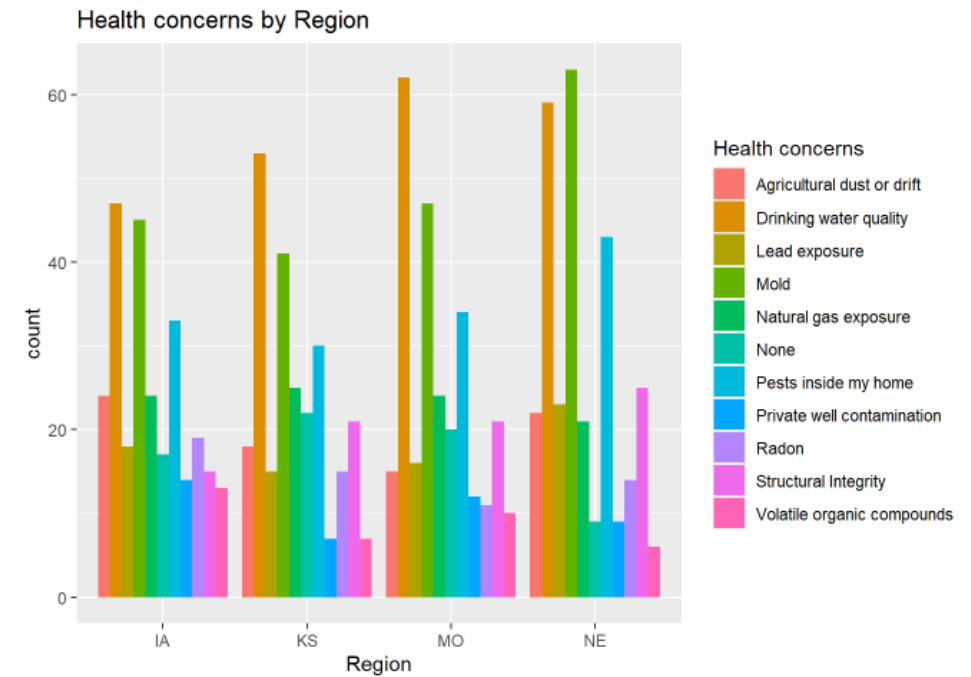
- Immigrant and Black community leaders
 - Pests, mold, and lack of action from local landlords.
 - Desire to raise consciousness about EHI in mobile homes, apartments and organize.
 - The university has many resources and connections that are not being used to address housing issues
 - Housing accessibility



Inside the home concerns by rurality and state



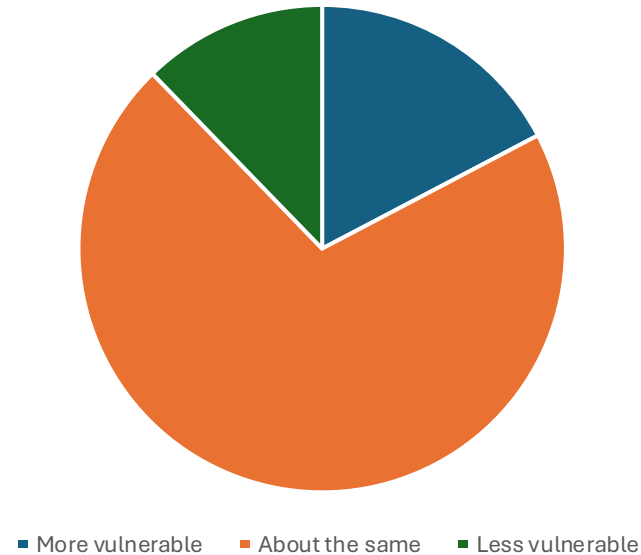
For all ruralities, drinking water quality was the most common concern. Mold was the next most common. Suburban and Urban then had pests inside the home as the third concern, while rural communities had agricultural dust or drift third.



For Iowa, Kansas, and Missouri drinking water quality was the top concern with mold being the second concern. Nebraska had mold as the top concern and drinking water as the second. Pests in the home was third for all regions.

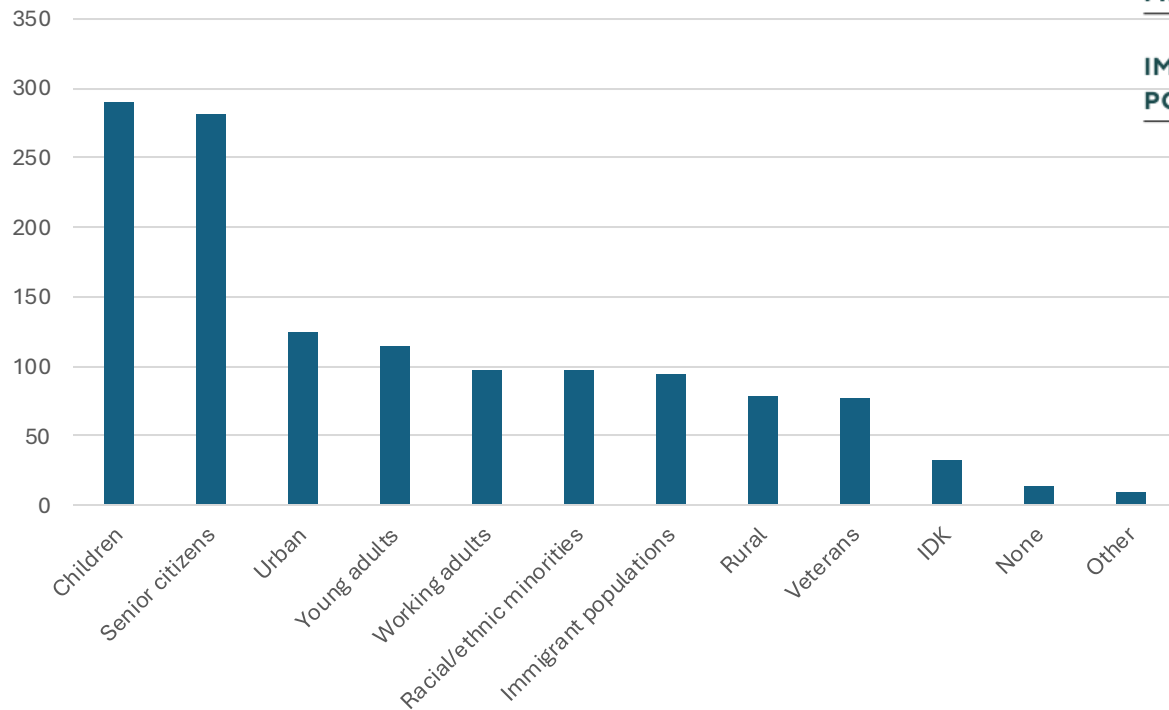
Who is affected by the problem?

Think about the city, county, or neighborhood you currently live in as your “community.” Do you consider yourself more or less vulnerable than others in your community to exposure to environmental health issues? (More vulnerable = 17.3%, About the same = 70.4%, Less vulnerable = 12.3%)



Vulnerability

What populations do you think are especially at risk for EH issues?



WHO IS VULNERABLE?

	NON-HISPANIC WHITE	OTHER RACE GROUPS	P-VALUE
RACIAL OR ETHNIC MINORITIES	19.9%	32.7%	0.0085
IMMIGRANT POPULATIONS	20.3%	29.1%	0.062

Disaster preparedness

Think about the people, places, organizations, and leadership in your community. Imagine a natural disaster hit your community (for example, flood, derecho, tornado, blizzard, etc.). What assets does your community currently have that would help you recover from that disaster? (open ended)

Places	Libraries, churches, shelters, community building
Leadership	Emergency services director, first responders, new mayor, “amazing public works dept”
Organizations	Charity orgs, red cross, salvation army
People	“They are a small, close knit community. I believe there would be food provided and attempts to provide housing.”
Physical infrastructure	Buried electrical lines, “...dikes for floods, tornado early warning systems. My community (Topeka, Kansas) takes preparedness seriously.”
Recovery materials	Flood pumps, sand bags, flares, canned food
Experience	“We have been through many of these. Blizzard is the hardest as our city leaders do not spend enough on snow removal and it make it hard for all citizens.”
Communication Infrastructure	Tornado sirens, warning systems
Nothing	“Hardly any. The derecho hit Cedar Rapids hard and we should have had more help.”
Don't Know	

Disaster Preparedness

What characteristics about your community could be strengthened to improve its ability to recover from a natural disaster? (open ended)

Structural improvements	Have: Old buildings, water/sewer lines; Need: better roads, alternate water/power sources, shelters, fewer windows
External support	Strengthen Red Cross, FEMA; “more response from outside agencies.”
Training	Train first responders; improve knowledge of community; “I think it would be good to have training. I’m not sure if my community could provide this but recovering from a natural disaster is not something I think about often.”
Communication	Public announcements, local media coverage, PSAs on radio/tv, “if there is a plan, we should all know it.”
Funding	Disaster relief funds, more government funding, grants for sustainability
Supplies	Sandbags, emergency generators, bottled water, canned food, flash lights, batteries
Planning	Coordination between relief units/teams, planning to get systems up and running
Community relationships	“talk more within the community and make sure we all have each other’s back instead of worrying on individuals”
Leadership	More city employees, better/more response teams, “have a republican city council.”
Nothing/don’t know	

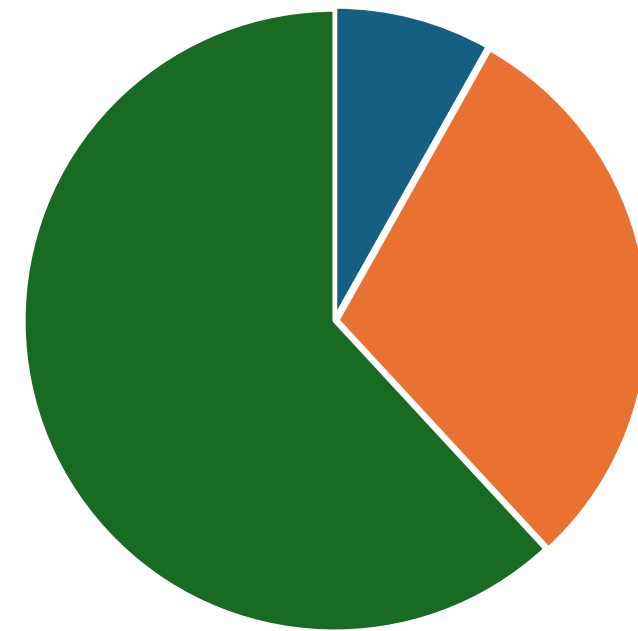
How do people know about this problem?

- How knowledgeable are you about environmental health issues? (1-not at all, slightly, moderately, very, 5-extremely)

Mean	2.94
Median	3.00

Overall, participants considered themselves moderately knowledgeable about environmental health issues.

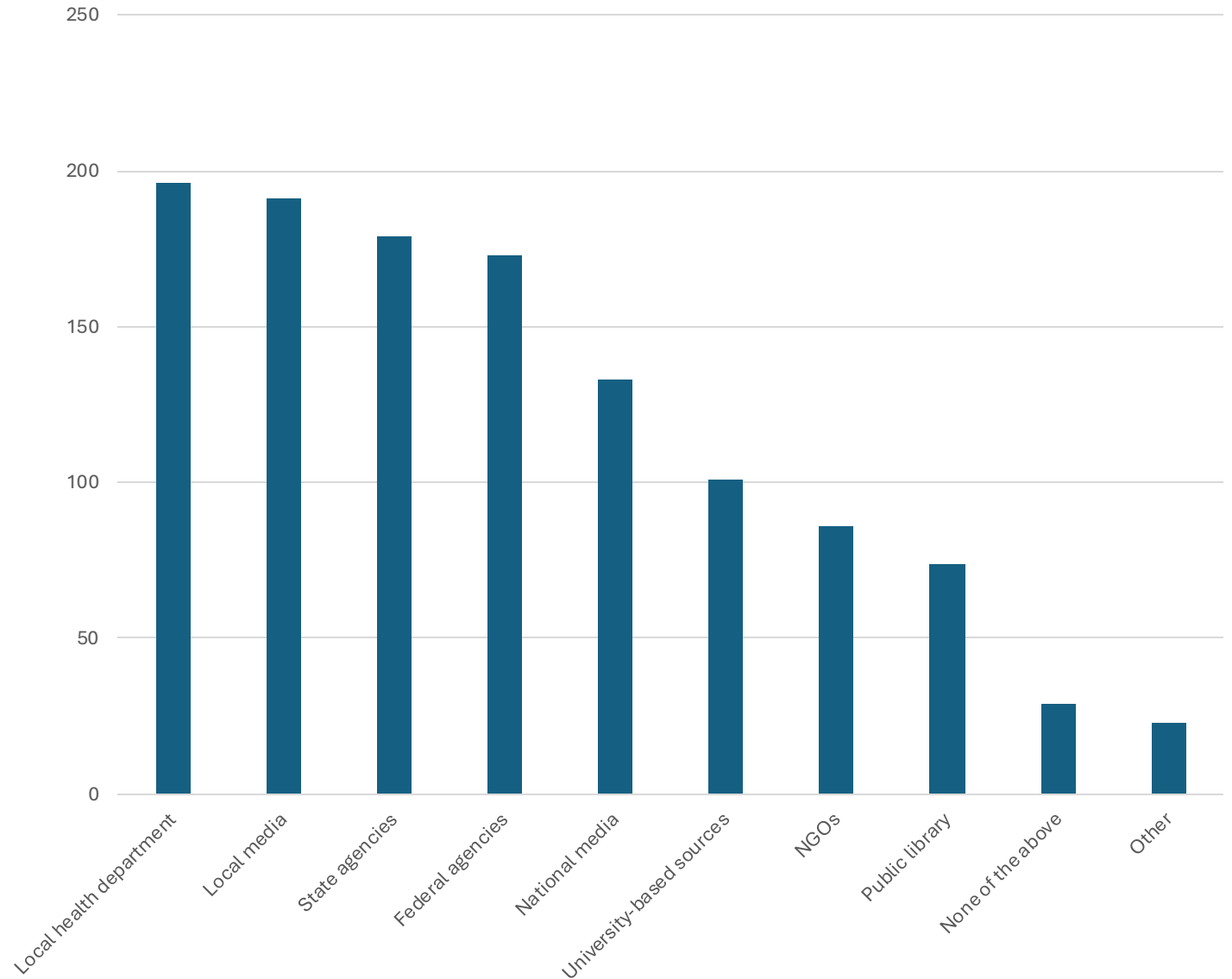
Do environmental health issues get the right amount of attention?
(Too much attention = 8.3%; Right amount of attention = 30.5%;
Not enough attention = 62.9%)



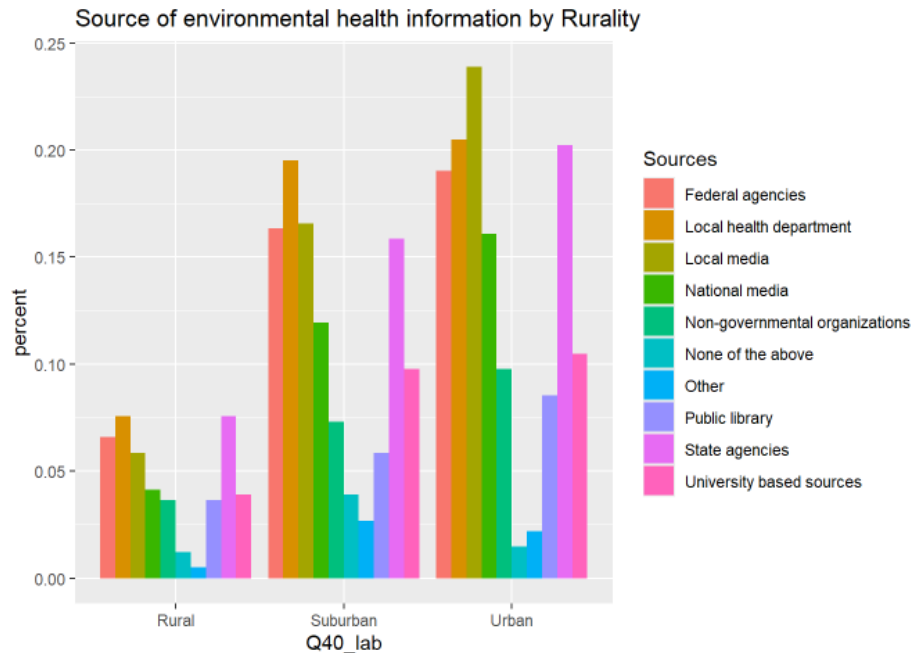
■ They get too much attention ■ They get the right amount of attention
■ They do not get enough attention

How do people know about this problem?

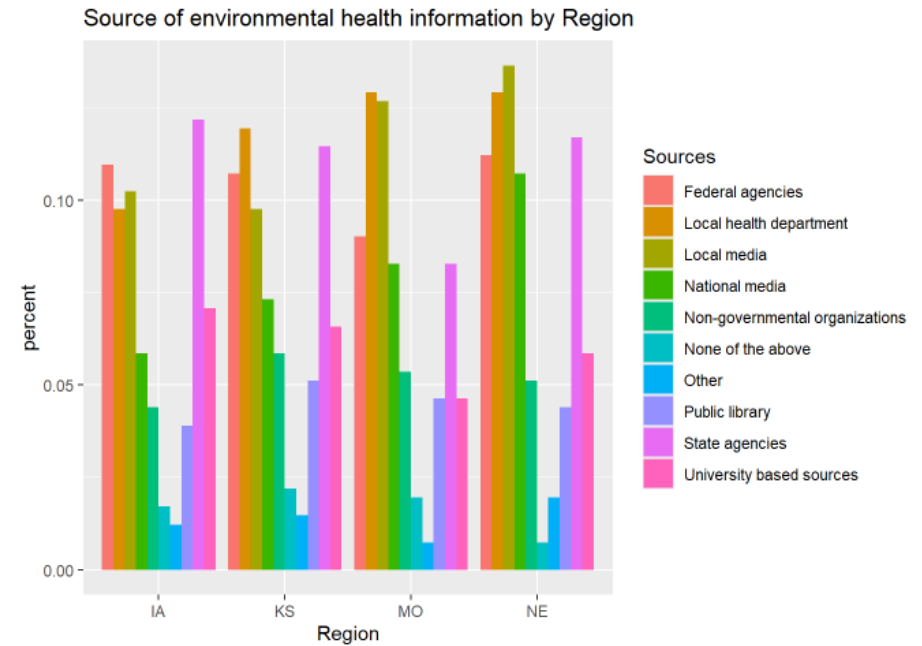
- If you are seeking out environmental health information, what sources do you consult? (select all that apply)
- Text responses:
 - *environmental organizations*
 - *Doctor*
 - *Google*
 - *Internet searches*
 - *I do my own research. I do not trust other sources.*
 - *University extension office*



Sources of information by rurality and state

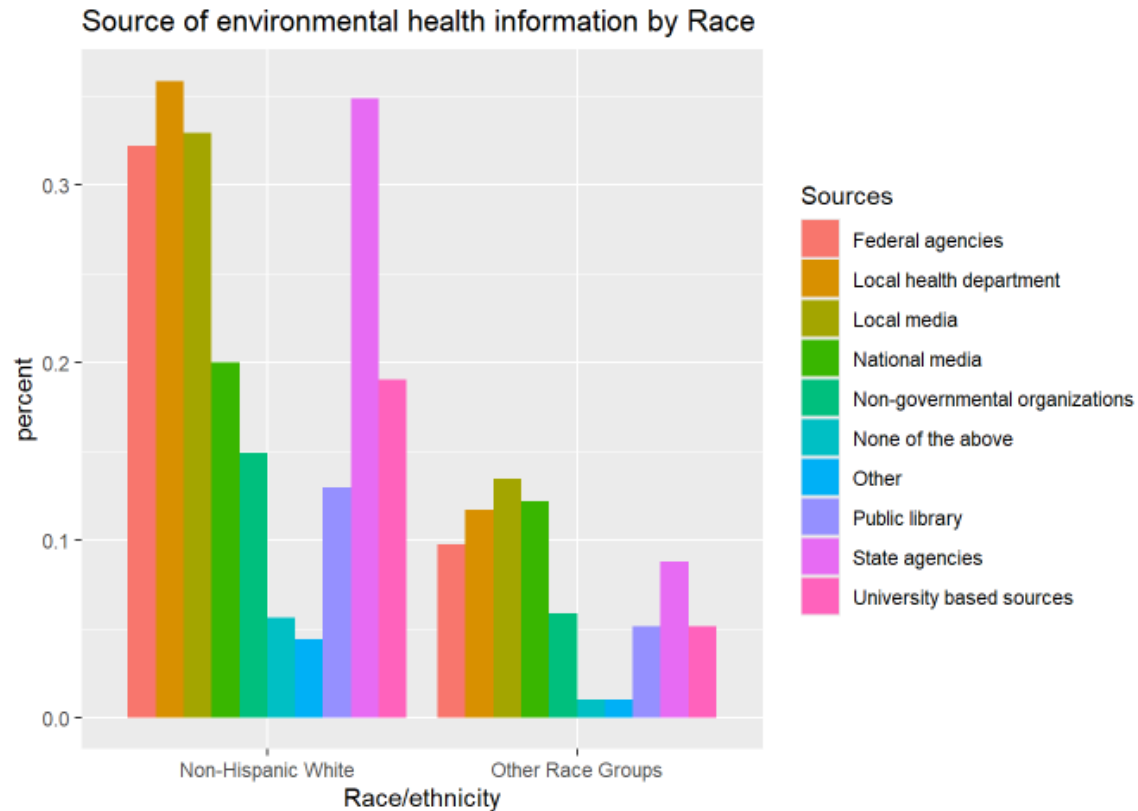


Urban communities reported local media, local health department, and state agencies as their top sources. Suburban reported local health department, federal agencies, and local media. Rural reported local health department, state agencies, and federal agencies.



IA reported state agencies, federal agencies, and local media as top sources. KS reported local health department, state agencies, and federal agencies. MO reported local health department, local media, and federal agencies. NE reported local health department, local media, and state agencies.

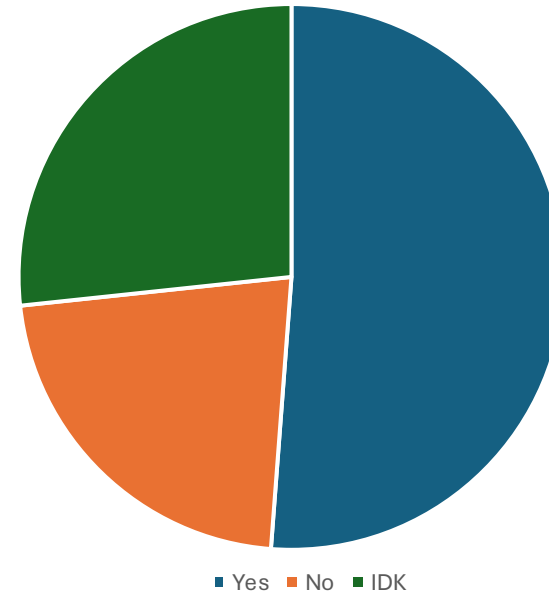
Sources of information by race



For the Non-Hispanic White group, local health departments, state agencies, and local media were the top sources. For Other Race Groups, local media, national media, and local health departments were top sources.

What is being/should be done about the problem?

Do you feel you would have access to help if you experienced problems related to the environment (housing issue, natural disaster, flooding, extreme weather)? (Yes= 51.9%, No= 22.4%, IDK=27.1%)



How capable are individuals in your community to protect themselves from environmental health issues? (1-not at all, slightly, moderately, very, 5-extremely)

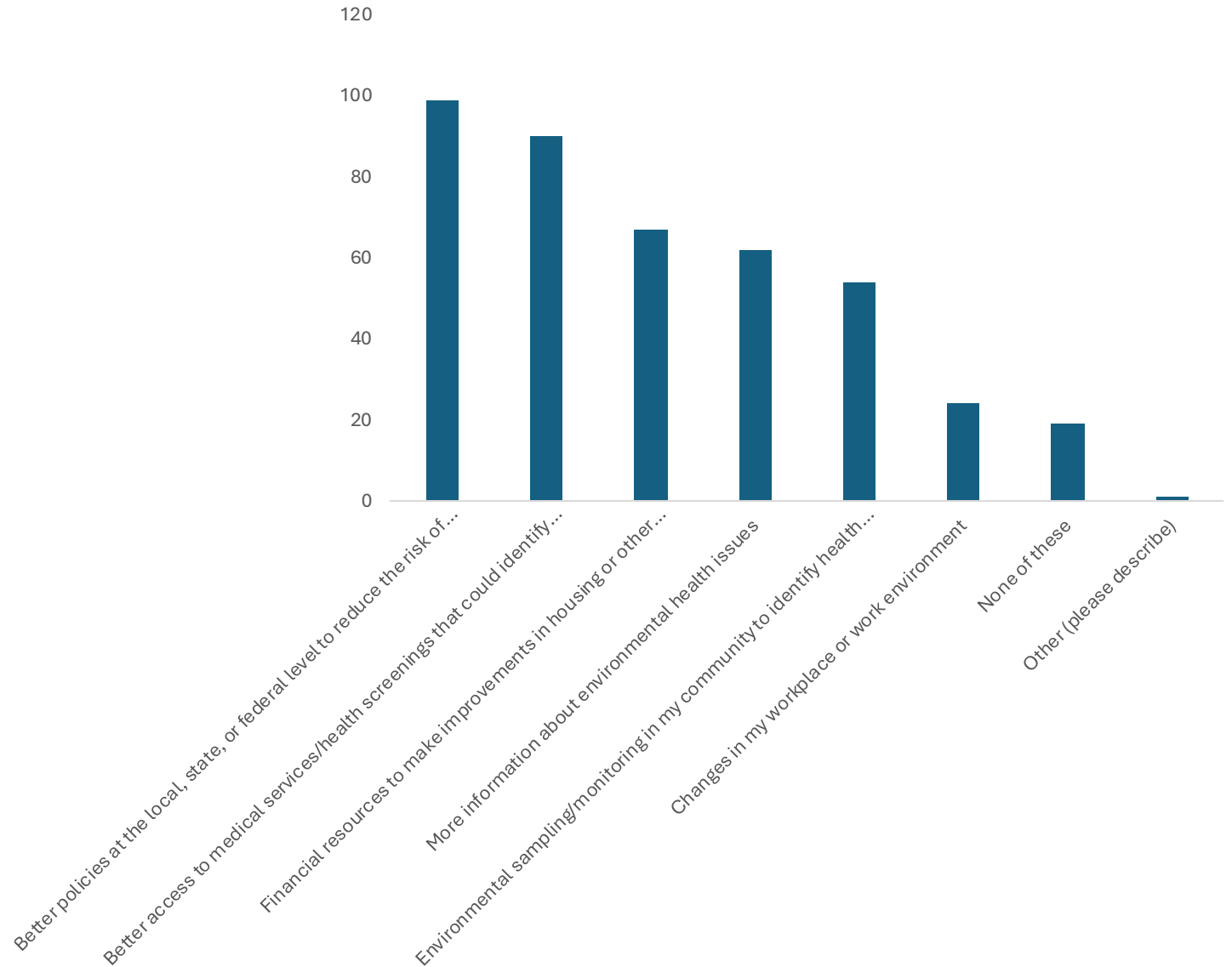
Mean	3.00
Median	3.00

Overall, participants said that individuals in their community are moderately capable of protecting themselves from environmental health issues.

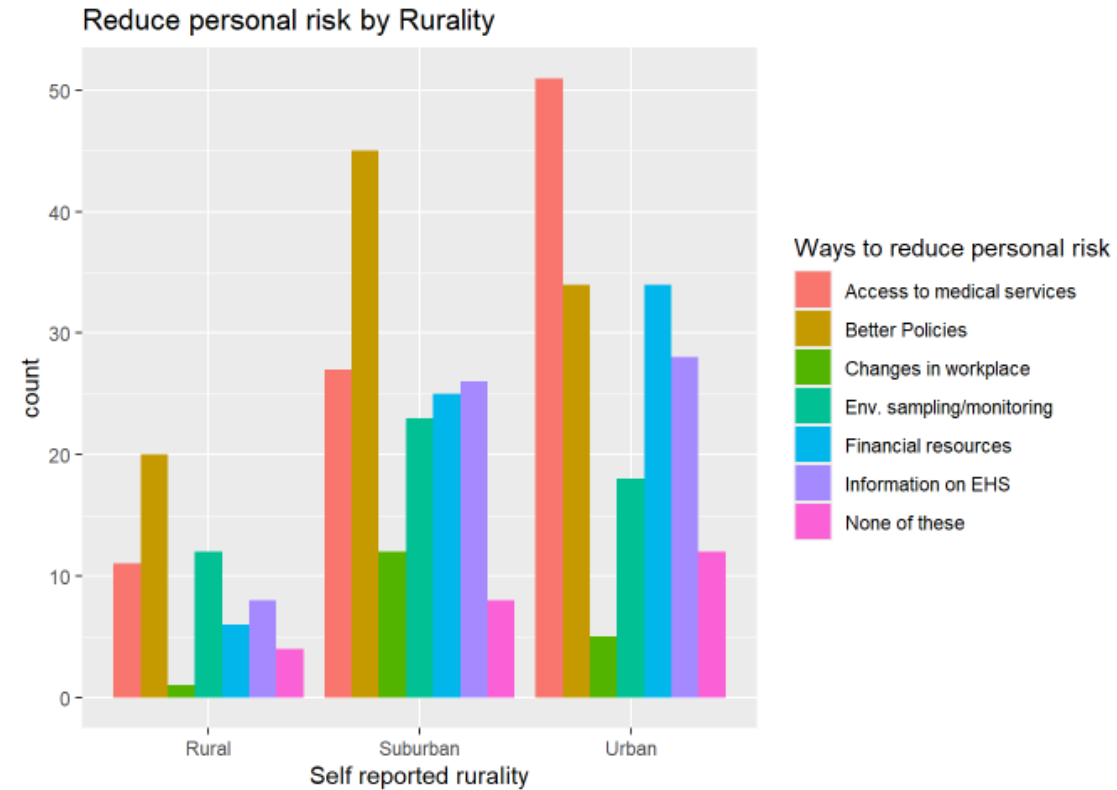
What is being/should be done about the problem?

Which of the following would be most beneficial to you in reducing your personal risk for environmental health issues?

- Better policies
- Access to medical services
- Financial resources
- More information
- Environmental sampling/monitoring
- Changes in workplace



Differences by rurality



There was a significant difference in ways to reduce personal risk across ruralities ($p=0.03$). Urban communities reported access to medical services as the number one way, while suburban and rural communities reported better policies.

Focus groups: rural policy solutions

- Older rural adults
 - Community members need to keep speaking up at all policy levels; there are many forces directly against environmental action.
 - Desire for opportunities to discuss EHI without fear of political backlash.



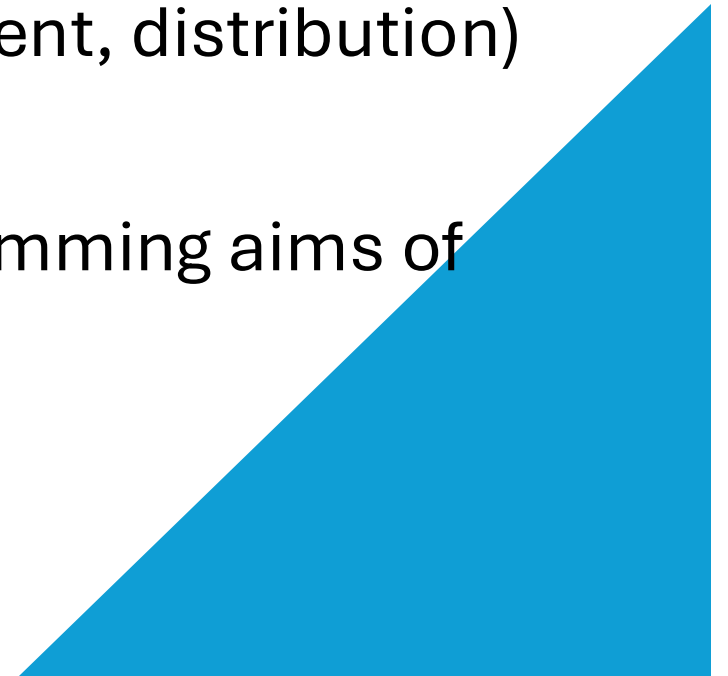
Big picture

- Similarities between groups:
 - Need to build community, break down silos
- Concerns about housing—consistent with focus group sessions
- Disaster preparedness—comparing assets and needs
 - Threads of social capital/connectedness and relationship
- Young and elderly identified as key vulnerable populations



Challenges in the project

- Time
- Scheduling focus groups
 - Language barrier, translation (may affect time, have to cut short)
- Engagement of collaborators (reviewing instrument, distribution)
- Getting a good sample (without web panel)
- Volume of data + balancing research and programming aims of project



Implications for policy/programming

- Trusted sources of information as future partners
- Interest in policy solutions from rural participants
- Housing and disaster preparedness key future issues
- Focus on identified vulnerable populations
 - Recognize that perceptions may differ from data



Advice for others doing a needs assessment

- Be clear in objectives, there is such thing as too much data
 - Target questions to goals
- Clarify who your "sample" is
- It will cost money/resources for data collection, language translation, and staff time



Thank you! Questions?

- Contact us:
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- Ehsrc.org

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