Community Perspectives: Extreme Heat Perceptions, Preparedness, and Solutions in Chicago, Illinois

Joint Session J4 - Community Engagement in Climate Change and Health Adaptation Research

AMS 105th Annual Meeting, New Orleans, Louisiana

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ELEVATE

Elevate's Mission

Elevate seeks to create a just and equitable world in which everyone has clean and affordable heat, cooling, power, and water in their homes and communities — prioritizing frontline communities.
Our programs, policy agenda, and partners reflect this commitment.

Project Overview

- What is UnBlocked?
  - UnBlocked, a partnership between the Chicago Bungalow Association and Tonika Lewis Johnson, has invested nearly $400,000 in health, safety, and efficiency (electrical, plumbing, roof replacement, insulation, air sealing) on one block in Englewood
- Englewood
  - An environmental justice community with a history of discriminatory housing practices
  - 99% Black, 30% homeownership rate, older housing stock
- Elevate conducted 13 interviews in Englewood focused on heat risk perception, thermal comfort, heat adaptation, and solutions



https://www.chicagobungalow.org/unblocked

NREL
Transforming ENERGY

Findings



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Summer indoor temperature perceptions

- **Summer home temp. estimate**: ranged from 65 to 80, 73.0 average
- **What summer temp. is unsafe?:** ranged from 75 to 95, 84.6 average
  - *[The hottest it's been in the house] is maybe 100? When I open the windows, that temperature gets hotter.*
  - *I can deal with the 80s. When it be in the 90s-95 like that, by me being a senior citizen, I really can't deal with that heat.*
  - *I don't turn it [the AC] on, so it gets up to like 90 or something like that.*
  - *If it's 90 degrees outside, it's 87 in here. That's really unsafe.*
  - *If your house go past 76, you're basically uncomfortable. 76 is the most you need.*
- Satisfaction with indoor temperature: high (8), moderate (2), low (1)
  - Participants reported greater ability to keep home safe vs. comfortable

Top concerns about extreme heat

None	5	*I just deal with it as it comes. I try to let nothing get next to me. I just deal with it.* *I just think it's the will of God. I accept what he give me.* *I just hope I stay cool when I need to be cool, and I stay warm when I need to be warm in the wintertime. The wintertime is the main thing.* ***The summer I can deal with that cause you can always get a fan or AC. But that wintertime--it's uncomfortable to live in cold.*** *It's real hard to live in the cold. And when you take a bath it's freezing. […]* ***I could deal with being hot, I know how to stay cool. But in the wintertime it's hard to stay warm.*** *It be real cold, you know how cold it get up here.* *Right now, I'm confident with what took place. I don't have them concerns like them no more.*
Cost of AC, using AC	4	*We'll keep it on a while in the morning. You know, close the curtains, try to keep all the heat out, and keep the house cool. And then maybe later on in the afternoon it gets up really high, then you can run it for a little while.* ***But we can't sleep with it on, we do that to keep the cost down.*** *Sometimes I get really hot and I'm like, "Man it's hot in here." We gotta open the windows or if it's breezy, we'll come out, and sit outside, but try not to, again, try not to run that bill up too high.*
Respiratory problems	4	*The respiratory, the breathing, the moisture--we need more moisture in the house.* *I can't be out in the heat. Because I have COPD, I can't be out in the heat.* *Breathing. I had heart surgery so every now and then, my breathing.*

Physical and mental health impacts of extreme heat

- **Top physical health impact**: difficulty breathing/shortness of breath/asthma worsens
  - *Going up and down the stairs[…] it's not good. It's not good when it's really, really hot. […] Because to me,* ***when it gets really hot, it affects your breathing.*** *And sometimes they tell seniors to stay in the house and don't go out in the heat. But it'd be hot in the house too. So that that is something that it affects--the respiratory.*
  - ***At night it was like I'm suffocating. Even with the little air I did have-- because it was so stuffy****. You go outside and you see the humidity is XYZ, well it was the same way in the house.*
- **Top mental health impact:** negative mood & irritability
  - *[When it gets hot] I'm miserable. Grouchy. You don't want to talk to anyone. "Leave me alone, I'm hot."*
  - *If I'm really hot then yes,* ***I'm different. I'm evil, sick, I don't want to be bothered.*** *The heat makes you miserable. And I don't like the heat. I love the winter, the fall, but I do not like the summer.*

Changes since upgrades: summer

Cooler	9	*Before we got the insulation, the **heat was just overwhelming. The heat would just come in**. But the insulation helped out tremendously. The change has been, like I say, just the comfortability. Before the installation, if you guys had come before the installation, you would have been able to tell a big difference. **It's the temperature, it's beautiful. See, we not sweating now.*** *I had five fans running plus the air conditioner was on. That's what I had to do to keep cool here. Ain't have to do that this year.* *[It used to be] maybe 80 but then like I said having the fans [would help]. But now with the with the upgrades it's more 65-70* *Right now everything is beautiful, right now everything is great. **There hasn't been an incident that it's too hot. It hasn't been an ambulance, hasn't been no heat strokes, and everything's perfect***
Use AC/fans less	5	*[The AC] works. I just don't cut it on. I don't need to. I was thinking it was going to be extremely hot like it was before you all did the insulation. Didn't even need it.* *After they did insulation, if I run the AC for a couple days then it might cool off outside and I could turn the AC off and it still would be cool in the house for a couple days**. I think the insulation helped with that cause it stay cool in the house. I don't have to have the AC on**, it gets too cold then I'll turn it off for a couple days.*
Lower utility bills	3	

Extreme heat preparation and adaptation

Preparedness for heat wave: 83% prepared, 17% not prepared

- *You got to survive it, get through it. You got to find the best way to stay cool.*
- *We're on alert, we're ready because there's older people, so we do wellbeing checks every day, check everybody out everyday. Make sure everything's just perfect. If you don't see them in their room or outside, "Are you ok man?", things like that.*
- *I don't [prepare]. I just wait and I do whatever to cool down. There's nothing you can prepare for I don't think*

Neighborhood vulnerability and social cohesion

	Yes	No	No answer
Are others in your neighborhood vulnerable to extreme heat?	9	3	1
Does anyone check on you?	9	4	0
Do you check on anyone?	11	0	2

- *It's good to check on everybody. Make sure everybody's ok if it's getting to the point where it's threatening. The heat is threatening, because it's* ***the older you get, the heat could get dangerous.***
- *Mostly everybody around here, is over forty. May have a couple of millennials. But* ***with our age bracket, we're vulnerable to heat.***
- *Yes some people are vulnerable, they don't got AC or nothing.* ***A lot of people don't got nothing. They might got a fan but when it be real hot, fans don't work.*** *So yeah people are vulnerable.*
- *There's no one on the block that I think is more or less a problem as far as the heat concern. Because I think most […] are just like me. And they either got central air or they got an air conditioner. So they not going to be out in the heat. I don't even think we have anybody on the block that I would have to call and make sure that they okay. I would be concerned about the elderly people, if it's too hot, but I don't think we have nobody that we need to do that****. I think everybody on the block is kind of like me--when it's too hot, you find a place to keep cool.***

Solutions and resources desired

Short-term	
Distribution of cold water, cold foods, easily prepared foods	4
Fans	2
Generator	1
Humidifier	1
Fuel for outdoor cooking	1
Long-term	
Central air	7
Window replacements	3
Weatherization, insulation	3
Electric bill assistance	2
More vents throughout house	1
Finish basement	1
Get house up to code	1
Community center (converted from existing space)	1
Outdoor seating	1
Front porch repairs	1
More shade	1
Wellness checks for elderly residents	1

Extreme Heat Partnerships and Additional Resources

- Report on indoor temperature in Chicago homes: https://www.elevatenp.org/publications/summer-indoor-thermal-conditions/
- Defusing Disasters Working Group at Northwestern
- Illinois Tech Institute of Design Fall 2024 workshop on Behavioral Design for Extreme Heat Policy

ILLINOIS TECH Armour College of Engineering
Defusing Disasters
COLUMBIA Mailman School of Public Health
Northwestern Buffett Institute for Global Affairs
Institute of Design
CDPH Chicago Department of Public Health
DOE Department of Environment

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- Project Report: https://www.elevatenp.org/publications/community-perspectives-extreme-heat-challenges-and-solutions-in-chicago-illinois/

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