The NATION'S HEALTH PODCAST
AN INITIATIVE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

THE NATION'S HEALTH PODCAST TRANSCRIPT: SPECIAL SERIES ON EXTREME HEAT

The Heat Rx, Episode 3: Policy to practice: Leading the way in climate health

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NATALIE McGILL: *As temperatures continue to climb across the country, local health and safety officials are turning their focus to long term sustainable solutions for cooling down our cities. With advancements in smart surface technology to counteract extreme heat and multiple efforts to educate health professionals about its effects on human health, it's only logical to put science and knowledge into action. Smart surfaces, like reflective pavements, solar panels or even trees, can go a long way in cooling cities down.*

In this third and final part of our series on extreme heat, we talk to experts about local and state policy solutions that keep vulnerable populations safe during heat- related emergencies and create a cooler built environment for years to come.

We begin with Lisa Patel, a clinical pediatrician out of San Francisco and executive director for the Medical Society Consortium on Climate and Health. Patel talked with The Nation's Health Podcast about the long-term health impacts of heat.

PATEL: My name is Dr. Lisa Patel, I'm the executive director for the Medical Society Consortium on Climate and Health.

Why do you see extreme heat as such an urgent and growing public health threat?

I'm caring for more infants that are coming in severely dehydrated because they live in un-airconditioned homes or I'm seeing more athletes and more teenagers who have outdoor construction jobs that are coming in with kidney damage because their muscles literally melt — break down in that extreme heat, and it gums up their kidneys. And they're young, and so we can reverse that damage pretty quickly, but we know when kidneys take those kinds of hits over and over again, it can cause damage over the long term.

And then I'm caring for more and more infants that are born prematurely, and we know that extreme heat carries a risk for people that are pregnant in terms of delivering both premature infants and low birthweight infants.

So there are real harms that I'm seeing right now. But then we look across the larger population, and we know that incarcerated individuals are at higher risk. An outdoor farmworker — 35 times more likely to drop dead outside from extreme heat because protections aren't in place.

We're finding elderly folks that are dead inside their homes, in an apartment that's overbaked. We are not prepared. We are not ready in terms of our infrastructure, our education, our awareness, in terms of dealing with extreme heat and we are seeing the damage and the death as a result of it. And all of this is preventable.

McGILL: *Climatologist Larry Kalkstein knows that data means everything to local and state governments trying to prepare for climate-related emergencies.*

Kalkstein talked with The Nation's Health Podcast about his experience in creating heat health warning systems, including the California Community's Extreme Heat Scoring System, also known as Cal Heat Score, which helps emergency personnel across the state create plans to protect residents.

KALKSTEIN: My name is Larry Kalkstein, I'm a PhD. I'm a professor emeritus, longtime professor, who has retired from academia but now runs his own environmental company called Applied Climatologist Inc., which deals mainly with problems involving climate and human health.

So, let's start with the basics. What is a heat health warning system and how does it work differently from a standard weather alert or heat index?

So, (a) heat health warning system is different than a regular heat index or heat warning system in that it incorporates health data. It incorporates data that shows how many people have gotten sick or died from the heat.

Most heat systems are based on criteria like having three straight days of a heat index over 105 or some other meteorological criteria. Ours is different. Ours is based less on meteorology and more on how people respond, and we use all-cause mortality in ours.

So, for example, the same exact heat wave with the same exact temperatures happening in June and happening in September would get the same value under the typical heat warning system, but a different one with ours because we know for a fact that more people die from heat waves earlier in the season than they do later in the season. So, the earlier season heat wave would get a more extreme warning than the late season heat wave, even though it had the same meteorology.

And you've helped design heat health warning systems in the U.S. and internationally, from Greece and Spain to Los Angeles and now California's new CalHeatScore. What lessons have come out of these efforts, and how do you measure the success of a heat health warning system?

Right now, the way the system works is we rank heat waves. Level 1 is just a hot day. A Level 2 is now beginning to be a little more dangerous and that means that some people are dying, but not in great numbers. A Level 3 is even worse and a Level 4 is the worst...and that's when you need to institute the greatest protection measures to the general population at that point.

Most watch warning systems just say there's an excessive heat warning issued. They don't rank them, but we think that we should rank them to warn the people, but most importantly, to warn those who are doing something about the heat — the government officials, emergency management, police, fire, utility companies — these are the most important clients, not just the people who watch it on the news.

And what role have public health departments, emergency managers and local community organizations played in making these systems actionable and effective?

Well, the system without these partners is no use at all if you just have a system that calls a Level 3 or a Level 4 warning and there is no public action behind it. All you're getting it is on TV and people really don't know exactly what to do.

It is the support group that is the most important. It's as very bit as important as the system itself because it is what involves the link between people who are in charge and the normal population who may not know what to do during heat waves.

McGill: *Southern heat is no joke and cities like Atlanta, Georgia are no stranger to the urban heat island effect.*

In an effort to cool down the city for the long term, Atlanta City Councilwoman Liliana Bakhtiari told The Nation's Health podcast about how her council staff laid the foundation for a recently passed cool roof ordinance, which, going forward, mandates the use of reflective roofing materials on new construction.

BAKHTIARI: My name is Liliana Bakhtiari and I am the Atlanta City Council member for District 5.

Atlanta's new cool roof ordinance is a first for the region. So, could you expand on what pushed you to champion this policy, and why you see cool roofs as an important tool for protecting communities most vulnerable to extreme heat?

My whole background before coming onto the council is in crisis relief work and that was a lot of environmental work on an international level. And so to see a lot of the same issues I was seeing in areas and countries that didn't have regulation on emissions, that didn't have some of the safeguards that we say that we have as the best country in the world... seeing that level of environmental negligence and neglect on a hyper-local level, led me to commission the city's first-ever — and apparently the first-ever in the country — block-by-block heat vulnerability and stormwater assessment through the Urban Climate Lab at Georgia Tech with Brian Stone.

That assessment showed how bad air quality was... so how many trees we needed to plant, where we could plant them, why our stormwater systems are vulnerable due to 100-year storms occurring monthly at this point.

And what really moved me was a study they did in Oxford with their air quality and the fact that they had almost no canopy coverage. They did smart roofs and it changed the local climate tremendously in a very short period of time.

I believe that with everything that we are dealing with, we need a diversity of tactics. We cannot solely depend on one thing.

You've called this policy a low-cost, high impact fix other cities could adopt. So what did you learn from passing it in Atlanta that could help leaders in other cities push for smart surfaces, even when there's pushback on the upfront costs?

Well, first, make sure that you're working with everyone. That any legislator should make sure that they're working with subject matter experts and advocates that have been in the field for years and years and years. One of the things that we should not do as legislators is just blindly throw legislation together.

McGILL: *The recent turmoil surrounding federal health and safety agencies makes addressing extreme heat on the state level even more important.*
Dr. Lisa Patel talked with The Nation Health Podcast about the consortium's efforts to get states working on their own heat action plans, including a new alliance the consortium joined to push governors to act.

PATEL: The Trump administration fired a lot of the experts at the Occupational and Safety Health Administration in June ahead of the hearings for the OSHA heat standard. For example, they are proposing to gut LIHEAP. This is a program that helps families that can't afford their energy bills to pay their energy bills, which we're seeing more and more higher bill, because people have to turn on their air conditioning to stay cool for their safety.

So recognizing that a lot of federal leadership on this is disappearing. Resources are disappearing. We're really focusing on the state level strategy to urge our governors to come up with state level heat action plans to best protect the health of their residents. We at the consortium work with 30 different state clinician groups... so Florida Clinicians for Climate Action and Michigan Clinicians for Climate Action, each of these groups has great relationships with other organizations in their state — with their governor's office, with their state lawmakers, to be able to talk about how heat is affecting them and bring really that health expertise and that health lens to how we build heat action plans that can best keep people safe.

And the Medical Consortium is a founding member of the New Alliance on Heat Resilience and Health, which just released a national sign-on letter urging governors to lead on extreme heat preparedness.

What state level actions is the Alliance pushing for and how can this kind of unified voice help move governors to act?

PATEL: Since we don't expect federal leadership on this, we are really urging state-level action. And so, the letter has four specific policy asks within it.
One of them is for each state to have a state-level heat action plan and that involves also having the state heat lead because what we need is a coordinated response when these heat events happen.

We also need better data — better tracking on a state level. Every state is going to be affected by heat in a different way, both because populations are differently adapted for heat and also because the infrastructure might be different.

We're seeing a lot of schools get called off early because it's just too hot to be inside those classrooms. And then we're also asking states to consider declaring states of emergency during extreme heat. When you declare a state of emergency, you can bring more resources to bear to keep residents safe.

And then finally, we have to come up with ways to pay for all of this. And so really encouraging states to start building this into their policy infrastructures and to their budgets. There are enormous costs if we don't address heat and so even though it might look like there is an upfront cost in terms of budget, it does provide savings down the line in terms of decreased health care utilization, decreased lost productivity.

Thanks to all our guests and to you for listening to The Nation's Health Podcast. For more resources on extreme heat from APHA's Center for Climate Health and Equity, visit APHA.org/extreme-heat.

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