



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

### **The Heat Rx, Episode 2: Educating health workers to reduce harms of extreme heat**

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**McGILL:** *With an ever-warming planet, it's clear that addressing record-setting heat will require a record-setting number of health professionals who are trained to not only identify the ways extreme heat harms human health, but educate others to spread the word about climate change.*

*In this second part of our three-part series on extreme heat, we talk with experts who are educating the next generation of doctors, nurses and community leaders about how heat can affect individual and community health.*

**DRESSER:** My name is Caleb Dresser, and I'm an emergency physician and an assistant professor in the Department of Environmental Health at the Harvard T.H. Chan School of Public Health.

**Can you walk us through what happens to the human body during extreme heat? What are the early warning signs and what happens when the body can no longer regulate its temperature?**

**DRESSER:** So, heat is a stressor on the body. As the temperature goes up and, importantly, as the humidity goes up, it's harder for the human body to maintain a normal body temperature. What does our body do to stay at that body temperature we want to be at? Well, step one, we sweat. And so sweating is a very effective way to cool the body if the air is dry because it makes it easy for those little water molecules to pop off your skin, evaporate and cool your body. Sweating is not going to be as efficient at cooling your body.

When the humidity goes up, we start to see as the core body temperature gets dangerously high, confusion, which is the onset of heat stroke. As the human body reaches around 104 Fahrenheit, we can't think clearly and we are very rapidly on a path toward enormous danger at that point if this process isn't stopped by getting that person cooled off rapidly.

**From your own work as a physician, what are the ways you've seen heat affect human health and who is often the most vulnerable?**

**DRESSER:** What I have seen personally and what many of my colleagues have seen in emergency departments includes both critically ill people who are dealing with heat stroke, who may be

unconscious, may be having seizures, have very high core body temperatures and are in an immediately life-threatening situation.

From an emergency medicine standpoint, I'm really thinking about the people who are going to be exposed to heat and come in for emergency care — outdoor workers, older adults who live alone.

But also, there are some other populations you might not expect if you haven't spent time with the heat literature. For example, first trimester of pregnancy is a situation where there's an increased risk of birth anomalies.

**We often talk about the individual health risks of extreme heat, but what about the broader system level impacts? How is extreme heat straining our health care infrastructure, from emergency departments to long-term care, and what kinds of changes do you think are needed to prepare the system for a hotter future?**

**DRESSER:** That's a great question, and it's something we as a society need to be engaging on now because we can see what's coming in terms of the heat this summer, but also in the summers to come, which statistically, will be hotter.

If you look at data at large scale, there are studies from Europe and the United States showing dramatic increases in use of emergency departments during really hot weather. That's a fairly clear relationship. That can also mean that even if you spent your day in an air-conditioned apartment and you need emergency care for something unrelated to heat, it may be hard for you to access care. The 911 response time in locations that are experiencing really extreme heat can increase. When we think about this at a system level, we need to be both making sure that our emergency medical services and emergency care systems have the ability to care for the patients that need them.

And so we need planning in health care, but we also really need risk reduction planning within the community — within housing — so that people in the community don't become patients in the acute care system during heat waves.

**After seeing how extreme heat influenced social determinants of health like access to health care, Dr. Cheryl Holder was inspired to teach other physicians about climate change so they could help their patients inform their communities and influence policy. Dr. Holder talked with The Nation's Health Podcast about vulnerable groups and how her organization's climate health outreach team program educates physicians in the community.**

**HOLDER:** I'm Dr. Cheryl Holder. I'm the co founder and executive director of Florida Clinicians for Climate Action.

**Your organization has helped train over 1,000 clinicians and community members on climate health. So, what long-term impact do you hope this has on building a climate ready health workforce?**

**HOLDER:** Building a climate health-ready workforce, that takes many, many ways to address a acute problem. So we have to build it at the schools. We have to have curriculum change. We have to have post the licensure changes. There's so many steps.

Then we are continuing our work to get the curriculum to change, to get the hospital systems and all the systems out there to take it on and integrate it into the continuing education programs, into the emergency rooms, into the other groups: nurses, dentists, everyone. But our first 1000 were those doctors and nurses and clinicians that work with the people who are experiencing the impact now.

**Florida Clinicians for Climate Action also has a program that trains doulas to assess climate risk for women during and after pregnancy. How has the Doula C-Hot program helped reach vulnerable populations?**

**HOLDER:** Well, doulas have been proven to help women, especially women who are low-wealth, and there have been studies with women who are Black women, that, that increases their comfort with pregnancy. But some of the early findings that that trust relationship having an advocate helps you manage the system better.

So when you look at who does well in bringing the awareness to climate and bringing the awareness to some of these environmental changes and health, the data clearly points to a health professional — whether it's a nurse, a doctor, a pharmacist. And the doulas, even though they're not prescribing and treating, per se, they are still in the health field with the pregnant woman, and they help the pregnant person make better decisions and help her advocate for what's needed.

**And we know that pregnant women are especially vulnerable to heat. So, what are some of the lesser-known risks of extreme heat during pregnancy?**

**HOLDER:** Overall, your body changes to adapt to the pregnancy. So, you'll become more dehydrated a lot faster. Your heart rate will be even faster than it normally is during pregnancy, because that vasodilation that happens in normal pregnancy now has to not only take care of the baby, but has to also get to the skin so your body can cool itself, and then your sweating mechanism is not as the same as it was before pregnancy, so you're not sweating as well. You are even more vasodilated. More blood is flowing to the to the skin to cool you down, so less is available for the baby and the organs.

And you can see more side effects. The organs themselves may not develop as well. There's much more preterm labor. There's still births. There's so many things that happen for a physician.

**There isn't always a seamless way to fit climate change into a conversation with a patient. The Climate Rx, a campaign from ecoAmerica's Climate for Health, gives physicians talking points and even a scannable QR-code badge to let physicians do just that. Climate for Health Director Ben Fulgencio-Turner talked with The Nation's Health Podcast about the campaign and a climate for health ambassador training that allows anyone to take their climate education to the next level for free.**

**FULGENCIO-TURNER:** My name is Ben Fulgencio-Turner. I'm the director of the Climate for Health Program at ecoAmerica, which is a national nonprofit, nonpartisan, focused on driving climate solutions among Americans.

**Why is the Climate Rx model, which involves using conversation starters and QR-badges, so effective for engaging patients on climate?**

**FULGENCIO-TURNER:** We know that health professionals are among the most trusted profession, especially when it comes to climate change and environmental health. Being able to talk about these subjects in the context of medical care or with colleagues, or even just out at the gas station on the streets, chatting with friends and neighbors.

Having the badge as a conversation starter —that physical badge there to start the conversation — being able to say scan here to find out more. And it takes the patient, or whoever you're talking to, to ClimateRx.org, which has peer-reviewed information, all very focused on solutions and actions around climate. So not the doom and gloom. Not the panic information. But what you can do to protect your health and to protect your family's health and the climate for health.

**Ambassador training goes beyond education to include advocacy. So, can you share examples of how ambassadors have turned their training into real world action?**

**FULGENCIO-TURNER:** Absolutely. So, one example is having health professionals show up at, well, school board meetings to talk about the impacts of diesel exhaust on children's health and well-being and educational attainment. It's a great way to advocate for things like electric school buses or even for policies that don't allow idling next to drop-off and pick-up areas. So, these are things where you don't need to go out and get arrested on the streets or be a full-time protester.

It can be helpful to have a white lab coat and a stethoscope, but even just talking about this as a health priority not as a big political or polarized issue, but about the immediate health concerns of your community, is a great way to connect and drive real action.

**APHA has a heat education training planned for July. Could you talk a little bit more about that?**

**FULGENCIO-TURNER:** Yeah, we are so excited about the extreme heat training that we are launching in July with the APHA. So this is aimed to be accessible to just about anyone — to clinicians, to public health workers, to bystanders and community members. And we are giving both clinically relevant guidance on how to assess what does a patient or a person on the street, how do they present when they are in heat distress. What are those vulnerable populations that face the highest risks from heat-related conditions?

Then moving on to not only how do you respond to those individual cases, but then also, what are the systemic solutions to this? How can we change systems and policies to reduce risks, to help to identify and support people who are facing those risks, and ensure that we minimize the number of heat deaths.

Heat is the most dangerous, most deadly weather related health risk, and almost all of those deaths are preventable. So being able to connect people with resources and tools from prevention to identification and awareness and support is really important in saving lives.

**Thanks to each guest for their work. To RSVP for Climate for Health's July 24 extreme heat training with APHA, visit [apha.org/calendar](http://apha.org/calendar)**

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