

DNA: Discoveries in Action Season 3 Episode 6 Transcript

Eva Parker: Climate change is impacting human health significantly, globally, locally. It affects every human being and it disproportionately affects vulnerable and marginalized populations.

Kelsey Barter: Both of us that are wanting to take care of kids as they grow and develop, that can't be accomplished without thinking about how the climate is going to affect kids' ability to grow and develop over the next 30 years over the course of our careers.

Barrington Hwang: I think about there's things that we can be doing on an individual level. If you're not going to at least think about the climate, then you're probably not going to get involved on some systemic level to try to change that.

Clark Buckner: Welcome to the second chapter of season three. This season's all about exploring the intricate yet direct relationships between our world and our wellbeing. In the next three episodes, you'll meet nine experts who are forging creative ways to influence how the people around them, from colleagues and strangers, to patients and their families, interact with the reality that climate change is here, and it's already impacting our wellbeing.

Hold onto the reins of that eco anxiety if you have it. This isn't entirely gloom and doom. Our guests are getting real about their work and giving you clear pointers on how you can be part of the solution, whether you're in healthcare or not.

You're listening to Discoveries in Action. It's all about the big ideas and breakthroughs happening at Vanderbilt Health. I'm your host, Clark Buckner. Now let's jump in.

Eva Parker: Hi, I'm Dr. Eva Parker. I'm an Assistant Professor of Dermatology and core faculty in the Center for Biomedical Ethics and Society here at Vanderbilt University Medical Center. I'm also an Associate Editor of the Journal of Climate Change and Health. I'm a member of the International Society of Dermatology's Committee on Climate Change and I co-chair the American Academy of Dermatology's Expert Resource Group on Climate Change and Environmental Affairs. Last September, 233 medical journals globally published a call to action on climate change and healthcare. And unfortunately not a single dermatology journal published that editorial, but it was widely published by journals like The Lancet and New England Journal of Medicine. And I felt that that was a real missed opportunity for dermatology to not step forward and lead on climate and health issues.

And so my colleague and I, Marcus Booze, and he and I both are on the executive committee for the American Academy of Dermatology's Expert Resource Group on Climate Change and we also both sit on the Committee for Climate Change for the International Society of Dermatology, and he and I have worked together on a few projects. So he and I hatched a plan that we would write our own editorial echoing that sentiment and approach editors of dermatology journals to see if they would publish it and that's what we did. And it was published

in four dermatology journals, which I'm very proud of. And I'm really honestly most thrilled that those editors recognized the importance of this topic and did what no journal has ever done in dermatology, which is collaborated with other journals to publish the same piece.

And I think it really underscores the fact that we're having... that there's more attention being paid to climate change and health, not only in medicine, but specifically in dermatology. And part of the impetus to write that in addition to wanting dermatology to step forward and lead was, as I mentioned earlier, I really think it's important for dermatologists to be climate literate because of how environmentally sensitive the skin is. If a patient said to me, "I'm worried that climate change is impacting my health, can you help me understand how it may be?" I would love to have that conversation with a patient.

Clark Buckner: If you've been a regular listener of DNA, you heard Dr. Walter Clair in this season's "Shapeshifters" say that climate change, in his mind, is a bigger threat to society than racism.

Walter Clair: When we think about climate change, which I believe is a greater threat to humanity than war and racism, because all of us are subject to it.

Clark Buckner: Even before that, in season two, "The Climate is Us" episode, introduced the myriad ways environmental changes, well, shape our health and wow, have we seen jaw-dropping news in the last year that has shown us what shaky ground we're on. A projected heat belt in the US that includes most of Tennessee, storms that displace people and impact supply chains and a heat wave phenomenon pushed temperatures to record setting numbers across the globe.

Eva Parker: Climate change applies pressure on existing diseases and existing resources and amplifies disparities. And so we see things like children, elderly patients and pregnant women being disproportionately affected. In the United States, those of lower socioeconomic status and people of color are disproportionately affected by climate change. Globally, those residing in the global south in low and middle income countries are incredibly disproportionately impacted by climate change. And so what we see is those that produce the least amount of greenhouse gasses are disproportionately impacted by the effects of those greenhouse gasses. And I think with COVID, there was a huge spotlight shown on health disparities and if it isn't apparent now, it's going to become increasingly apparent that climate change is just going to exacerbate those existing disparities.

And so you can't have a conversation about social determinants of health in 2022 without also talking about impacts from climate change. They're intimately connected and planetary health is human health. So 100%, this is the lane of physicians, it's the lane of many sectors, but no physicians should shy away from talking about climate change and impacts on health. And it's not just the health of our patients, climate change impacts the healthcare sector, our ability to actually deliver care. There's been so many hospitals, nursing homes and clinics that have been

destroyed by extreme weather events. So you have impacts on infrastructure and our ability to provide care to the community. The same time, think about a tornado or a flood wiping out people's homes, their medications are lost, they have no clean water, they have no electricity, expensive medications that may have to be refrigerated could be destroyed, their medicines could wash away, cars may be upside down and destroyed, people have no ability to access care and they may have no telecommunications to even call into the doctor or text the doctor.

And so it really is... climate change really does impact not only patients' ability to access care, but our ability to deliver care. We're also seeing climate change impact supply chains globally because of this repeated... the repeated extreme weather events that are damaging infrastructure, these billion dollar disasters that are just steadily on the rise. We're seeing things like real estate be devalued and when you have disruption of supply chains, economic pressures, devaluation of real estate, you begin to see that we're on shaky ground. And those sorts of things can impact institutional financial security and stability. And so it's not just us talking about health, it's talking about how this impacts our entire sector and our ability to deliver care.

Clark Buckner: Grasping the bigness of climate change is challenging for many. Because of its scope and size, it always seems to be happening to other people in other places. What does it really have to do with you? Sometimes it takes knowing what to look for to see it, and then once a few glimpses flash before you, it can be hard to unsee all the ways it could impact you, me, our neighbors, our jobs and our future generations. Dr. Parker describes her realizations along the way in clinic.

Eva Parker: It was probably about a decade ago that I began to start making connections with my own observations in clinic because when I was in environmental science, we didn't really talk at length about health connections and environmental impacts and specifically climate change impacts on human health. I think not much was understood in the early and mid nineties when I was studying that. And as a dermatologist and with the skin being such a large organ and a primary interface with our environment, many diseases of the skin are actually climate sensitive. And so it's something that dermatologists see every day in their clinic, whether they put the pieces of the puzzle together and make the connection back to climate change is something I'm working on because I want our dermatology workforce to be climate literate. But what I began noticing, especially when I moved back to Nashville in 2010, and I grew up here, so I noticed that it was so much more hot than it used to be when I was a kid and the winter was short.

And there was no snow. I have all these great photos of my brother and I in the seventies sledding, building snowmen here in Davidson County and we just don't get snow like that anymore. And so I started noticing that the climate was different and at the same time I was noticing that I was pulling ticks off of patients much earlier in the year and I was noticing worse cases of poison ivy than I had ever seen. And I also was noticing that many of my patients had year round seasonal allergies and their allergies were much more severe and they would comment that their allergies seemed to be worsening over time and that would tie back into their

eczema flares. And I began to realize that all of those things relate to increasing CO2 in the atmosphere and rising global temperatures.

So doing full body skin exams, it's not uncommon that I'll find a tick on a patient and they don't realize it's there because the nymphs are so teeny and if the tick has recently latched on that site may not be red yet and it may not be itchy yet for the patient. And so especially if it's early in the year or late in the year, I will not only pull it off, but I will broach the topic with the patient and say, "The ticks are getting worse and worse because of climate change and because of global warming." And I'll often then also talk about the fact that ticks carry many diseases and we're seeing expansion in those diseases in increased cases because of climate change. And my patients are really honestly very fascinated by that. They're interested because it's something that they number one can relate to, and number two, it impacts them and their families. And then we talk about strategies to protect themselves from tick bites and so it's a really easy conversation to have.

The other thing that I broach frequently with patients is the topic of heat, and I think that's apropos for today since we're having a heat wave out there, and understand that skin plays a major role in thermo regulation. And so heat related illnesses fall well within the scope of dermatology. And so many of the things that patients can do to protect from heat are also the same sorts of strategies they can take to protect from sun. So for example, doing outdoor activities early in the morning, staying in the shade and wearing long sleeve sun protective clothing and broad brimmed hats and sunglasses. Those all protect from UV, but importantly, they actually help to minimize heat effects. And so it's an easy way for me, especially in older patients who are going to be more at risk or patients who are on medications that may alter their thermo regulatory capacity, it's really easy for me to combine heat and UV related counseling.

Clark Buckner: Dr. Parker sat down for this interview just days before she boarded a plane to fly across the pond to London. She's spending a few months getting an additional certification at London School of Hygiene and Tropical Medicine. If tropical medicine is not something you're an expert in, that's okay. Since most of our listeners don't live around the equator, Dr. Parker will explain more about that. What's fascinating to me is the fact that people, whether you're a provider or a student or podcast host like me, have to really take it upon themselves to learn more about climate change, to find the credible sources, to take the initiative to brush up on the facts and science, and best practices on how to live with smaller footprints. I didn't learn much about this in school and I'm guessing neither did you. First, let's go back to Dr. Parker, then you'll meet our next guests.

Eva Parker: So tropical medicine is very broad, but when you look at many tropical diseases, the majority have dermatologic manifestations. So there's a whole subset of dermatology called Tropical Dermatology that deals with these diseases. And the World Health Organization has started devoting greater attention and resources to neglected tropical diseases. And more than half of those are actually neglected tropical diseases of the skin. And so there's a large nexus and overlap between dermatology, global health and tropical diseases. But with my interest in

climate change, what we're seeing is that many vector-borne diseases that have been most commonly transmitted in equatorial regions are now being transmitted in more temperate regions. And we're seeing range expansion of those vectors and spread of those diseases. So malaria is actually a great example. Many people don't realize that prior to World War II, malaria was endemic in the southeastern United States in regions like Florida, but it was eradicated. And while there's a handful of sporadic cases that do still occur in Florida in the United States currently, likely with climate change and warming temperatures, we're going to see increasing endemic transmission of malaria. So we may see a resurgence of that disease here in the United States.

Kelsey Barter: Hello, my name is Kelsey Barter. I'm a fourth year medical student here at Vanderbilt, and I am in the middle of applying to residency to become a pediatric neurologist.

Barrington Hwang: I'm Barrington Hwang. I'm a first year of child adolescent psychiatry fellow at Vanderbilt University Medical Center Psychiatry Department. I know something that directly affects our medical education, especially as there's increasing temperatures generally across the globe, is that not just related to mental health, but other forms of health too. Vector-borne diseases are now in different areas than they used to be making our medical textbooks that we learned about incorrect. And so our education system needs to not only stay up to date on what that looks like, but be relevant for future generations to benefit from that too.

Kelsey Barter: Over the course of my four years in medical school, the conversation about this has completely changed. I felt like when I came in as a first year medical student, there was no one that I was connected with in the institution that was really outwardly talking about climate change and health issues. And I felt like I really had to seek people out to find people that were willing to engage on that topic. And what's really interesting to me is that this is not something that the traditional medical literature has ever really covered. So there's no kind of body of work for people to reference and it is really just this new thing that whether you're a medical student or you're an attending or whoever, people are kind of having to venture into uncharted waters to explore this topic of climate and health. I'm in the process of applying for residency programs and that's one of the first things that I try to look up about a certain institution is whether they have a webpage that talks about their hospital or their institution's sustainability efforts. And it's pretty hit or miss.

Clark Buckner: Humans can experience many emotions at one time. It's a hallmark of the human condition and a complexity that's sometimes overlooked in medicine, as we heard Dr. Keith Meador talk about on "Shapeshifters." To love and grieve, to be excited amid darkness, that's part of life. That friction can be hard to navigate, and we're certainly seeing it with climate change. The will to survive, the yearning to thrive, the appetite for action can sit alongside feelings of despair and overwhelm. My younger friends, and especially the kids, are very aware of the fragility of our environment. Eco anxiety is a piece of what's fueling the mental health crisis in youth as Dr. Meg Benningfield talked about on the Producer's Cut, and "Reading, Writing and Anxiety," but it's not an either or situation, according to Dr. Hwang.

Barrington Hwang: There's some places that have had natural disasters across the world where the environment, people's physical homes have not recovered, and so what is acute becomes chronic. And so realizing that how climate is changing, that sort of "aha" or "oh no" moment can be really discouraging. I think it can be really difficult, I think, finding sources that help people become resilient. Another framework that I think about in 2020 in the *Psychodynamic Psychotherapy Journal*, one framework that I really appreciate is climate dialectics and the sort of five particular climate dialects that they argue for are climate reality and social reality, individual agency and collective agency, hope and hopelessness, certainty and uncertainty, and nature's comfort and nature's threat. And I guess I say the word "and" as opposed to versus it's not hope versus hopelessness, you can have both hope and hopelessness at the same time to really paint this picture of two opposing ideas can be true, this dialectical thought, and still be okay.

Kelsey Barter: Yeah. I think everything that you articulated so well is very relatable about kind of having uncomfortable thoughts and that relates back to the original question of how do we feel on the cusp of a career in medicine knowing what climate change is going to bring in the next 30 years for the health of the patients that we're going to serve? And I think for me, there is a lot of... I sometimes do feel afraid and anxious, and then sometimes I feel hopeful too. I have some of these just totally fantastic role models in my field and in other fields of medicine that I admire, and yet I see how their generation of doctors has never really put much thought into issues about climate change.

I think one of the readings that we did very early on in the semester long class about climate change and health was about kind of thinking about climate change from a systems based perspective and as a complex system. It's basically the idea that climate change is too complicated for any one person to completely understand it and all the effects of it, and so we all live within our own bounded rationality of what we have the capacity and the training to pay attention to. So for most people in the healthcare field, our bounded rationality is with what happens within the walls of the hospital and it's like looking at the patient in front of us, treating the patient in front of us. It's not, "Oh, what's the carbon footprint of all the supplies that the hospital is getting from particular suppliers?" That's just outside of our bounded rationality. No matter how excellent someone is as a physician, that's not information that we're trained to attend to at all.

Clark Buckner: But what does all this mean for the treatments we get?

Barrington Hwang: Yeah, I think about all generations being a part of taking care of our global earth. I remember when I was in San Antonio for medical school, I remember thinking about for patients with bipolar disorder, there are certain medications you prescribe, I guess in this case it's lithium versus Depakote. And so one example is, given San Antonio is in the middle of Texas and sometimes it's summer and really, really hot, some of the residents would bring about... one of the medications, lithium, something we want to prescribe because if someone gets

dehydrated and toxic in their blood levels off of that, that can have a lot more consequences. Whereas the medication like Depakote has a lot more of a range for therapeutic before you get to toxic level. And so some of those individual decision making things can happen and they should be happening.

Eva Parker: I think what we'll see is that things like the brain, the lungs, the heart, the kidneys and the skin are probably going to be the organ systems that are hit hardest by climate impacts and air pollution. And keep in mind that the skin is unique in that not only does it have its own set of diseases, but the skin also displays the manifestations of systemic disease. So I can diagnose kidney disease, thyroid disease, heart disease, lung disease, other types of diseases, diabetes even, by findings on people's skin. And so I think that we'll see that the skin really does play a major role in how our bodies respond to climate change.

Clark Buckner: So what can an individual do?

Eva Parker: I think if you're interested in this topic or worried about this topic, the first thing you can do is increase your own climate literacy and begin to talk about it with your patients and with your colleagues. And if we want to improve the health of patients and really dig deep into how we can adapt to climate change and how we can be more resilient and help our patients and our communities be more resilient, then we really do have to step outside of our own small box.

And so if I just stayed within dermatology and just spoke to dermatologists about this topic, I think I'd really be walking through this with blinders on. It's so essential for us to have cross-cutting solutions, for us to be wildly ambitious in how we approach this problem and really be intrepid, fearless, and the only way we can do that is to start talking to our colleagues in other specialties, and I think more importantly in other sectors. I think our lawyers and policy makers, I think our economists, our engineers, our environmental scientists are so important to fold into this conversation if we want to have effective solutions.

Clark Buckner: This season of DNA is all about experimenting with new ways to spark discussion and collaboration. And we have a big first we'd love to have you be part of, we're hosting two hybrid Twitter Spaces live chats about climate and health on November 13th and 14th, 2022. Some guests will be live from the AAMC conference in Nashville, others will be joining from smartphones. Follow @VUMC_Insights on Twitter for details. We're looking forward to seeing you in the audience. Until then, check out the next episode on November 7th and check us out on listendna.com.

Until next time. Vanderbilt Health, making healthcare personal. As a reminder, Vanderbilt Health DNA, Discoveries in Action, is an editorialized podcast from Vanderbilt Health that isn't meant to replace any form of medical advice or treatment. If you have questions about your medical care or health, please consult your physician or care provider.