

## Podcast transcript: Incorporating the Environment into Maternal and Child Health Care

### [Theme music]

**Ashley Ahearn (AA):** You're listening to Environmental Health Chat – a show from the National Institute of Environmental Health Sciences that explores the connections between our health and our world.

### [Music fades out]

I'm Ashley Ahearn.

In a way, physicians, general practice doctors, and nurses are on the front lines of our understanding of environmental health risks in many communities.

The family pediatrician is often a trusted resource for questions from “Does my child have asthma and, if so, what might be causing it?” to “Is it safe to drink the water from my tap?”

When doctors and nurses meet with patients, they're providing care and answering questions, but they're also gathering anecdotal data about the perceived risks and concerns people have about how their environment may be affecting their health.

You might think of them as environmental health researchers... though there aren't many of them who have the time to conduct rigorous, peer-reviewed studies on top of treating their patients.

NIEHS empowering more health care professionals to build their skills in environmental health research and strengthen their understanding of how the environment may affect their patients – pregnant women and children in particular – by supporting the P-R-E-H-S program, that stands for Pediatric and Reproductive Environmental Health Scholars.

Dr. Lisa Thompson directs this program at Emory University in Atlanta, where it's called the SEED program. She's a professor of nursing and environmental health at Emory. She's also a registered nurse and family nurse practitioner who has worked in underserved communities in the U.S. and abroad.

**Lisa Thompson (LT):** People that have worked in practice have heard things over and over again from their patients. But it's actually when you go through the process of methodically collecting data, analyze, and then report on it, that you really get a full picture.

**AA:** Through research experiences and coursework, the PREHS SEED program teaches pediatricians, obstetricians and gynecologists, and other health care professionals about the many interactions that occur between children, pregnant women, and new mothers and their environment.

The program is a collaboration between Emory University and the Morehouse College School of Medicine. SEED helps address regional environmental health disparities through a partnership with the Southeast Pediatric and Environmental Health Specialty Unit, which is a network of experts in reproductive and children's environmental health.

**LT:** We have to look historically at where we are located. We're in the Deep South. And this region bears the shame of some of the poorest outcomes and health in the U.S. because of inequities that started way back when and have been compounded by a history of systemic racist policies. So, I think that we have to consider the southeast as a very important target for reducing environmental disparities.

**AA:** Across the U.S. more broadly, communities of color are disproportionately exposed to various kinds of pollution – be that air, water, or soil contamination. Climate change adds another layer of environmental health factors, such as extreme heat – especially in urban centers, like Atlanta.

**LT:** It's often referred to as Hotlanta. But it's also called the city in the forest. And that's because it has an incredible tree canopy. But what's happened recently is we've had a lot of construction of high-density housing. And we're losing this canopy as a result of that. So, this increases our urban heat island effect, temperatures are increasing, we're losing our shade canopy, and the poorest and hottest areas in Atlanta are losing these tree canopies, and facing hotter days. And these are generally where Black and brown people live.

**AA:** The SEED program currently has four scholars pursuing four different projects that combine their clinical experience with environmental health research, with the goal of reducing health disparities in the Southeast.

**LT:** I'm so excited about recruiting clinicians and then providing them the dedicated time to take courses in environmental health and broaden their research experience to actually allow them to ask bigger questions.

**AA:** Dr. Thompson is excited about all her scholars, but for this podcast, we'll be featuring Dr. Belise Livingston-Burns. She just recently started the SEED program. She's an assistant professor in the Department of General Pediatrics and Adolescent Medicine at the Emory University School of Medicine and she directs the primary care clinic at the Children's Healthcare of Atlanta Hughes Spalding Hospital.

Dr. Livingston-Burns loves caring for people. Her mother says that back when she was just a little girl, six-years-old, she knew she wanted to be a doctor.

**Belise Livingston-Burns (BL-B):** I'm a pediatrician, and that was really an easy choice for me. I've always loved working with children. So, where some of my friends might have wanted to go out, I loved babysitting [laughs] my younger relatives. So, I've always loved being around children and taking care of children.

**AA:** After medical school, Dr. Livingston-Burns practiced in a medically underserved region of Southwestern Georgia. She says she saw environmental health disparities firsthand.

**BL-B:** I did see how climate change and environmental health factors were affecting my patients disproportionately. And so that's what got me interested even more so in environmental health and climate change.

**AA:** But there was what you might call a watershed moment in Dr. Livingston-Burns's career. When the public water crisis in Flint, Michigan made national headlines, she took note. It was another example of a public health disparity – residents of predominantly African-American parts of the city of Flint were being exposed to high levels of lead in their drinking water.

But there was a twist to the story that grabbed Dr. Livingston-Burns: It was a physician – Dr. Mona Hanna-Attisha practicing there in Flint – who first sounded the alarm...

**BL-B:** When I saw that, that was so inspiring to me, that a pediatrician just in her everyday work, what she was doing with her patients, she was able to see how it was affecting them negatively and just really make sure everybody saw that it was a public health crisis. And so, water crises in cities in Flint, Michigan, Jackson, Mississippi, they all highlight the deeply rooted systems of oppression that are really pervasive in disadvantaged communities.

**AA:** Dr. Livingston-Burns says these water crises made many African-Americans wary of drinking tap water.

**BL-B:** When you see places like Flint, Michigan, or Jackson, Mississippi, and you see the people being affected look like you, it can definitely lead to distrust in the water that's coming out of your faucet.

**AA:** And, unfortunately, if people move away from drinking tap water and instead buy bottled water, that can lead to drinking other bottled beverages...

**BL-B:** Ones that pediatricians really try to get their patients not to drink are the sugar-sweetened beverages, which can definitely affect two areas of health disparities that I see in my practice, mainly childhood obesity and periodontal disease.

**AA:** Dr. Livingston-Burns wanted to take her observations to the next level. She wanted to study what was going on here. Were disadvantaged communities more likely to mistrust their public water supply, consume more bottled beverages, and suffer adverse health outcomes as a result?

Now, as a SEED Program scholar, she has funding from the NIEHS for two years to dive into the research to try and answer these questions.

**BL-B:** Research is actually very new to me. The majority of my career has really involved clinical experiences. And so that's what's so wonderful about the SEED program is that it really allows someone like me, who doesn't have that research experience to get that training.

**AA:** Dr. Livingston-Burns will do a cross-sectional study with 150 participants. All participants will complete a questionnaire first to assess their baseline beverage choices. Then, they'll be divided into three arms – with 50 participants in each arm.

**BL-B:** The first arm will just get the routine anticipatory guidance that we would give to anyone at their well child visit. The second arm, we're going to give them enhanced education just about water safety and quality. How can they find out if their water is safe? Again, we're not saying their water is not safe. But do they have the tools? Do they know how they can find out if the water is safe? And then the third arm, what we would like to do is give that education plus provide a water filter to see if the education alone makes a difference or if it takes that extra step of the education plus having a water filter.

**AA:** And then, to evaluate the effectiveness of these interventions, Dr. Livingston-Burns will conduct a follow up questionnaire to see how people's beverage consumption patterns may have changed after participating in the study.

**BL-B:** I love educating my families and my caregivers. And definitely educating my patients you know, on their level, about what they can do to remain healthy. So even like a five-year-old, I'm talking to them, you know about the importance of drinking water instead of a sugary beverage. And they can understand those things. And as you're having these discussions, I do think sometimes seeing someone that looks like you, talking about these things, can sometimes make you feel more comfortable sharing your anxieties or sharing your distrust. And so, I try to, for all my patients, just make them as comfortable as possible, let them know that they can share their concerns with me, and so just that level of rapport and trust, I think is so important.

**AA:** For Dr. Livingston-Burns, transitioning from being a physician to being an environmental health scientist was a natural progression in her career. She says even back in medical school she was curious about how the environment affected people's health.

**BL-B:** They didn't really focus on environmental health or climate change, but I had professors who would just talk about things that really were, when I look back, related to environmental health – talking about asthma, talking about things like COPD, talking about how certain groups were more affected than others based on their exposures. And so just recognizing that different exposures could lead to a variety of health outcomes, and that there were often disparities with regard to those health outcomes, I think environmental health was just embedded in a lot of what we were learning, although they did not call it that, and it was not officially a part of our medical school curriculum.

**AA:** Now, she says that's changing and she hopes more practicing physicians consider environmental health factors that may be affecting their patients and try to take a more holistic view of how best to diagnose and care for people, especially in underserved communities.

For Dr. Livingston-Burns – no matter how many studies she conducts, or papers she publishes – it's all about her patients.

**BL-B:** My patients are amazing. Even if I'm having a rough day or I'm tired, when I walk into an exam room and I see a little person and they run up to you and give you a hug or they say “what are you going to do to me?” Or they're trying to play with your stethoscope or pulling on your white coat or pulling on your arm. It truly just gives me life. It gives me energy. And so I love having conversations with them. When they're asking me questions like, “How can I make this safer for my child? How can I do this? Or what do you recommend in this situation?” I just love those doctor-patient interactions and forming those relationships that build over time. I think that makes a difference. And I think as you're looking at health disparities, you want to see, what can you do to educate people on the problem, because before you can really go into the intervention, you need to make sure that people are on board and get buy-in. And I just think representation matters with that. And so being a part of a community that has been marginalized, I think it is so important for someone like me to come back and give back to my community.

**[Music comes up]**

**AA:** I'm Ashley Ahearn. Thanks for listening to Environmental Health Chat.