

## Renee Salas, MD, MPH, MS, on intersection of health and the climate crisis

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AMA's Moving Medicine video series amplifies physician voices and highlights developments and achievements throughout medicine.

### Featured topic and speakers

In today's episode of Moving Medicine, AMA Chief Experience Officer Todd Unger discusses research on the intersection of health and the climate crisis with Renee Salas MD, MPH, MS, a climate and health expert and emergency medicine physician. Dr. Salas was elected to the National Academy of Medicine in 2021 for her work on climate change and health and shares insights on what physicians need to know about this critical issue.

#### Speaker

- Renee N. Salas, MD, MPH, MS, climate & health expert, emergency medicine physician, Harvard Medical School

### Transcript

**Unger:** Hello, this is the American Medical Association's Moving Medicine video and podcast. Today we're joined by Dr. Renee Salas, a climate and health expert, and emergency medicine physician who's calling in from Harvard Medical School in Boston.

Dr. Salas was elected to the National Academy of Medicine in 2021 for her work on climate change and health. And today, we're going to discuss what physicians need to know about this critical issue.

I'm Todd Unger, AMA's chief experience officer in Chicago. Dr. Salas, thanks so much for joining us. Boy, we're usually talking about COVID these days, climate change, very different topic of discussion but one with critical importance right now. And that's where I'd love to start. We're in the middle of a pandemic but why should we be thinking about the health effects of climate change at this point in

time?

**Dr. Salas:** Well, first off, it's an honor and privilege to be here, and thank you for highlighting this topic.

So, first and foremost, I recognize what we've been dealing with is enormous, but climate change has been and will increasingly be harming the health of our patients. So fundamentally, it is making it harder for us as physicians and other health professionals to do our job, which is to protect health and make sure we can prevent harm and accelerate equity. So it is fundamentally tied to what we do. And climate action is a prescription for improved health and accelerated equity.

**Unger:** I mean, I think a lot of people think about climate change as something that's been occurring for a long time and it's kind of out there in the future. True or not true?

**Dr. Salas:** So, climate change is here and now. And one way I think about it, is that it is a threat multiplier, meaning that it makes other things worse that are already happening. And it's a meta problem, meaning it's underlying these other things.

So, it is already touching everything that we care about, both in our personal life and our professional life. Which is for any photographers out there, I like to think about it as adding a climate lens to everything that we do, meaning we need to look at everything within health and health care delivery, to understand how it's impacting things now and will increasingly so in the future.

**Unger:** Where do you see that impact, the now of that impact? Most acutely, I mean, we're reading about fires. I think, Colorado. I mean, there seems to be so much being driven by climate change right now. Where do you see the key impacts on health?

**Dr. Salas:** I see it in two big buckets. And I think one of those is how it's impacting health. And there's the really direct in our face impacts. Like, as you noted, as we scroll through our headlines recently, we see the impacts on heat and extreme weather events like wildfires.

The Pacific Northwest heat wave, which happened in June of 2021, was deemed to be virtually impossible without climate change. And it reached upwards of 116 degrees Fahrenheit in Portland, Oregon.

Now, this caused ed visits. Again, my home territory and where I have colleagues working, we're 70 times higher during that time period than compared to 2019. And in addition, we think about ways where it's a little bit less in your face. So, there's also the insidious or sort of indirect impacts.

For example, climate change is making pollen seasons, actually 50% longer, which has significant implications for our patients with allergic conditions or asthma.

And that's frankly broad, it really goes across. In addition, there's food and water impact, vector-borne diseases, social factors like displacement. And then there's also the health care system disruptions, where it's actually impacting everything that we care about for high quality care, like access and cost and quality. And if we think about ways that it's impacting infrastructure or causing power outages or having implications in the sub supply chain, that is another big bucket that has significant implications. And we've seen some of the strains on our health care system with the COVID-19 pandemic.

**Unger:** I'm so interested and intrigued by the intersection of your experience in training and your research, which is kind of at that intersection of health, health care and climate change. You're also the lead author on a key U.S. policy report published by the Lancet last year. And which you talked about how the pandemic exposed areas that need to be fixed in public health systems in order to address climate crisis. Will you tell us more about that?

**Dr. Salas:** So, we have seen with the COVID-19 pandemic, that the public health community and the medical community, we are intertwined into one, and our fates are interconnected. And so, that really strives to take that approach and really talk about how with the COVID-19 pandemic we've seen, that we need have a robust public health system to prevent patients from walking through the doors of our hospitals in the first place. And it's the same phenomenon with climate change.

And it's hard, right? You think about all of these different aspects but the thing is these are all interconnected. And so, whether we are trying to better prepare our clinicians or our hospitals for the next challenge, whether that's the next pandemic. Again, God forbid, versus the increasing exposures of climate change. If we can add each of these perspectives and again, add multiple lenses together, we can actually come up with interconnected solutions that can make us more prepared for whatever is to come and actually rise above multiple problems at once.

**Unger:** I don't think folks may have thought of climate change in that public health connection. Certainly, just another thing on the list that the pandemic has exposed. And what's interesting too is, the role now that physicians need to assume, it's kind of another thing to think about, about how they can take a more active role and need to take a more active role in climate change. But what is a physician or a hospital or a health system to do about it?

**Dr. Salas:** Well, first and foremost, we have to see those connections. We have to see how climate changes directly and sometimes indirectly insidiously, really threatening the very tenants and fundamentals of why we do what we do.

I often tell residents that as long as we're putting the patient first, we are doing the right thing. And so, we have to put the health of our patients first. And we recognize that not all patients are equally harmed by climate change, and that there are certain populations that are inequitably harmed, whether that is because of age, because of young and old or if it's because of patients that have health inequities due to structural racism.

So, all of these things really point out that we have a unique opportunity, and I argue responsibility to recognize it, to talk about it. We have been shown to be trusted messengers at delivering this message, even to people who maybe have other views around why we're seeing the types of events that we're seeing. But the impacts are still the same on health and our importance to protect them.

And then third, is really to begin to connect and incorporate that within your own practice, find like-minded people at your institution, talk to your leaders about it and then really go upstream and make sure that you're talking to policy makers so we can really get upstream to the root cause.

**Unger:** You talked earlier about the photographic lens. I loved your example there. What about, how does a physician or an emergency medicine physician apply a climate lens, when you think about the work that comes through, say an emergency department?

**Dr. Salas:** So, I think one other way I'll share, this sort of also incorporates the last question a bit and leads into this one. Is, to be able to see it, we have to make the diagnosis. So for example, I had a patient come in who was a young girl who was suffering her third asthma attack that week. So her third visit to the emergency department.

And I'll never forget that her mom looked at me with just this immense sense of feeling overwhelmed and helpless and said, "I'm doing everything the doctors are telling me, what am I missing?" And I was struck also with, what was I missing as a clinician?

And I think we were doing all of the practice patterns right. As far as looking through the way that her outpatient providers had done it and my colleagues had provided care. But when I actually dug into it more, we saw that the pollen levels, again, driven by climate change, 50% longer seasons had been enormously high.

In addition, she lived in an area where she was predominantly exposed to more air pollution than other people around her. And I think, we have this vision that when we pull, at least this is how I view it, that I'm pulling patients out one in a time in the emergency department but then I'm running upstream in order to try to prevent patients from falling in, in the first place, with all this other work that I'm doing.

And when I get upstream, that's where I see the burning of fossil fuels, which is again, generating the air pollution in addition to driving climate change. So, once I realize that I'm really running along the same river, whether I'm talking to you about climate change or working to shift in the emergency department, once we see that, we actually see how this is all interconnected and fundamental to our mission.

So, I want to share that first and foremost. And then I think secondly, just to get to the climate lens, it's sort of that same idea, that depending on where you live, you look to see where those geographic exposures are for climate change. And then look to see, based off your particular specialty and your

local practice environments, and start to add a climate lens to triage. How could we do a flag with an EHR in order to see and identify when we should be looking for heat related illness, for example. Or also flagging people in regards to identifying vulnerable patient and figuring out if we need to counsel them on medication use or if they're at high risk for other exposures. So those are just some examples.

**Unger:** Well, you've leveraged so many channels, public forums, articles, podcasts, even testifying before Congress to make sure that you're heard on this issue.

Why is a physician voice so additive to these discussions, and given this, should physicians be learning about climate-related health issues in medical school? Where do they get the training for this? How do you think about that?

**Dr. Salas:** Well, to continue that analogy of the river, we have to recognize that we're all running along the same river and it's all like an interconnected these issues.

So first and foremost, we recognize that we are trusted messengers. And again, it's connected fundamentally to our oath in order to counsel patients about climate change and to recognize that it is a prescription for health and advanced equity, by running upstream and thinking about how to reduce the production of greenhouse gases from fossil fuels, for example.

So, it has to be incorporated into medical education. We cannot appropriately train physicians of tomorrow without them understanding this rapidly changing landscape. And it can be overwhelming, right? You're thinking, how do I add yet another thing to an already overwhelmed medical curriculum? But again, it comes back to that climate lens. You're already learning about the pathophysiology of asthma. So just add another slide or two, or add a learning objective and problem-based learning, that allows the learner to recognize how climate change is impacting that condition that you're talking about.

And we also, we not only need to train the next generation, we also have to recognize that we have to start to make really rapid educational advances for practicing clinicians. So as vector-borne diseases become more prevalent in different parts of the country, how can we start to rapidly educate doctors that maybe are not used to seeing Lyme disease or other vector-borne illnesses?

**Unger:** In that letter case, we've talked a lot to Dr. Peter Hotez and he has this kind of the wheel of pandemic inducing things, and climate change is clearly one of those for that, that very reason that you bring up there with, we're seeing all sorts of new vectors and for longer in different parts of the world.

I mean, this is enormous challenge. Big picture when you kind of look ahead, where do we focus our efforts to have the greatest impact in the coming years?

**Dr. Salas:** I think about a patient who is critically ill and we've all seen them at one point in our careers. And when they are critically crashing, we recognize that there are time sensitive interventions that we have to intervene on right then. And if we administer them even a minute or a couple minutes later, it may not have the same impact. So we are at that critical moment right now for climate change.

And as we think about who is most optimally poised to really catalyze this discussion and make climate change personal, it's the health profession. Because we see how it is impacting our patients and making it harder for us to do our job.

So, as I think about the impacts, we have to run all along this stream. And we think about things holistically all the time, whether we administer a medication but we have to think about how it's going to impact other conditions that people have or what the other impacts or implications will be.

Sure, this is come complicated, but we need that multidisciplinary approach, which we are well versed in, in medicine. And we need to approach this along all aspects of the river and working with our colleagues. So we can do this and we as the health community, we are optimally poised to do it.

**Unger:** And there really is a unique place for physicians to fit into this discussion and nothing more personal than your own health.

Dr. Salas, thank you so much for joining us today. That was incredibly interesting. I know our audience is going to be paying a lot more attention to this in 2022 and beyond. And I appreciate all of your insight here and look forward to more of your work.

We'll be back soon with another Moving Medicine video and podcast. And remember to click 'subscribe' on AMA's YouTube channel or wherever you listen to your podcasts, find all of our videos and podcasts at [ama-assn.org/podcasts](https://ama-assn.org/podcasts). Thanks for joining us. Please take care.

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