



Season 5 Episode 2b
Climate Change, Climate Justice, and Healthcare
A Beginner's Primer, Part 2

Transcript

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Clean Air Saves Lives
Don't light things on fire and breathe them in.
...this means tobacco, diesel, wildfires and more...
— Erika Moseson, MD

"We in health and medicine have an obligation to act, and to start treating climate change as the public health crisis that it is. We have a duty to advocate for health and equity to be at the center of climate change planning and policy."

-Victor Dzau, MD (2021 Annual President's Address to the NAM Membership)

Learning Objectives:

1. Explore the intersection between health, healthcare disparities, and climate change.
2. Describe the breadth of the impact of climate change on historically marginalized and disinvested communities and individuals.
3. Understand the various strategies to respond to climate change being adopted at the community level, frontline, and systems level in two different areas in the United States.
4. Explore advocacy around slowing, mitigating effects of, and planning/adapting to climate change and climate change emergencies.

[0:00-2:03] Welcome and Introductions

Marianne Parshley: Good morning, good afternoon, good evening. Welcome to The DEI Shift, a podcast focusing on shifting the way we think and talk about diversity, equity, and inclusion in the medical field. I'm Marianne Parshley, a general internist practicing primary care medicine with a geriatric focus. I serve as the Regent of the American College of Physicians and President this year of the Oregon Medical Association, and I love human powered travel from commuting to seeing hidden corners of the world on foot or by bike.

Elisa Choi: And I'm Elisa Choi. I'm an internal medicine specialist and an infectious diseases subspecialist in community practice in the greater Boston, Massachusetts region where I take care of patients in primary care and general internal medicine, and also in HIV Medicine and infectious diseases. I'm the current chair of the Board of Governors for the American College of Physicians and immediate past governor of the Massachusetts ACP Chapter. I also currently serve on ACP's Board of Regents. I have a strong interest in health disparities and relevant to today's podcast, also very interested in issues related to environmental health equity.

MP: Today's conversation is part two of a great discussion with our guests, Dr. Robert McLean and Dr. Erika Moseson. It is one at the intersection of justice, equity, healthcare, and the environment. Climate change is changing how we live across the globe, impacting some communities far more than others, and requiring us to continue to seek to shrink our carbon footprints, to sequester carbon, and to mitigate the damage and adapt to a new and changing world. Nowhere is this need more important than in healthcare. So let's continue the conversation, which began in episode one with climate justice, heat exposure, and the impact of emissions on our lungs.

[2:03-7:33] Health Impacts Attributed to Changing Climate

MP: You guys sort of answered some of the next question, but what sort of health impacts can we attribute to changing climate? There's a lot of argument out there in the media about whether it's really impacting us as much as the environmentalists say. So, besides the lungs, besides the allergies, besides ID, what else do you think is attributable to changing climate?

Robert McLean: You know, I'm sometimes asked that question. As a rheumatologist, I kind of can't really come up with a whole lot in terms of arthritis and that kind of thing. I kind of, I think it's much more some of the more internal organ oriented internal medicine fields. I cannot say that there's a clear increase in inflammatory or autoimmune conditions for any reason. So, I'm gonna punt over to Erika on that one.

Erika Moseson: Well, I would say that the hazard ratios for death for fibrotic interstitial lung disease are highest from particulate matter exposure. So there was a groundbreaking paper published in JAMA in October of this year that blew hazard ratios for other risks of progression out of the water. I mean, it was like, we're talking about like four, a hazard ratio of four for these

increases in PM 2.5 exposure. And I think that kind of goes back to smoking, right? So it's like when we have elevated particulate matter that we're all breathing, it's like we're all smokers, right?

And so, the funny thing is that the organs that are actually most affected often by particulate matter exposure is actually not really the lungs. It's the cardiovascular system. So obviously increased risk of asthma and COPD and those sorts of things probably are exacerbations of them. But we see increased heart attacks, strokes, the kind of the bread and butter of internal medicine with elevated levels of PM 2.5. And this is both short- and long-term, right? So if PM 2.5 spikes in the short term, people will end up in the hospital more for heart attack and strokes. And I'll frequently ask the residents, "If we got like a non-smoker here with a heart attack, why?" They're smoking. They're just smoking the air potentially.

And same with, we know there's cognitive changes and dementia. There's these studies of children's brains in Mexico City where you can actually see MRI changes related to pollution exposure. And so I think it really does affect the whole organ system in terms of, as we kind of heat the air, basically you have just increased chemistry that's occurring where people are living and breathing.

And so I think, and the other thing I would mention from a medicine standpoint is just the health toll of displaced people. So, we know that climate change is just causing a massive refugee crisis around the world. You know, there's both internal climate refugees, right? Like when people are displaced from a wildfire. We have people who are climate refugees in our own communities. And then we also have international climate refugees essentially because, not even just from the effects of climate change itself, but also the destabilization of communities that happens as they can't rely on the agricultural seasons that had been present previously or as you have famine all these different things that can change with climate change, displacing people and causing instability. We know that the health of displaced people and refugees, especially those who end up in camps, can just be severely affected, including the whole mental health toll. So I think that there's no part of our life that it doesn't touch.

RM: Oh, I was gonna add to what Erika was saying. I think the mental health toll is something that we are just starting to get our hands around. A number of different psychology and psychiatry groups represented at the Medical Society Consortium, and I've heard from a number of them about the studies showing the increased anxiety, especially around concerns in areas where this is happening frequently. And when someone in particular was in Oregon, I think he was the head of one of the psychiatric groups, he was describing the phenomenal impact this had on the mental health of people with the wildfires and just the anxieties and the concerns, let alone the displacement. And I think that kind of is global as well.

MP: I agree, it's global. I mean, thinking back to the chronic kidney disease that's due to heat and dehydration and the cane cutters. Yeah, and our governor was famous for going around the state and saying we need to do a larger take on social determinants of health and pay for air conditioners. And he cited one case in eastern Oregon where this lady kept ending up with CHF

in the ER because she didn't have an air conditioner. They bought her an air conditioner. And guess what? Her CHF was well controlled for a while.

RM: So in follow up to the idea that patients are feeling the stress of this from an anxiety standpoint, I've recently learned from a real major climate communicator by the name of Ed Maibach, who actually works at George Mason with the consortium and also I think through a Yale Center for Climate Communication, that they do surveys every year or two of the public, not health professionals, on how they feel about different issues related to climate. And the amount of anxiety and concern that the public feels about climate change and health has grown dramatically in the last few years. So I think it clearly is much more in the public level of concern now than it was before, which is obviously necessary to help push government change, regulation, all of the things that we need.

[7:33-15:27] Evidence-Based Projections that People Need to Pay Attention To

EC: Well, that's great to hear that there is advancing awareness and definitely importance so that we all can realize that climate change issues are affecting all of us globally as we've all been discussing. My next question actually is related to how and what are evidence-based alerts and projections that we may need to pay attention to and heed. And I'll underscore that because while we're speaking a bit to a group, all of us that are believers in some of the health effects of climate change, there are very many people out there who still remain to be convinced. And so the evidence basis for things that will be brought to the surface as far as alerts and warnings could definitely go a long way towards convincing folks.

So I wonder if each of you could weigh in on what are some of those evidence-based projections that we really need to pay attention to, that we really can no longer deny and claim aren't going to be affecting our health?

EM: Well, there's a few things that I like to highlight a little bit, and this is where I think that physicians in particular can be so important. We are often the only people in our patients' lives who have any scientific background. So we're kind of one of the scientists, one of the only scientists that they might know, right? And I think this is hard because most physicians just do not feel like experts in anything, right? Especially people practicing full-time clinical medicine, which is me, right? I sit on this environmental health policy committee with the ATS, with all these like scientists who have all these grants and are doing real science and I'm just sitting there saying, "Well, I got a podcast." But I think it's more that we are all actually much more expert in science than the vast majority of the public. And we're actually the person who, our job every day on a day-to-day basis, is to translate science into someone's actual world, right? So we take all these scientific studies and we prescribe chemicals that are going to go into someone's body to try to help improve their health or advise them to avoid chemicals.

And so, we are actually all experts in communicating science to the individual person's life. And I think that's a way to kind of avoid the politics and the partisan elements of all this stuff. There's

all this kind of noise and everything, and so just kind of bypassing that and just saying, “Hey, like, for you, you have asthma and I'm worried about making sure that the air you're breathing is clean. And just so you know, with climate change, you can expect that the allergy seasons are gonna get worse, not better, so let's make a plan for that.” And kind of even just introducing climate as part of my regular anticipatory guidance and conversation with patients I think might help people be a little more open to the idea that this is a real effect in their life. And you know, every single doctor across the United States is doing that when they talk to patients or policymakers. I think that can kind of help open a discussion to kind of bypass the unnecessary noise about arguing whether this is a problem or not.

And then other things I think that are kind of concrete to pay attention to that are helpful are things like the air quality index where people can access that with AirNow.gov. You know, really kind of be aware of whether they have kids in a sensitive group or if they're members of a sensitive group.

So those are kind of concrete things that I think can be helpful in terms of messaging and helping people understand. And then just giving people one or two things to concretely pay attention to because just being aware of the climate changing, it's kind of too much to wrap your head around, I think, for most people.

EC: Well, thank you Erika. As a fellow physician who is primarily in clinical practice, I will absolutely support and endorse everything you said about the crucial role of being a communicator to our patients. And I would just add that there's nothing just about doing your own podcast. Talk about communication tool! That is amazing, and so much respect for that.

RM: To follow up what Erika said, I completely agree at bringing it down to the patient level in the exam room to really give them some concrete facts that they can think about from their own patient standpoint. Let me take it a slightly higher level.

At the consortium advocacy day two weeks ago, we tried to get into some evidence base and the big ask that was being promoted for the people going to the Capitol Hill offices was actually around some EPA policy. So apparently the EPA was getting ready to make some final ruling about the size of particles for particulate matter to be under regulation. And despite the fact that the EPA's own scientists had picked a number, I wanna say like 1.8. No, no, I'm sorry. They had a number of something like 9 particles per million or size. And the EPA was not ruling that at that same level. They were not actually following the evidence and we were trying to have the legislators actually have the EPA follow better evidence because it wasn't. Erika, do you recall any details of that?

EM: Yes, I am intimately familiar.

RM: I figured. Okay.

EM: Yeah, so the American Thoracic Society Environmental Health Policy Committee has been very active in submitting testimony in this area. So the current EPA standard is 12 micrograms per meter cubed for PM 2.5, and the American Thoracic Society has been heavily advocating for a more health protective standard of 8. In fact, the WHO standard is 5. And so, but the EPA heard from a lot of different stakeholders. The challenge with the EPA is that the Clean Air Act kind of has the force of law, right? So there is illegal error when you're exceeding it, which a lot of the folks in industry get very anxious about the mitigation steps that might need to be taken.

So there's a lot of stakeholders in the EPA's ear, even though, obviously, it's supposed to be solely a health protective standard, but they are there. And so the EPA said that they would consider lowering the standard from 12 to somewhere between 9 to 11 and not necessarily touching the 24 hour standard, which the ATS had also advocated fairly strongly for decreasing.

So physician voices can be really helpful here to see if legislators wanted to override and pick the more health protective standard. Then also to at least ask that we lower the air quality index to the actual, to be concordant with the health protective standard. Because right now, you can actually have the air look like it's pretty good on the AirNow.gov app, but maybe it's actually not that great for particularly vulnerable individuals and I think people who can go say, "Hey, my patients get asthma or COPD" or especially a rheumatologist, if you're caring for someone with a fibrotic lung disease where you're like, the risk of dying when the PM 2.5 level is over 7 is really high for my patients. And so I think that can be powerful.

RM: Yeah. No, I mean too, but where we started with this the evidence base, it is very challenging when you have people [saying], "I don't believe that", kind of the naysayers, especially if they're policy makers or legislators. So we're trying to kind of run a fine line between giving appropriate anecdotal stories of our real world patients, and then actually what does the science show and provide both of those. Tricky.

EM: Absolutely.

EC: Well, very tricky indeed. But again, really appreciate hearing both your perspectives and also for amplifying just how important our role as physicians taking care of patients is in bringing all of these very important issues back into the exam room and into our one-on-one interactions with our patients.

Marianne?

[15:27-18:30] Adapting to Climate Change

MP: Well, I very much thank you guys for introducing the advocacy piece and we've been talking about mitigation. What about adaptation to climate change so that we can help people going forward?

RM: I think some of that is preparedness or a lot of it, kind of running that line between mitigation and adaptation. Part of the adaptation I would say there again, at the higher policy level, I've had the opportunity over the past year and a half to be part of this National Academy of Medicine Action Collaborative on decarbonizing the health sector. And there are several different work groups, and I happen to be on the one that deals with health delivery.

So I'm one of the few physicians or physician organization people there. Most of the people in that work group are representing healthcare systems in industry. The push there is what do they need to do to change how they do business. What should hospitals and hospital systems be doing at a real systematic level to be using up less energy for their anesthesia and departments and ORs to be using less gasses that are tremendous contributors to global warming at the atmospheric level. So there are a lot of different places where systems need to look at supply chain using materials that are recyclable or not. I think that's where a lot of the adaptability gets into. We need large systems to recognize that they need to make changes, which unfortunately are sometimes expensive and require some sort of investment.

MP: Thanks, Robert. Erika?

EM: Yeah, and I think in terms of kind of preparing for like resiliency and adaptation and those things, I think a lot of that stuff can be kind of on the local level, but I think we also need to make sure that the costs aren't born by the people who are most affected.

So thinking about wildfires, making sure that people understand what a HEPA filter is or know how to make a good particulate matter filter with MERV 13 and a box fan. And this idea of having a plan for dirty air, right? So this is what I do when the air is bad. I close my windows, I turn on these filters. I don't cook inside. Making sure that people kind of expect that there are gonna be these events and that they have plans for them, right? That they have access to good clean water that's not too expensive, that they have access to affordable energy, to power air conditioners and HEPA filters and things like that.

And then at community levels, having clean air shelters, cooling shelters in areas affected by floods and tornadoes, having plans for kind of shelters and handling housing following those events. I think just kind of stopping looking at these huge climate events as one-off episodes and just planning that they're going to happen, and then how do we respond? Just kind of planned resiliency.

[18:30-21:02] How to Help the Environment

MP: I'm thinking about even the longer term when we think about the pollen. I've heard that most cities have switched to male trees instead of female trees because they don't wanna clean up the fruit that falls. And maybe we need to be thinking about replanting. And when I think about the terrifying video I saw of one of my patients took when she was fleeing from on this one lane road out of a forest fire area where her house was, what do we do to adapt the forest?

How do we help? How do we help forestry? That's long-term adaptation that we also need to be doing.

EM: Absolutely, like planting Ponderosa. There's a lot of trees that rely on fire and our historic fire suppression efforts have absolutely changed our forests. And so I think there was this beautiful era of where you have a lot of us lovely tree huggers out here in Oregon who are saying, "Well, you can never cut down another tree." And with a bit of a historic lack of recognition that the forests have been managed, right? That there were a lot of native practices around controlled burns and things that were happening in our forests. And so I think letting the science lead, even if the science might lead environmentalists to decisions that they might not like if there's things about controlled burns or thinning forests or replanting with more fire resilient species. I think it's really an all hands on deck situation and we need to be kind of reaching out to all the communities we can.

RM: If I could just add to that. I mean, it's very interesting. So the different things that we think about needing going forward also have environmental impacts. I'm thinking for example, at least in parts off of Long Island Sound or in the Northern Atlantic, they talk about putting wind farms out. The best place where you get steady wind is like, what, 6 or 8 feet above the level of the water? They would talk about building these, having all these wind farms out in the middle of the ocean. But that requires things going down to the ground and then pipes coming through. And are you interfering with environmental habitats in the ocean when you're building those things? So everything has implications downstream, and sometimes people take these very absolute positions of "we need this, we need that" without really realizing in the long run or the short run, is it really the best thing or not? And there's never easy answers to these really complex problems.

MP: Elisa, do you have any other questions? I have one more after that and then we're done.

[21:02-25:19] How to Adapt to Climate Change in an Equitable Way

EC: Yeah, I do, and thanks Marianne. So I'm thinking about our conversation today and one through line that is underscored in a lot of what we've talked about is the importance of justice and equity, even in climate change. So my question really is, how do we adapt to climate change and its impacts in a just and equitable way? Would love to hear both of your thoughts on that.

RM: So I would say, I mean, doing it at a large systemic level and having all these thoughts in mind. One of the things I would kind of bring out in addition to the other organizations, I haven't mentioned the AMA, the largest physician organization in the country. So it'll be very interesting to see on the basis of a lot of pressure and input from a lot of different groups at the level of the AMA. And Marianne and Elisa, I know you're familiar with this, being on the ACP delegation with myself. About a year ago, there were some resolutions that came through that the AMA needed stronger, more appropriate policy on climate change and health issues. As a result of that,

there's been some work group and some work behind the scenes and there will be coming out in June some big board of trustees report on the AMA's kind of stance, which I think we're all hoping will be a fairly comprehensive look at addressing climate and health from a just equitable standpoint since the AMA has that really taken to heart a lot of the issues around that.

So the hope will be, does that say something and can that help us move forward, at least from a professional society standpoint and help kind of push the conversation going forward publicly and from a legislative standpoint.

EM: Yeah, so in terms of doing this in an equitable way, I just can't overemphasize the importance of making sure that everyone's at the table because I think a lot of the time you'll have very well-meaning people get in a room and try to come up with a plan or a policy and are completely leaving out the people who will be really affected. And I participated in something that my county was doing on terms of trying to come up with healthy and affordable housing, and it was really eye-opening. I actually appreciated their approach because they went to the people living in rental housing first, and a lot of them had very common cause with a lot of the landlords.

They were saying we don't want you to come up with any standards that are gonna increase the cost of housing. If you start mandating that everyone have air conditioning and HEPA filters and new filters over their stoves, that's gonna, we know what's gonna happen. Housing will be more expensive to make, and we will have to pay more in rent, and we will lose our housing.

And so it actually opened up this kind of creativity to look at, okay, well what could things look like? Is there ways that the county could be finding funding to support important high yield interventions, like making sure that everyone has HEPA filters or maybe they could be helping with energy bills for certain sectors of the population who can't quite afford things. So I think it's, there's this need to just actually bring the people who are affected into the conversation, which I think a lot of people think will take too much time, right? It's too much to have all these people talking, but the decisions you have when you actually have everyone at the table are just better decisions. And you actually ultimately, I think, get there faster. So that would just be the process element I think that needs to happen anytime at every level to make sure we have an equitable response to climate change.

EC: Well, thanks so much for both your answers and really, Robert, you spotlighting just how important advocacy, particularly in organized medicine, whether it be AMA or otherwise, to really push forward an equitable solution to climate change issues.

And Erika, thank you for really putting a light on how important inclusion of folks who are actually affected by the outcomes of climate change effects really also need to be heard and need to be included at the decision making table. So these are all really important points. Thank you for sharing.

Marianne?

[25:19-29:07] What Clinicians Can Advocate For to Adapt to and Mitigate Climate Change

MP: So first of all, thank you, Erika for participating in that housing discussion because I think that's critical in Multnomah County right now and elsewhere. And Robert, I look forward to seeing that report from the AMA in June. That's exciting news.

I wonder if you can, at the end, give us each top two or three things that individual clinicians can advocate for, either at the local, state, or federal level for adapting, mitigating, and hopefully slowing climate change.

EM: I mean, I think in terms of bang for your buck, a transition to a fully electrified healthcare sector, I mean a fully electrified transportation sector, I think probably if you're looking at something that will help in pretty much any community it's in. And then also looking for alternate like human powered forms of transportation I think can be really helpful. And a lot of the times, those decisions are made very locally, kind of at a county level. And so just kind of showing up as a doc and saying, "Hey, I'm a doctor. I'm worried about the effects of pollution on my patients and climate change. What are we doing to help make sure we've got EV infrastructure, bike lanes, better public transit, free public transit, different options like that?"

I think that's probably gonna be helpful in pretty much any community because the American Lung Association has an ongoing, has commissioned ongoing studies looking at the health benefits and the amount of money we save. And you can actually get this data at pretty local levels by using low to zero emission transportation and shipping in terms of health benefits. And that has kind of a magnitude of issues because we know that historically redlined and excluded communities are the ones who disproportionately bear the burden of the ill health effects of the transportation sector and also heat islands, et cetera, that that will actually help them to a slightly outsized degree.

So I think if you're just kind of looking for one thing you wanna do, that might be a way to start to get involved in your community, is advocating for getting around without lighting things on fire.

MP: Thank you.

RM: Yeah. This is Robert. I do agree with that. I think there, I mean, I think the local advocacy is huge, as Erika had said. I think that I would urge fellow clinicians to pay attention to what is happening at their largely state legislative level. Every state has bills around different things that touch on climate and climate change. And our legislators need to hear from us as trusted health professionals that this is important, this is how this affects my patients.

I think also people who are working potentially in health systems need to make their voice heard. A lot of healthcare administrators and some of these big hospital systems are looking at some of these issues around waste that I said before, supply chain, and we're the ones who are

kind of seeing patients and looking at all the waste, and then things that aren't getting recycled in our offices and in our communities. And we need to speak up and make people aware of it because not everyone's seeing it or thinking about it as much.

And then at the patient level, as we've kind of touched on a little bit, making our patients aware of it. I think there are tremendous resources out there, apps that people can look at for air quality for the day, pollen counts. They need to be aware of things that are out there that might be affecting how they feel or how they're doing on a given day so that they can take a little bit of ownership of it in terms of being aware and also whether they need to adjust their behavior on a given day and also plan ahead for those kind of things that do happen.

[29:07-29:44] Closing

MP: Thanks to both of you guys. I'm inspired by this conversation and I hope it continues. It can't stop here if we're gonna make a difference, and we invite all our listeners to continue the discussion online. We'd love to hear your stories to do with this topic, your questions, and the specific barriers and challenges you've faced in your communities or in your advocacy or in your practice.

We have additional resources including a link to Dr. Moseson's podcast on our website and a transcript of this discussion. Reach out to us. We're on social media at Twitter and Instagram, so let's stay in touch.

[29:44-30:51] Outro

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