

Striving for Resilient Populations

An Interview with Aaron Bernstein, MD, MPH,
Interim Director, Center for Climate, Health, and the Global Environment, Harvard T.H. Chan School of Public Health

EDITORS' NOTE Dr. Ari Bernstein is also a pediatrician at Boston Children's Hospital, and an Assistant Professor of Pediatrics at Harvard Medical School. Dr. Bernstein focuses on the health impacts of the climate crisis on children's health and advancing solutions to address its causes to improve the health and well-being of children around the world. With Nobel Laureate Dr. Eric Chivian, Dr. Bernstein co-authored and co-edited the Oxford University Press book, *Sustaining Life*, which



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received the distinction of best biology book of 2008 from the *Library Journal*, and which has been published in several foreign language editions. Dr. Bernstein leads *Climate MD*, a Harvard Chan C-CHANGE program to encourage physicians to transform climate change from an issue dominated by politics and concerns about the future or faraway places, to one that matters to every person's health here and now. He is the course director for *Human Health and Global Environmental Change* and created the HarvardX course "*The Health Effects of Climate Change*" which explores how climate change influences health through its effects on air quality, nutrition, infectious diseases, and human migration as well as solutions to the climate crisis. In 2015, he was awarded a Lokey-Businesswire visiting professorship at Stanford University and has also been a visiting professor at Columbia University. Dr. Bernstein has been a member of the Harvard President's Climate Change Task Force and Co-Chairs the University Food Standards Committee. He serves on the American Academy of Pediatrics Council on Environmental Health Executive Committee, is Chair of the Board of Directors at the U.S. Green Building Council, and is on the Board of Advisors at *Parents Magazine* as an environmental health specialist. Previously, Dr. Bernstein served on the Board of Scientific Counselors to the CDC's National Center for Environmental Health/Agency for Toxic Substances and Disease Registry. After receiving his BS in Human Biology from Stanford University, he received an MD and MPH from the University of Chicago and Harvard University, respectively. He is a recipient of Stanford University's Firestone Medal for Research and a Harvard University Zuckerman Fellowship.

ORGANIZATION BRIEF The mission of the Center for Climate Health and the Global Environment (environment.harvard.edu/center-climate-health-and-global-environment-c-change) is to increase public awareness of the health impacts of climate change and use science to make it personal, actionable and urgent by leveraging Harvard University's ability to deliver cutting-edge research and inform policies, technologies and products that reduce air pollution and other causes of climate change. By building

a foundation of rigorous science and supporting champions across the world who use it to improve lives, the Center hopes to reduce health crises, especially for the most vulnerable populations such as children, seniors and environmental justice communities.

Will you provide an overview of the Center for Climate, Health, and the Global Environment at the Harvard Chan School of Public Health?

Harvard Chan C-CHANGE is a small, soft-funded, and science-based center that has worked hard to become the media's go-to source for climate change, health, and equity issues. We translate the best available research to inform actions that improve public health

today and create a more just, sustainable, and healthy future for all. We help people understand that climate solutions are not only within our reach, but also have immediate health and economic benefits.

How do you define your role and focus your efforts at the Center for Climate, Health, and the Global Environment?

My role at Harvard Chan C-CHANGE is to help others – healthcare providers, policymakers, the media, and parents, for example – connect the dots between our environment and human health and empower them to take action on climate change. Our climate crisis, fueled by the pollution from burning fossil fuels like coal, oil and natural gas, impacts our health, healthcare delivery, and our ability to do our jobs as healthcare professionals. If we better understand these connections and how we got here, we will be better equipped to put in place actions that move us towards a healthier and more just future. My mission is to bring my experience as a pediatrician to develop climate solutions that will benefit my patients' health. Through our Climate MD program, for instance, we engage healthcare providers to use their voices as trusted messengers and talk about how health benefits from climate action.

How do you describe your leadership style and what do you see as the keys to effective leadership?

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Empowerment and humility. I know from my experience as a doctor that I am fallible and that any success I have depends entirely on those I get to work with. My best days are when I know that I've done something that has enabled someone I work with to do their work better or when I'm able to use any attention I get for myself to give voice to those who are not easily heard – children, the poor, people of color and others who have been disempowered – especially when their welfare is at stake from air pollution, climate change, and injustice.

Do you feel the pandemic has changed public perceptions of public health?

Absolutely. The pandemic has shown that we must have a strong public health infrastructure to protect our health when resources and leadership are lacking and threats like COVID-19 get out of hand. This pandemic is unsurprising to those of us in public health, but it has put the importance of public health at the center of our national consciousness. We can use this awareness to reinforce that we must rely on science to protect our lives and livelihoods and that investing in public health is paramount to every other cause we care about.

How do you define resilience and how critical is resilience in public health?

We in public health strive for resilient populations and that means we have to be healthy before disaster hits and have systems in place

that can care for people when it does. Imagine how much better off we would have been in the U.S. if we had been a nation that had a healthier population, cleaner air and less racial injustice that has fueled the astonishingly worse COVID-19 outcomes for African Americans. Imagine if every American had access to quality healthcare that wouldn't bankrupt them if they used it.

We can learn a lot about resilience from nature. It has been around a lot longer than we have and knows how to bounce back when disasters strike. Underlying nature's resiliency is an astounding array of backup plans, strategic redundancies and efficient use of resources that are the envy of any human-designed system.

What do you see as the importance of resilience in addressing the global crises the world is facing today?

I need to look no further than the young patients I care for to see the power of resilience and what it can accomplish. I have seen children who have endured hardships that would leave most of us adults in shambles and still emerge as thriving young adults. Some children are able to face obstacle after obstacle and bounce back. Their resilience inspires my own. We must not let naysayers, nor those whose self-interest overshadows the public good, win the conversation on climate change. We must have the courage and resilience that our own children show us and take steps forward, especially

for their sake, to secure our health and a more just and sustainable world.

What does public health look like in a resilient society?

A resilient society is an equitable society. When people in our society are unequal, health and economic disparities take root. These disparities create the societal fissures that all threats exploit, whether it's COVID-19 or extreme weather events driven by climate change. We all have an innate human and moral responsibility to ensure the welfare of those less fortunate than ourselves but we have a selfish reason to do so too. At no point in recent history has the consequence of allowing inequity to fester been clearer than today. The pandemic has exacted the heaviest toll upon people who have not received equal treatment: the poor, older people and people of color. If we protect their health better, we protect every one of us.

How challenging is it to find a balance between health, science and politics when addressing a global health crisis?

Political agendas have always weighed on science. Those outside the scientific community often speak about science with certainty to suit their interests, whereas the scientists who have done the research may be more reluctant to do so. This creates an imbalance in public discourse. Scientists most often see first their responsibility to their own community of scholars, and second to the people in society that their research bears upon. To make for a better balance, we can support those scientists who speak out, and remind policymakers and other leaders to seek out scientists with expertise that matters to the decisions they make.

How has your personal resilience helped to drive your work?

Looking at the faces of the children I care for in the hospital, as well as my own children, always inspires me to do more. They help me remember why I must persist. Their strength keeps me going.

Who are some of the resilient leaders you see today?

I have been deeply impressed with many leaders of the youth climate movement including Leah Namugerwa and Saya Ameli Hajebi. They are young, fearless and have overcome more in their lives than I have. I also am routinely astounded at the leadership shown within communities that face adversity around the United States. ●

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