

Clinician education on climate change and health: virtual learning community models



Climate change is a public health emergency.¹ Clinicians are increasingly managing patients with health problems related to climate change, including kidney failure and heat stroke from exposure to extreme heat and drought, and pulmonary cardiovascular events caused by air pollution and wildfires. However, relatively few health professionals know how to engage with patients on these issues.² In a 2021 global survey of 4654 health professionals regarding climate change, 76% of participants recognised the need for continuing professional education, 72% desired knowledge regarding health-care sustainability, and 69% felt that effective communication skills were also needed.³

Immediate engagement and effective health-care and public health responses are required to reduce climate-driven effects on human health and wellbeing. Meeting this need will require clinicians to quickly acquire the knowledge and skills to address climate change effects in their practice. Efforts are underway to remedy this educational gap, particularly in health professional schools, but further action is needed.⁴

In addition to managing climate-related health issues, clinicians might find it difficult to talk with their patients about climate change, which is linked to sociopolitical controversy, misinformation, disinformation campaigns, and a complex psychology of denial. Clinicians typically receive insufficient training on how to have challenging conversations with patients, including those pertaining to climate change and other emotionally laden topics.⁵ However, the status of clinicians as trusted messengers allows them to shift social norms by communicating the health-related effects of climate change.⁶

The Climate Change and Human Health ECHO (Climate ECHO) is a weekly virtual mentoring programme for health-care and public health professionals addressing essential climate and health educational needs for clinicians.⁷ The programme has three objectives: (1) to increase knowledge and self-efficacy of climate change; (2) to improve communication among clinicians, community health workers, and patients regarding the health-related effects of climate change; and (3) to advance knowledge on environmental justice and health equity to reduce health disparities.

Climate ECHO launched a pilot programme in February, 2021, with input from the US Global Change Research Program's Interagency Crosscutting Group on Climate Change and Human Health.⁸ The Extension for Community Healthcare Outcomes Project (Project ECHO) has learners from more than 190 countries and builds virtual communities of practice, in which peer participants meet regularly to learn from subject matter experts and from each other, freely sharing knowledge, support, and guidance.⁹ The US Department of Health and Human Services' Office of Climate Change and Health Equity, the Centers for Disease Control and Prevention's Office of Climate and Health, the National Oceanic and Atmospheric Administration's Climate Program Office, the National Park Service's One Health Program, and other non-governmental organisations quickly partnered to support the development of multiple learning series that addressed themes in climate change and health. The initial 8-week introductory pilot series drew 625 participants from 45 US states and 25 countries. Most participants were health professionals, including physicians, nurses, and behavioural health providers. Participants expressed high levels of satisfaction with the programme, reporting increased climate-related knowledge and improved communication skills.⁶

Subsequent sessions have included theme-based topics featuring experts in their field. Professional actors also worked with the Climate ECHO faculty to simulate patients suffering from climate-related health effects to help participants better understand how to manage real-life, climate-sensitive health concerns. One scenario involved a 45-year-old postal worker who had suffered heat stroke. Another focused on a 41-year-old woman with a history of asthma, depression, anxiety, and insomnia who lived in a region prone to wildfires. A list of topics is shown in the panel; see the ECHO Program for full curricular details.⁷

Session discussions vary in theme and include advice on reducing greenhouse gas emissions in the health-care sector. Other discussions are more clinical, such as the challenges of establishing optimal interventions for complex cases. For example, what advice should be

Panel: Climate Change and Human Health ECHO programme topics, 2021–23

- January–March, 2021: climate change essentials
- September, 2021: extreme heat
- September–October, 2021: mental health and climate change
- November–December, 2021: environmental stewardship and climate resilience
- December, 2021–January, 2022: degraded air quality
- January–February, 2022: emergency preparedness and extreme weather events
- February–April, 2022: health-related climate cases, tools, and informatics
- April–June, 2022: environmental impacts and climate justice
- June–July, 2022: climate impact in indigenous communities
- September–October, 2022: nature-based solutions
- November–December, 2022: practical applications for climate change adaptation
- February–March, 2023: sustainability in health care
- May–June, 2023: community health is climate health

given to a 68-year-old person with lung disease who walks outside daily for exercise, when the air quality index is poor for an extended period? Telling a patient to stay indoors during this time might not be ideal—the benefits of exercise, the value of social connections from being out in the community, and the specifics of the home environment should all be considered. Often, no universal solution or clinical recommendation exists. By participating in these sessions through programmes such as Project ECHO, clinicians can be better prepared to discuss the health effects of climate change with patients.

The call for and creation of additional content speaks to the flexibility of the ECHO learning model. As the science and clinical needs related to climate change and human health evolve, the ECHO model can rapidly adapt, training clinicians quickly so they can immediately respond to their local and regional climate problems.⁷ The next Climate ECHO series will be Climate Health is Community Health, an important initiative for all health professionals and community health workers to better understand how to think about local health-related effects of climate change unique to their communities.

The ECHO model's "all-teach, all-learn" format builds a rich community of practice that enhances learning.

After the sessions, participants say they are more likely to communicate about climate effects with colleagues and patients.⁹ This diffusion of knowledge promotes capacity-building among health professionals, which is essential for addressing the current climate and health emergency.

The Climate ECHO programme has grown to engage more than 4000 unique participants from all 50 US states and more than 45 countries. Other programmes, including the Dartmouth–Hitchcock Medical Center and the Migrant Clinicians Network, have started their own Climate ECHO programmes in the USA. ECHO India, which reaches thousands of learners, has a Climate ECHO programme that has addressed water pollution and will now focus on mental health and sustainable agriculture.

Climate change is among the most urgent health crises facing humanity today. By investing in virtual learning community models, health professionals can build a workforce of forward-looking colleagues equipped to manage their patients' climate-related health effects and to educate their patients on climate change and its implications.

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