

Interconnected crisis: Declining planetary and population health

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In 2021, the World Health Organization declared climate change the greatest global health threat to humankind in the 21st century. The hotter-than-usual temperatures felt around the world have had severe impacts on our health.

Some effects of [climate change](#) are more visible, like more heat strokes, asthma, pneumonia and severe allergies. Others are less obvious, such as

Lyme disease, [mental health issues](#), and sexual and reproductive health problems.

Direct impacts: Respiratory illnesses and heart disease

The health of our planet is closely intertwined with our own health. In some ways, it's easy to connect the dots between climate change and its negative impacts on our health.

During recent unprecedented heat waves, for example, hospitals experienced higher rates of hospitalization and emergency room visits from patients seeking treatment for infectious diseases, [heat stroke](#), pneumonia and other respiratory illnesses.

Dr. Anna Gunz is a professor at the Schulich School of Medicine & Dentistry and a pediatric intensive care physician at Children's Hospital at London Health Sciences Center. Throughout her career, she has witnessed the devastating effects [extreme heat events](#) can have on patients.

Increasing awareness about the effects of weather events due to our warming planet is key to prevention. Gunz, an associate professor in the department of pediatrics and president of the Pediatric Environmental Health Committee for the Canadian Pediatric Society, emphasizes the need for health education on specific issues.

For instance, extreme heat can affect medications like heart drugs, blood thinners, blood pressure medications and mental health prescriptions. These medications must be stored in cool conditions, and high temperatures can compromise their effectiveness, risking the health of those who depend on them.

Gunz suggests updating health systems and policies to better protect vulnerable groups like children and seniors from poor air quality or extreme heat. This includes proactively identifying medications that can be affected by heat and finding alternatives.

Health-care providers should also connect with community organizations for additional support and check-ins. Additionally, housing should be evaluated for features like open windows, shaded green spaces, water reserves and supportive neighbors. Schools and [community organizations](#) should implement heat day policies to determine if it's safe for children to play outside for extended periods.

Indirect impacts: Vector-borne diseases and social issues

For Lesley Gittings, professor in the Faculty of Health Sciences, it's important to also consider the social issues as they relate to health problems exacerbated by our warming planet.

"There are all these different threats that can directly affect the individual. Then, there are these context modifiers such as food insecurity, safety and violence, that can impact mental health and physical health," said Gittings, a community-engaged health equity researcher.

In addition to her research on the social and environmental determinants of youth health, Gittings teaches an undergraduate course entitled Climate Change and Health (HS3650), as well as a master's course, Environment, Health and Sustainability as part of Western's new Health Equity and Sustainability Master's Field in Advanced Health Care Practice.

She explained that extreme weather events, high and low temperature extremes and changing precipitation patterns—which can also lead to droughts, floods and wildfires—can cause a myriad of health issues. For example, since 2009, there has been a steady increase in cases of Lyme disease due to a surge in ticks that thrive in warmer temperatures.

Climate events can also impede people's ability to access health care, shelter and nutrition and can cause indirect impacts on mental health—where people may experience intense emotions from witnessing the effects.

"The environment is a determinant of health," said Gittings. "It is so obvious, yet there aren't enough explicit spaces to look at those relationships. If you're not being explicit about what you're looking for, you're not going to be able to see it. You're not able to treat it. You're not able to document it."

In addition to vector-borne diseases, there are water-borne illnesses such as diarrheal diseases. There are also knock-on effects in relation to sexual and reproductive health. For instance, droughts might change the location of where water can be collected, so an individual person may have to take a different, riskier route or walk a longer distance to collect water, which may make them more vulnerable to sexual and gender-based violence.

Other examples of indirect impacts include changes to food production, displacement and forced migration resulting in malnutrition, conflicts over resources and impact on one's overall well-being.

"Understanding the health effects of climate change is just the first step," said Gittings. "To truly address both the direct and indirect impacts, we must also address environmental injustice."

Gittings noted the impacts can vary in severity when applying geographical aspects, physical vulnerabilities and social vulnerabilities. Being able to tailor the support for each demographic and applying a holistic approach is key.

"I think climate change shows those cracks in our social system" Gittings said. "We need to have a lens to environmental justice, power and equity when we're looking at health issues. So, to me, addressing a social issue is also addressing a health issue and a climate change-related health issue."

Planetary health is synonymous with our health

Currently, Gunz and Gittings are working together on the Land-Based Healing | Nature for Healing program at Children's Hospital at LHSC to encourage integrating nature-based solutions into health care and nurturing a stronger relationship between health and the environment. Some of these solutions include implementing nature prescriptions and encouraging people to spend time in indoor and outdoor spaces that have elements of nature.

Gunz is also the founding medical director of the Ontario Children's Environmental Health Clinic at Children's Hospital at LHSC. She is conducting research to further illustrate the impacts of high temperatures and wildfire air quality on people's health.

In one study, Gunz looked at infectious and respiratory cases and found illnesses related to these exponentially increased around 33 degrees Celsius with hospitalizations appearing following an average of a seven-day delay after the heat events. There are also additional studies looking at air quality and its associations with different health outcomes.

"Our health cannot be separated from the health of our environment or

the health of our societies," said Gittings. "Healing our health means healing our societies and healing our environment."

Provided by University of Western Ontario

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