


## Editorial

# Climate change and health: the role of health professionals

P. Crowley<sup>1</sup>, C. O'Connor<sup>2</sup>, E. Power<sup>3</sup>, M. Cannon<sup>4</sup>, D. Cotter<sup>3</sup> and F. McNicholas<sup>5</sup> 

<sup>1</sup>Pediatric Liaison Psychiatry, Children's Health Ireland, Dublin, Ireland, <sup>2</sup>St Patrick's Mental Health Services, Dublin, Ireland, <sup>3</sup>RCSI University of Medicine and Health Sciences, Dublin, Ireland, <sup>4</sup>Royal College of Surgeons in Ireland, Education and Research Centre, Beaumont Hospital, Dublin, Ireland and <sup>5</sup>Child Psychiatry, UCD, Dublin, Ireland

### Abstract

Climate change is no longer a problem for future generations and the impact is already taking a toll in many parts of the world. Climate change has already caused substantial, and increasingly irreversible, damage to ecosystems. All these issues combined will inevitably lead to an increase in human suffering and forced displacement. This has significant ramifications for health care systems. In this editorial we outline how climate change is already impacting both physical and mental health. Health professionals have a role to play in addressing this great challenge of our time. Health professionals should reflect on how to promote means of climate change mitigation and adaptation within their spheres of influence – clinical, education, advocacy, administration, and research.

**Keywords:** Climate breakdown; climate change; mental health; physical health

(Received 10 November 2023; revised 17 April 2024; accepted 16 May 2024; First Published online 18 September 2024)

### Introduction

Climate change refers to long-term changes in our planet's temperature and weather patterns. This concept has been recognised and studied by scientists for over a century. As far back as 1896, Swedish scientist Svante Arrhenius first proposed that humanity's use of fossil fuels could lead to global warming (Arrhenius, 1896). In 1938, Guy Callender, an English engineer, was the first to show that the Earth's land temperature had risen in the preceding half century (Callender, 1938). Scientific evidence has since accumulated rapidly and, by the 1980s, scientists began to raise the alarm in earnest. We now know that the average temperature of the Earth's surface has risen by 1.1°C since the 1800s (IPCC, 2023). The International Panel on Climate Change was established in 1988 to provide regular assessment reports on the current state of climate change. Their most recent report, released in 2023, raises concern that, if we continue on our current trajectory, global warming will likely rise to 1.5°C above pre-industrial levels in the coming decades (IPCC, 2023). As the temperature rises, weather systems will be significantly affected, resulting in more frequent storms, droughts, and the extreme weather events recently experienced, such as wildfires and flooding. With every incremental increase in temperature, the frequency of these extreme weather events will continue to rise (United Nations, 2023a). Scientists have long warned about the prospect of *climate breakdown* – when the damage caused by climate change becomes irreversible. In September 2023, the UN announced that climate breakdown has begun (United Nations, 2023b).

### Impact of climate change on the environment

Climate change is no longer a problem for future generations and the impact is already taking a toll in many parts of the world. It is estimated that up to 3.6 billion people are living in areas that are highly vulnerable to climate change (IPCC, 2023). The effects are being felt here in Ireland, with rising sea levels and an increase in heavy precipitation events, it is predicted that flooding will become an ever more frequent occurrence in the coming years (Department of Environment, 2023). While extreme weather events cause immediate damage and hardship, longer-term changes in weather patterns will result in food and water insecurity for many regions. Agriculture and food production will suffer in the face of heat, drought, and intense precipitation. As the temperature rises in the ocean and the waters becomes increasingly more acidic, fish species will decline, further depleting food sources. Climate change has already caused substantial, and increasingly irreversible, damage to ecosystems both on land and at sea (IPCC, 2023). All these issues combined will inevitably lead to an increase in human suffering and forced displacement, with significant ramifications for health care systems.

### Impact of climate change on health

Climate change will impact, and is impacting, health in a myriad of ways. Infectious disease is forecast to become increasingly prevalent and problematic (IPCC, 2023). Extreme weather events cause injury and death, while rising temperatures lead to heat-related illness and respiratory problems from worsening air quality. The mental health impacts of climate change are also numerous and concerning. The post-traumatic burden of weather-related disasters and resulting displacement is readily evident. Studies in the wake of Hurricane Katrina in the US demonstrated a marked increase in people requiring treatment for mental health issues, as well as a significant disruption in treatment for those with

**Corresponding author:** P. Crowley; Email: [pgcrowley9@gmail.com](mailto:pgcrowley9@gmail.com)

**Cite this article:** Crowley P, O'Connor C, Power E, Cannon M, Cotter D, and McNicholas F. (2024) Climate change and health: the role of health professionals. *Irish Journal of Psychological Medicine* 41: 427–429, <https://doi.org/10.1017/ipm.2024.23>

pre-existing mental health disorders (Wang et al., 2007). Rising ambient temperatures are associated with an increase in suicide, mental health presentations to emergency departments, and mental health admissions (Thompson et al., 2018). Climate change also contributes to chronic levels of increased stress and anxiety (Power et al 2022). A number of terms have emerged to describe this phenomenon, such as eco-anxiety, which describes a chronic fear about climate breakdown and the impact of climate change, and 'solastalgia', a term coined by Australian philosopher Glen Albrecht to describe the distress resulting from changes in our surrounding environment (Albrecht et al 2007). As is often the case, these issues are likely to have a greater impact on the most vulnerable in our society. Our mental health system is already struggling to cope with increasing demand and limited resources and the question of whether we are equipped to cope with the further burden of climate-related effects is of public health concern.

### Response to climate change in Ireland

Without doubt, immediate and decisive action is required to slow the rate of climate change and achieve the internationally agreed target of limiting global warming to 1.5 degrees (NOAA, 2024). Ireland's Climate Action Plan has set the target of halving our greenhouse gas emissions by 2030 and reaching a net-zero by 2050 (Department of Environment, 2023). The plan includes measures such as dramatically increasing our use of renewable energy, retrofitting existing industry and infrastructure, and changing agricultural practices and our use of land. Sadly, progress has been slow, and Ireland repeatedly fails to achieve emissions targets year on year (EPA, 2024). In fact, Ireland currently has the second highest greenhouse gas admissions per capita in the EU. Agriculture is the sector with the highest emissions and the only sector to have increased its emissions in the last 10 years. Ireland's Climate Action Plan discusses adaptation measures to proactively prepare for climate change and its impacts (Department of Environment, 2023). The adaptation plan for healthcare touches on the potential mental health consequences of extreme weather events (Department of Health, 2023). An increased focus on mental health, including the mental health of farmers, was highlighted as an area of need. The plan highlights the need to prepare for likely changes in volume and patterns of healthcare demand as the climate emergency unfolds, but there are no specific measures to manage the mental health ramifications (Department of Health 2023). The Royal College of Psychiatrists in the UK has developed a position paper on this issue of climate change and our ecological emergency, including proposed actions for individuals and society generally (RC Psych, 2023). Power et al. (2023) focused on the mental health consequences of climate change in Ireland and emphasised the role of healthcare professionals in promoting awareness of climate issues and endorsing sustainable life choices. They also highlighted positive developments such as the growth of organisations like Irish Doctors for the Environment (see: [www.ide.ie](http://www.ide.ie)) and international leadership from the World Health Organisation (see: [www.who.int/news-room/fact-sheets/detail/climate-change-and-health](http://www.who.int/news-room/fact-sheets/detail/climate-change-and-health)). How to inspire people and governments to act, when we know that this is absolutely required, is something we need to understand and study.

### A roadmap for action

It is predicted that Ireland will fall far short of the 2030 emissions target unless immediate and ambitious changes are implemented (EPA, 2023). Worryingly, a number of countries are starting to

backtrack on climate pledges, while oil companies continue to register record profit margins. We have seen in the past that Ireland is capable of spearheading legislative change. In 2004, Ireland became one of the first countries in the world to introduce a ban on smoking in the workplace, including in pubs and restaurants. This has now become common place internationally. During the COVID 19 pandemic, Ireland demonstrated a willingness towards collective action for the greater good, and was acknowledged for its swift, strict yet successful management. Following the example of the brave public health initiative taken by our government with regard to the smoking ban, Ireland should also lead the way on strategies to address climate change, by incorporating radical measures to address global warming in government and health policy as a matter of urgency. There is an urgent need for an increase in funding for mental health services, with a focus on preparing for the mental health impact of climate change.

### The role of health professionals in climate change

Given the multi-faceted components of climate change, health professionals have a role in addressing the direct and indirect physical and mental health consequences in individuals, in their own health services and in society more broadly. All individuals have a role in advocating for policy to mitigate climate change and protect our natural world. Clinicians also have a role to play in supporting climate change education, ensuring that patients and colleagues are aware of the health impacts of climate change and promoting more sustainable lifestyle choices. Strong advocacy is required to promote behavioural change, to protect vulnerable groups and to highlight the health benefits of climate neutral and advantageous activities. This work is needed in all aspects of our professional lives – clinical, education, advocacy, administration, and research. Our health is contingent on a healthy planet, with a fundamental need for clean air, water, and energy. As healthcare professionals and as citizens of the world, we must collectively take responsibility for protecting our planet and, with that, our lives and the lives of those who follow us.

**Author contribution.** All authors contributed to paper write up.

**Financial support.** This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

**Competing interests.** The authors confirm they have no conflict of interest to declare.

**Ethical standard.** The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008.

### References

- Albrecht G, Sartore GM, Connor L, Higginbotham N, Freeman S, Kelly B, Stain H, Tonna A, Pollard G (2007). Solastalgia: the distress caused by environmental change. *Australasian Psychiatry* 15, 95–98.
- Arrhenius S (1896). On the influence of carbonic acid in the air upon the temperature of the ground. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science* 41, 237–276.
- Callendar G (1938). The artificial production of carbon dioxide and its influence on temperature. *Quarterly Journal of the Royal Meteorological Society* 64, 223–240.
- Department of the Environment, Climate and Communications (2023). *Climate Action Plan 2023*. Government of Ireland: Dublin (<https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023/>). Accessed 24 February 2024.

- Department of Health.** (2023). Health: Climate Change Sectoral Adaptation Plan 2019-2024. Government of Ireland: Dublin (<https://www.gov.ie/en/campaigns/708481-climate-change-adaptation-plan-for-the-health-sector-2019-2024/>). Accessed 15 March 2024.
- Environmental Protection Agency.** (2023). Ireland's Greenhouse Gas Emissions Projections 2022-2040. Environmental Protection Agency: Ireland ([https://www.epa.ie/publications/monitoring-assessment/climate-change/air-emissions/EPA-GHG-Projections-2022-2040\\_Finalv2.pdf](https://www.epa.ie/publications/monitoring-assessment/climate-change/air-emissions/EPA-GHG-Projections-2022-2040_Finalv2.pdf)). Accessed 14 March 2024.
- Environmental Protection Agency.** (2024). Ireland's Climate Change Assessment. Environmental Protection Agency: Ireland ([https://www.epa.ie/publications/monitoring-assessment/climate-change/ICCA\\_Synthesis\\_Report.pdf](https://www.epa.ie/publications/monitoring-assessment/climate-change/ICCA_Synthesis_Report.pdf)). Accessed 18 March 2024.
- International Panel on Climate Change** (2023). Summary for policymakers. In *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, pp. 1–34. International Panel on Climate Change: Geneva, Switzerland.
- NOAA National Centers for Environmental Information** (2024). Global Climate Report for Annual 2023 (<https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202313>). Accessed 16 January 2024.
- Power E, McCarthy N, Kelly I, Cannon M, Cotter D** (2022). Climate change and mental health: time for action and advocacy. *Irish Journal of Psychological Medicine* **40**, 6–8.
- Royal College of Psychiatrists** (2021). Position Statement PS03/21: Our Planet's Climate and Ecological Emergency (<https://www.rcpsych.ac.uk/improving-care/sustainability-and-mental-health/college-position>). Accessed 18 March 2024.
- Thompson R, Hornigold R, Page L, Waite T** (2018). Associations between high ambient temperatures and heat waves with mental health outcomes: a systematic review. *Public Health* **161**, 171–191.
- United Nations.** (2023a). Climate: 10 Records Broken in July-August 2023 (<https://unric.org/en/climate-10-records-broken-in-july-august-2023>). Accessed 15 March 2024.
- United Nations.** (2023b). Climate Breakdown Has Begun with Hottest Summer on Record, Secretary-General Warns, Calling on Leaders to Turn Up the Heat Now for Climate Solutions. United Nations: USA.
- Wang PS, Gruber MJ, Powers RE, Schoenbaum M, Speier AH, Wells KB, Kessler RC** (2007). Mental health service use among Hurricane Katrina survivors in the eight months after the disaster. *Psychiatric Services* **58**, 1403–1411.