

A Move Towards a Planetary Health Approach: The Role of Primary Healthcare in Responding to the Climate Crisis





A Move Toward a Planetary Health Approach: The Role of Primary Healthcare in Responding to the Climate Crisis

Aoife Donohue¹

1. School of Medicine, University College Dublin, Belfield, Dublin 4

Abstract:

Climate change is thought to be one of the biggest global health threats of the 21st century¹. The health professions have a moral obligation to take action to mitigate and adapt to the effects of climate change on the healthcare system². The need for greater understanding of the link between planetary systems and human health has led to the emergence of planetary health. According to the Lancet Commission on Planetary Health: "Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends"³. Due to their position in the healthcare system, General Practitioners (GPs) will have an important role in leading the adaptation of a Planetary Health approach. This must include education and research, promotion of co-benefit actions to patients, adaptation to the effects of climate change on health, collective advocacy and movement towards a more sustainable healthcare system.

A Move Towards a Planetary Health Approach: The Role of Primary Healthcare in Responding to the Climate Crisis:

Within the Hippocratic Oath, doctors vow to do no harm. In the context of a climate catastrophe that is damaging health and costing lives, contributing to climate change must be seen as a vio-

lation of the Hippocratic Oath. It has been over a decade since The Lancet declared that climate change is the biggest global health threat of the 21st century¹. While the clinical skills that underpin general practice have not changed in this time, the environmental context has shifted³. The health professions therefore have a moral obligation to take action to mitigate and adapt to the effects of climate change on the healthcare system². A need for greater understanding of the link between planetary systems and human health has led to the emergence of planetary health, a term which refers to the health of human civilisation and the state of the natural systems on which it depends³. It is not possible to have a healthy population on an unhealthy planet, so it is becoming increasingly important to recognise the impact of damage to natural systems on human health. By embracing a planetary health approach, we can avert the worst impacts of climate change and safeguard a healthy and sustainable future³. More than anyone else in the healthcare system, community healthcare professionals such as GPs can make the link between people's health and the environment they live in, thus they play a key role in promoting planetary health⁴. The COVID-19 pandemic has brought into focus the importance of planetary health and demonstrated how the public



and the medical profession can adapt to make radical change in response to public health emergencies³.

Climate change is a health emergency and GPs have a critical role in mitigation and adaptation³. This response must include education and research, promotion of co-benefit actions, managing the effects of climate change on human health, collective advocacy and building a more sustainable healthcare system.

Education and Research:

GPs can work to protect the environment by ensuring that medical education, general practice training and continuing professional development programmes reflect a planetary health approach³. Environmental literacy is essential if practitioners are to work towards, and educate for, sustainable healthcare, but environmental concepts may not be familiar to all health professions educators⁵. Planetary health education across all levels and disciplines will equip and enable learners to protect and restore planetary health and achieve the United Nations Sustainable Development Goals⁶. This education should not only impart the relevant knowledge and skills, but also values². For practitioners to be aware and responsive to planetary health issues, they must recognise the relevance of related fields such as health equity, human rights and respect for life and ecosystems². Within the field of general practice, there is a great opportunity to develop and share educational opportunities and resources related to planetary health.

The importance of research in the area of planetary health cannot be understated. Relevant research is required to both better understand the health and healthcare system effects of climate change and develop an evidence-based approach for adaptation and health protection⁷. As with all facets of medicine, greater knowledge of how the climate crisis will affect general practice will empower data-driven decisions, enhance technologies and encourage collaborative action to improve and protect patient health⁷.

Promotion of Co-benefit Actions:

GPs are well-respected professionals widely dispersed within Irish communities and have strong ties to the population with over 100,000 patient contacts per day⁸. Therefore, the delivery of a message from a trusted source such as a GP, to live more sustainably, has the potential to have a large cumulative effect on improving the health of the patient, health of the planet as well as fiscal and societal costs⁸. Routine promotion of healthy behaviours also aligns with some needed-and powerful-solutions to the climate crisis⁹. This allows GPs to promote co-benefit actions that improve individual health as well as the health of the environment^{3,10}. The World Organisation of Family Doctors (WONCA) Statement on Planetary Health supports this approach, saying:

“As family doctors we are in a unique position to promote knowledge about Planetary Health and behaviour changes, which can improve both individual health



and Planetary Health - the so called co-benefits, such as active transportation, low emission sources of energy and a more vegetable based diet in our patient communities¹⁰.

An example of co-benefit activities that could be discussed in a consultation are sustainable diet and active transport methods. It is well established that using active transport, such as walking, jogging or cycling, and increasing consumption of plant-based foods not only reduces carbon-emissions but also improves health and decreases the burden of chronic disease through the benefits of greater exercise, healthier diets, and reduced air pollution^{3,9}.

Despite the potential benefits, some practitioners may be reluctant to discuss climate change with patients. This may be due to time constraints, a lack of personal knowledge or training, perception that climate change is controversial, and the view that discussing it with patients would not make a difference⁹. Although the scope of the problem may seem daunting and the actions of any individual practice may appear small, general practitioners can have a large influence on how individual patients, families and communities understand climate change and the urgent need to combat it. In the course of daily practice, general practitioners are well-poised to reduce harm to patients and to promote health equity in responding to the climate crisis. This could be as simple as changing the phrasing of a conversation about

diet and exercise to include a focus on planetary health:

“Getting more nutrients from plant sources is good for you and good for the planet.”

“Walking and cycling to school and for close errands helps keeps you fit, helps improve the air in your community, and helps address climate change”

“Playing outdoors, in nature and parks, has lots of benefits for children beyond just exercise”⁹

It is clear that one of the easiest, and most impactful ways that GPs can address the climate crisis is by promoting co-benefit activities to patients and empowering patients to live more sustainably.

Managing the Effects of Climate Change on Human Health:

Altered planetary conditions combined with direct disruption to health infrastructure as a result of climate change would profoundly transform the practice of medicine, therefore GPs have a key role in supporting the adaptation of the health system to the impacts of climate change³. The health consequences of climate change are many and varied eg. increased infectious diseases alongside increasing antimicrobial resistance, air and water pollution, increasing frequency and severity of extreme weather events⁸. These effects are not shared equally among or between people, as they disproportionately affect the vulnerable: poorer communities and countries, those geographically vulnerable to extreme weather events, and those highly dependent on agriculture for their livelihood^{8,12}.



Adaptation to the effects of climate change on healthcare are likely to include adaptation to increasing extreme weather events, adaptation to increasing infectious diseases, and education of patients about the potential effects of climate change on their health.

Extreme weather events are increasing in frequency and severity due to climate change⁸ and have a considerable effect on human health. GPs may need to adapt to provide support to reduce physical and mental health effects in affected individuals¹¹. The effects on human health may be categorised as direct (e.g. heat stroke), indirect (e.g. mental illness after experiencing floods) or mediated through societal systems (e.g. population displacement after drought or conflict)^{11,12}. GPs may also play a key role in contributing to the development and implementation of emergency response plans that need to reflect the evolving threat of extreme weather events³.

Climate change is likely to cause an increase in infectious diseases⁸. As GPs are often the first to encounter infectious diseases, they serve an important surveillance function for these conditions¹¹. Adaptation of primary healthcare to the potentially increasing burden of infectious diseases may include surveillance of risk factors (such as vector populations), vaccination programmes and increased collaboration with Public Health services^{4,12}.

By applying a planetary health lens to clinical practice, GPs may find it

necessary to educate vulnerable patients about the potential effects of climate change on their health. GPs can actively work to ensure vulnerable patients are aware of the dangers of extreme heat, support the adoption of protective behaviours and adjust medications to reduce risk^{3,11}.

The effects of climate change on health are wide and varied and particularly affect the vulnerable in society. GPs can adapt to these changes by being prepared for extreme weather events, adapting to manage the increasing burden of infectious diseases, and educating patients about the effects of climate change on their health.

Collective Advocacy:

Health professionals can drive social and policy change through collective advocacy. GPs are in a strong position to drive social and policy change because they are generally highly trusted, have influence at all levels of society and are widely distributed and connected to their communities^{2,11}. This connection to the community also allows GPs to involve social and environmental determinants of health, instead of taking a purely biomedical approach¹¹. With this trust comes responsibility to influence wisely and lead effectively, thus health professionals must engage to transform practice and structures to better sustain the health and well-being of all life¹³. Advocacy will allow GPs to have a larger and wider-reaching impact than they might otherwise have. This advocacy for adaptation and mitigation actions can occur on a



local, national, and international level.

At a professional level, a number of prominent medical colleges and organisations, including the World Organisation of Family Doctors, have declared that climate change is a health emergency requiring urgent action and are leading the way in collective advocacy^{3,11}. Collective advocacy within the professional sphere provides an opportunity to support larger-scale decarbonisation and transition towards an environmentally sustainable economic system. It can also increase capacity to prevent and manage climate-related health risks³. GPs can prompt governing bodies to take actions that affect the climate, highlight the health implications of the climate crisis and advocate for evidence-based interventions¹¹.

At a local level, GPs can become engaged in civil society and health groups that promote actions addressing the health impacts of climate change³. This may include aiding in community intersectoral co-operation, advocating for structural changes to the built environment that promote equitable access to green space, or involvement in strategies to tackle anti-microbial resistance within a One Health approach^{4,9,11}.

Collective advocacy allows GPs to use their links to the community, respect as a profession and understanding of planetary health to have a wider effect on mitigation of and adaptation to climate change. This can be carried out on

a local, national, or international level.

Building a More Sustainable Health-care System:

Health Care Without Harm, a global organisation of hospitals and healthcare professionals, have calculated that if global health-care itself were a country, it would be the fifth largest producer of greenhouse gas emissions⁸. In Ireland, healthcare is classed as a major emitter, releasing 0.5-1 tonne of carbon dioxide per capita per year, approximately 4% of all of Ireland's emissions⁸. In addition to advocating for a society-wide move towards sustainability, healthcare itself must be made more sustainable. GPs must become involved in reducing emissions in the health-care system, decarbonising the healthcare supply chain, and increasing the resilience of healthcare to the effects of climate change.

The transition to a more sustainable healthcare system will require action on a local level, such as by adapting green technologies and managing prescriptions. On a national level, this will require policy changes, waste management changes and a clear roadmap to net-zero emissions.

Adapting green technologies in a practice can reduce harm to the environment and can also benefit a practice's bottom line⁹. Changing to LED bulbs, installing smart thermostats, and unplugging electronic devices that are not in use are practical first steps. For some practices, it may be feasible to



use a renewable energy source, such as solar panels. The continued role out of telemedicine and other virtual processes may also benefit the environment. A review within the NHS found that the provision of telehealth and telecare for people with long-term health conditions in the community could bring returns of £5.1M in healthcare savings, a reduction of 67,000 tons of CO₂ and 5,671 quality adjusted life years⁸.

GPs have a unique role as a gate-keeper for tests, investigations, and prescription medications, so practices may find it beneficial to examine prescribing practices. Over-prescription of medication and non-adherence to prescribed regimens contribute to global carbon emissions and healthcare waste⁹. In the NHS, 80% of all prescribing occurs in primary care and this makes up the largest proportion of the carbon footprint⁸. Examining prescribing practices in a GP practice may highlight opportunities for a practice to reduce its carbon footprint.

As well as reducing the carbon emissions, there must be changes in the amount of waste produced by the healthcare system. One big part of tackling the waste produced by healthcare is reducing the use of plastic, which has become indispensable to clinical care. Hospitals are among the top consumers of single-use plastics in Europe, with approximately 25% of total waste being plastic¹⁴. It may not be feasible for one hospital or practice to change their procurement systems, but policy changes

relating to procurement could put pressure on the Pharmaceutical and Medical Technologies industries to behave more sustainably¹⁴. The HSE's climate action plan has ambitions to reduce the amount of waste sent to landfill to 10% by 2035 and recycle 70% of packaging waste and 55% of plastic packaging waste by 2035¹⁴.

While managing waste and adapting green technologies will reduce the impact of the health system on the environment, the ultimate goal must be a net-zero emissions healthcare system. This would require a baseline estimation of Ireland's healthcare emissions to identify priorities, a co-ordinated multi-health sectorial procurement strategy to substitute high carbon items, annual reporting, and on-going review⁸. Changes should be made to procurement policy so that production, packaging, and transportation, reusability and recycling must all be weighted along with price⁸. This health care decarbonization should be included in the Nationally Determined Contribution to the Paris Agreement¹⁵. It would require not only the co-operation of the entire healthcare system, but also the national governing bodies.

Although it is not entirely within the control of any individual health system, healthcare has the power to demand supply chain decarbonization, which may in turn encourage supply chain companies to take on the challenge of achieving zero emissions production, packaging, and transport⁸. For healthcare to achieve zero emissions, all



healthcare institutions, suppliers, manufacturers, and all agencies involved distally will also need to achieve carbon neutrality. The health sector can only truly decarbonize in tandem with every other sector of the economy and society, so this fundamental transition will require collaboration, innovation, and investment at the highest levels to not only improve the existing quality of care but prevent disease upstream of primary and secondary healthcare.

As well as collaborating and co-operating with stakeholders to increase the sustainability of the healthcare system, GPs must contribute to increasing the resilience of the healthcare system to climate change². When defining resilience, the Intergovernmental Panel on Climate Change highlights not only the capacity of a system to cope with a disturbance, but its ability to adapt, learn and transform⁷. Resilient healthcare facilities must be equipped to anticipate, respond to, and adapt to climate impacts such as altered patterns of disease, threats to infrastructure due to changing weather patterns and psychological impacts². This increased resilience will require increasing the health system's surge capacity to respond to emergencies^{4,12} and preparing facilities for possible disasters by assessing and planning for threats such as extreme heat, flooding, or storms². This large-scale adaptation would require the input of the entire healthcare system, including Primary Healthcare providers.

Conclusion:

Climate change is still one of the

biggest global health threat of the 21st century¹. Due to their position in the healthcare system, GPs will have an important role in mitigating and adapting to climate change. This must include education and research, promotion of co-benefit actions to patients, adaptation to the effects of climate change on health, collective advocacy and movement towards a more sustainable healthcare system. By adapting a planetary health approach, GPs can fulfil their moral obligation and uphold the values within the hippocratic oath.

References:

1. The Lancet. A Commission on climate change. *The Lancet* 2009; 373(9676): 1659.
2. Shaw E, Walpole S, McLean M, et al. AMEE Consensus Statement: Planetary health and education for sustainable healthcare. *Medical Teacher* 2021; 43(3): 272-86.
3. Pendrey CGA, Beaton L, Kneebone JA. General practice in the era of planetary health: Responding to the climate health emergency. *Aust J Gen Pract* 2020; 49(2208-7958 (Electronic)): 520-3.
4. Lauriola P, Martín-Olmedo P, Leonardi GS, et al. On the importance of primary and community healthcare in relation to global health and environmental threats: lessons from the COVID-19 crisis. *BMJ Global Health* 2021; 6(3): e004111.
5. Walpole SC, Mortimer F. Evaluation of a collaborative project to develop sustainable health-



- care education in eight UK medical schools. *Public Health* 2017; 150(1476-5616 (Electronic)): 134-48.
6. Guzmán CAF, Aguirre AA, Astle B, et al. A framework to guide planetary health education. *The Lancet Planetary Health* 2021; 5(5): e253-e5.
 7. Sorensen CJ, Salas RN, Rublee C, et al. Clinical Implications of Climate Change on US Emergency Medicine: Challenges and Opportunities. *Annals of Emergency Medicine* 2020; 76(2): 168-78.
 8. Irish College General Practitioners Sustainability Working Group. Irish College General Practitioners Sustainability Working Group response to the Climate Action Plan 2021 public consultation. 2021.
 9. Philipsborn RP, Cowenhoven J, Bole A, Balk SJ, Bernstein A. A pediatrician's guide to climate change-informed primary care. *Current Problems in Pediatric and Adolescent Health Care* 2021; 51(6): 101027.
 10. WONCA Working Party on the Environment, Planetary Health Alliance, Clinicians for Planetary Health Working Group. Declaration Calling for Family Doctors of the World to Act on Planetary Health. In: *The World Organization of Family Doctors*, editor.; 2019.
 11. Xie E, de Barros EF, Abelson A, Stein AT, Haines A. Challenges and opportunities in planetary health for primary care providers. *The Lancet Planetary Health* 2018; 2(5): e185-e7.
 12. Blashki G, McMichael T, Faure-Karoly DJ, Karoly DJ. Climate change and primary health care. *Aust Fam Physician* 2007; 36(0300-8495 (Print)): 986-9.
 13. Parkes MW, Poland B, Allison S, et al. Preparing for the future of public health: ecological determinants of health and the call for an eco-social approach to public health education. *Canadian Journal of Public Health* 2020; 111(1): 60-4.
 14. Doyle P. Climate change is a health issue, plastic is the battleground. *Irish Medical Times*. 2021 5th October 2021.
 15. Karliner et al. Global Road Map for Health Care Decarbonization: a navigational tool for achieving zero emissions with climate resilience and health equity. In: *Healthcare Without Harm*, editor. Ireland: Health Sector Emissions Fact Sheet ed; 2021.