

# Prescription for Earth: Family Physician as Climate Health Advocate

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## ABSTRACT

In this article, the author has tried to reinforce the role of a family physician in mitigating or eliminating the effect of climate change that is affecting both physical and mental state of wellbeing adversely. Although global warming is discussed on different social platforms, but the role of a family physician in this regard is less vigorous. The author has suggested approaches in the capacity of a family physician to cut down harmful effects of environmental deterioration.

**Keywords:** Family Physician, climate change, public health issues, family medicine.

## INTRODUCTION

It is a fact that these days climate change is a well-highlighted dilemma globally. It is because of climate change that the health of consumers of this environment is endangered to the point that prompt action needs to be taken. The effects of climate change on an individual's health have not been given a great deal of consideration. The ongoing rising temperature of the earth's surface affects both the social and environmental factors of health. The ill effects of climate change contribute to a rise in vector-borne infections, non-communicable diseases, atopy and heat-related illnesses and mental health problems, thus posing additional pressure on an already overwhelmed healthcare system. The overall rise in the burden of these diseases is a sequel of extreme and frequent changes in temperature, polluted air, polluted drinking water, food insecurity, heat waves, intense wildfires, terrible floods, etc. [1].

Hospitals and clinics share the responsibility for the greenhouse effect on planet Earth via the consumption of huge amounts of energy sources used in various patient care procedures. Studies indicate that in various countries across the world, 4-10% of total greenhouse gases are emitted by the health sector [2], highlighting the need for sustainable practices within the health industry.

Family physicians have a unique position in society. They can play a crucial role in steering efforts to generate health effects of ecological damage. By adopting a holistic approach, they can encourage environmentally friendly practices, educate patients and communities, and support the implementation of eco-friendly healthcare system policies.

According to the European State of Climate Report 2023, the year 2023 has been the warmest year on record in which each day was 1°C hotter than the

manufacturing era for each corresponding day of the year. On average, the temperature of the earth's surface is 1.48 degrees Celsius elevated than it was before the pre-industrial average [3]. Climate change is disturbing the lives and livelihoods of every human being in one way or another. The UN urges to act urgently to mitigate the consequences of climate change, as recognized in Sustainable Development Goals (SDG) [4].

## Climate Change Repercussions

Various countries and populations are not only disproportionately impacted by climate change but also face an uneven distribution of disease burden due to climate-related events. Although most of the carbon footprint is produced by industrial countries, low-income countries are the most vulnerable to their repercussions. This results in a rise in health inequity which has a two-way impact. Communities have become more vulnerable to both climate change-associated health risks and health problems in the form of an increase in climate-related injuries, diseases and deaths.

The regions which are more susceptible to climate-sensitive changes contribute the least to environmental pollution. They have the least number of resources to counteract climate challenges as they are already overwhelmed with health and economic problems. This inequity will continue in future [5]. All these negative effects cause significant school and work absenteeism, a decline in labor force participation, and school closures due to severe weather and smog, which are hurdles to the substantial growth of society.

In the South Asia region, the cities of Lahore, Karachi and New Delhi have the highest Air Quality Index, an indicator of how polluted the air is [6]. Among such a list of countries, Pakistan, which is responsible for less than 1 percent of global carbon emissions, holds one of the top positions globally where the level of pollution is hazardous for both mind and body. Rapid urbanization, increase in transportation, and use of nonrenewable energy resources in industrial sector of Pakistan are major contributors to the emission of harmful gases in

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the air. Environmental effects faced by Pakistan include the record melting of Himalayan range glaciers, overflow flooding, droughts, earthquakes, *etc.* [7] One-third of the country was submerged by “super floods” in 2022 due to heavy monsoon rain displacing millions of citizens [8], leaving people at risk of hunger and disease.

### **Climate-Driven Effects on Physical and Mental Health**

Weather-related events on our planet Earth are being exacerbated under the effect of greenhouse gases, which in turn has resulted in 58% aggravation of infectious diseases. The rise in global temperature, extreme precipitation, and wildfires are some of the reasons for the widespread transmission of vector-borne diseases such as dengue, malaria, plague, and cholera, *etc.* This is happening because of the redistribution of their normal habitat thus bringing pathogens close to humans.

Apart from that, climate-related changes have brought people closer to pathogens too. For instance, human relocation due to natural disasters like floods, storms and wildfires brought them into the boundary of other ecosystems causing a surge in cases of gut-related infections and skin problems.

A climate-driven nurturing environment is one of the reasons humans have become more vulnerable to pathogen-related ailments. Warming along with stagnant waters facilitates not only the multiplication, survival and biting rates of mosquitoes but also viral replication. Thus, resulting in virulent outbreaks of malaria, yellow fever and leishmaniasis. These pathogens can flourish better in climate conditions created by climate-led natural disasters [9].

In addition, the human immune system is also not spared from the toxic effects of global climate-related changes; food and water scarcity, compromised hygienic conditions, ultraviolet radiations, incomplete vaccination programs, and forced relocations are some of the indirect effects of extreme weather events. These risk factors impair the immune system, causing a harmful impact on overall health, leading to increased rates of infections and autoimmune conditions. Among the ages, the young and elderly populations are most vulnerable to these undesirable effects.

Industrial and agricultural industries are not alone involved in producing carbon emissions. The healthcare industry dedicated to serving patients to enhance overall well-being, endangers the ecosystem as well by consumption of fuel required in health services provision; maintaining sterile environments, heating and cooling systems, medical waste disposal management, and the development of medical equipment and infrastructure, *etc.*

Moreover, open burning of hospital waste releases methane, a harmful greenhouse gas, into the air, contributing to air pollution. Heavy metals from

untreated medical waste in landfills contaminate surface and groundwater through rainfall-induced leaching, ultimately threatening the life of flora and fauna [10].

Apart from physical illnesses resulting from climate change, climate crisis is also a risk factor for mental well-being. The devastating weather events leave communities with mental scars. Social factors like disruption of functioning family, fear of career regression, food insecurity, education coming to a halt, and forced displacement are likely to cause an escalation in psychological problems like anger issues, post-traumatic stress disorder, adjustment disorder, depression, self-harm, and suicide [11].

### **Family Physician as Climate Health Advocate**

Considering these circumstances, it is time for healthcare professionals to accept the climate crisis as a threat to human lives. Family physicians are usually the first point of contact in communities in a healthcare system, therefore, it seems that a family physician can play a pivotal role in helping their community stay healthy. In this regard, family physicians can contribute at various levels to eliminate damage caused by global heating.

- As an individual, a family physician has the leverage to create awareness among their patients to protect themselves from climate-related health effects. For example, using mosquito nets and repellents, staying hydrated and avoiding excessive heat, and wearing appropriate clothing can effectively prevent against vector-borne and heat-related illnesses. Incorporating such counseling can safeguard health in the face of climate change.
- Health providers themselves can tilt towards less carbon-intensive attitudes such as installing energy-efficient electrical appliances, introducing electronic medical records system (EMR), and a transition to renewable energy resources like solar panels for medical facilities. This will help reduce the volume of waste generated and the combustion of carbon in fossil fuels.
- Likewise, advocating telemedicine can also minimize the impact of greenhouse gases by reducing the combustion of fossil fuels linked to transportation.
- Furthermore, at the community level, health education of public about the implications of global warming and making them understand that climate change is the result of man-made activities which have adverse impacts on both physical and mental well-being [12]. This can be done through various platforms such as delivering health seminars at schools, and being part of campaigns aimed at raising awareness of climate change and its health impacts. This can motivate the audience to not only make firm decisions but also develop and maintain eco-friendly behaviors to head towards net-zero carbon.

- Encouraging the concept of 'active travel' among people can be a useful step. For instance, embracing a physically active lifestyle like commuting more on foot or bicycle rather than by fossil fuel-consuming vehicles.
- Making changes in our eating practices can be another step to cutting down carbon emission from food sources. The carbon footprint of a vegetarian diet is half to that of a meat-based diet. This approach can result in cleaner air, decelerating damage to the ecosystem and at the same time-consumption of plant-based food can plunge down the risk for various diseases such as obesity, heart problems and diabetes mellitus [13]. This would promote both personal health and environmental sustainability.
- Moreover, having a dedicated health, safety, and environment (HSE) management team at all hospitals can ensure the well-being of the patients and its employees through health safety training of staff, implementation of safe working procedures and monitoring compliance with the standards set by accrediting bodies.
- At a national scale, family physicians can support policies addressing environmental degradation by actively participating in policy discussion and collaborating with nature-preserving organizations. Additionally, they can conduct research to gather and present evidence-based arguments to policymakers to take concrete steps for the well-being of society.

The "Climate Change Mitigation in England's Healthcare Sector: Doctor's Effort to Enact Change 2008-2020" report outlines the measures taken by doctors in England to reduce the healthcare system's carbon footprint. The effectiveness of these actions has influenced NHS (National Health Service) policies to achieve the goal of Net Zero emissions. A few initiatives from the report are enlisted here that could be integrated into clinical settings in Pakistan:

- Reducing prescribed medication can be effective in decreasing the resources needed for medication production. This would minimize pharmaceutical waste, thereby lowering the environmental impact of healthcare. This approach aligns with the principles of the 3 Rs of waste management (Reduce, Reuse, Recycle).
- Switching pressurized metered-dose inhalers with dry powder inhalers is another eco-friendly option, as it would cut down the release of hydrofluoroalkane (HFA), a potent greenhouse gas.
- Equipping medical professionals with knowledge about climate-related issues at undergraduate and postgraduate levels by incorporating this subject in the curriculum can prepare them to tackle climate-related challenges in their professional roles.

- Conducting research to identify climate stressors and coming up with strategies to overcome this challenge could be a major step to enhance community health [14].

In conclusion, a holistic approach by family physicians can be significant in tackling the climate change menace. As an entrusted individual in society, family physicians can create a broader impact by engaging at multiple levels. Whether this is in the form of green prescription, imparting health information to common people, influencing behavioral changes, partnering with stakeholders to highlight the significance of health matters, and offering strategies at the state and national levels to lessen the harm sustained by earth. Managing different aspects of the issue can help build a bridge to alleviate the damage caused by environmental degradation. Thus, family physicians can take the lead in sharing the efforts of the healthcare system for cleaner air and land to have sustainable development.

### CONFLICT OF INTEREST

The author declares no conflict of interest.

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### AUTHOR'S CONTRIBUTION

The author, Atika Rabia, has been solely involved in designing, drafting and revision/ finalizing for preparation of this manuscript.

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