

## Mapping the Issues around Public Health and Climate Crisis

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### ABSTRACT

Climate crisis allows us the chance to recognize our age as the age of on-going disaster. To address these challenges, we explore a variety of public health issues ranging from the crisis at first. Then, we redefine the roles of healthcare professionals and professionalism in the age of disaster. In closing, we summarize transformative ways to pursue public health in front of these challenges. To secure human health in our age, requesting zero-emission system and preparing disaster by building climate-resilience capacities and professional competencies are necessary. Also, we should ask how to pursue 'sustainable health' under the systemic limit, with questions of good public health in the age of disaster. It would be the journey to implement ecological equality and justice with the concept of health.

*Keywords: climate crisis, public health, the concept of health, inequality, health professionalism*

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### 1. Introduction

Climate crisis allows us the chance to recognize our age as the age of on-going disaster. The Lancet defined climate change as "the biggest global health threat of the 21st century" along with the University College of London (Costello et al, 2009). As a lot of scholars pointed out, climate crisis is not a sole factor negatively affect to human health; however, its impact is huge with combination of other factors-poverty, violence, economic and political crises. From the perspective of public health, facing these challenges from our unsustainable system is inevitable. To confront them, we explore the variety of public health issues ranged by the crisis at first. Then, we redefine the roles of healthcare professionals and professionalism in the age of disaster. In closing, we summarize transformative ways to pursue public health in front of these challenges.

### 2. Mapping the climate change issues as human health crisis

COVID-19 is the best example of public health crisis in the age of disaster. It is not only a pandemic we experience in our times, as AIDS pandemic would be the first and proxy model of emerging infectious disease, followed by Ebola, SARS, and MERS. These disease pathogens spilt from nonhuman animal, and hugely impacted upon human health. It is told that destructions of natural habitats,

driven by human activity, led to novel virus epidemic including Zika, West Nile, and Ebola. Some scholars call COVID-19 a disease of "Anthropocene". While discussing disasters such as pandemic and health in our age, we cannot ignore the health effect of climate crisis.

A lot of natural disasters such as flood, storms, and wildfires are told to be related with the climate crisis. It is told that climate crisis has multi-level health effects, primarily direct harm by heatwaves, secondarily malnutrition by extreme weather and soil depletion and the emergence of novel pandemic, such as COVID-19, and tertiary conflicts and refugees-producing political instability resulted from a lot of disasters.

It is important to address these issues regarding health equity and vulnerability. As American Public Health Association argued, climate change disproportionately impacts the health of low-income countries and vulnerable populations such as disabled, elders, and children. Moreover, sometimes poor living conditions such as transportation, food, energies, and housing, contributes both climate change and health inequity (Rudolph et al, 2018). Not only inequity but also the problem of injustice is embedded in the crisis. That is, the impacts of climate change distribute unequally, the responsibility for climate change is unequal, and costs for mitigation and adaptation are unequal (Roberts and Parks, 2006). Recently, healthcare committees emphasized intergenerational equity as fundamental rights

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of future generation and responsibility of current population (Whitmee et al, 2015).

### **3. Disaster in Anthropocene and the Role of Healthcare Professionals**

What does the age of disaster mean to medicine and public health? In 2010, Royal College of Physicians, a professional organization in UK, defined medical professionalism as a "set of values, behaviors, and relationships that underpins the trust the public has in doctors" Traditionally, medical professionalism was the concept based upon trust, assumably inherent in doctor-patient relationships. But recently, a lot of questions challenge traditional medical professionalism with rapid societal change. Artificial Intelligence, and remote health care. In the face of change in health care, it is questionable to maintain trust between patients and doctors. Especially, in consideration of the age of disasters, expectation toward medical personnel is enlarged by emphasizing social responsibility. In the age of disasters, not only clinics but also societal and political scenes, moral roles of physicians stand on.

Meanwhile, it is revealed that the moral injury of healthcare professional is an important inherent public health risk in disaster. A lot of uneven burdens during pandemics worsens healthcare professionals' mental health problems, with guilt by witnessing wrong effects and burnout. Since we define medical professionalism as reciprocal duties, it can lead to the declination of medical professionalism. Finally, disasters such as climate crisis and pandemic entail uncertainty but need important decision and action. It can undermine medical professionalism since it was built upon certainty of scientific knowledge. Then, how can we accept the limit of current scientific knowledge and make important decision amid uncertainty? Also, to solve uncertainties issues, how can we enhance complex-intervention studies and evaluate them? And how can we communicate their result with public?

In the age of disaster, it will be an important role of primary physicians to work with vulnerable populations under environmental harm. Provoking intergeneration-level, population-level, environment-level, and planet-level thinking, and understanding interdependency between groups and populations, mainly focusing on vulnerable populations, and adopting health-related cultural, local differences in work area and responding with multi-disciplinary teams would be key competencies to address local health issues properly. To proactively respond in a front-line, HCPs should access, understand, integrate, and use information about the health-related social, environmental effects.

Disaster preparedness education has been emphasized for preparing the disaster and minimizing its harm since 2008 flu pandemic. It contains not only first-respondent skill in emergency medicine but

also detection and communication of health-related hazards. Furthermore, application of moral and ethical principles is important in emergency, contingency, and recovery phases of disaster. But another question may arise, like how can we address "slow disaster?" such as climate crisis, which does not follow sudden onset and recovery slope. We also must answer how to 'prepare' slow disasters, which involve unseen effects under scientific eyes.

### **4. Transforming the paradigm - from public health to planetary health**

Climate change not only threatens human health. It also challenges the paradigm of human health and criticizes it as one-side concept excluding other natural beings. Moreover, since modern world health care industry largely relies on economic growth, achieving sustainable health in terms of degrowth is an unsolved question. It is noticeable that many alternative terms-ecohealth, one health, geohealth, and planetary health, appeared in last decades. Commonly, these concepts concentrate on the socio-ecological implication and connectiveness of the concept "health". These concepts can provoke a society-level, ecosystem-level, and planet-level thinking of the relationship between human behavior, environment, and human health. Traditionally, public health such as sanitary-environmental health posed environmental hazards as health risks and protect human health from their exposure. However, recent emerging approaches highlight multi-layered, global interactions linking ecosystems and health (Lang and Layner, 2012).

We should allow future-oriented thinking to overcome the limit of current public health practice. Public health is not enough to narrow down its role as controlling risk factors and mitigating their effects. Systemic change and metamorphosis are unavoidable in the future of human health. To prepare the transition, it would be health specialists' duties to expand the role of public health including all dimensions of health (Zywert, 2020).

### **5. Conclusions**

Climate Change would not be the only issue of public health in our age. However, it will threaten human health profoundly in the next decades along with poverty, vulnerability, and inequality. To secure human health in our age, requesting zero emission system and preparing disaster by building climate-resilience capacities and professional competencies are both necessary. Also, we should ask how to pursue 'sustainable health' under the systemic limit, with questions of good public health in the age of disaster. It would be the journey to implement ecological equality and justice with the concept of health.

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## Profile

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She received her B.A., M.A., Ph.D. in Medicine from Seoul National University, College of Medicine, Korea in 2011. She is an Assistant Professor in Medical Humanities in Kyungpook National University, School of Medicine since 2020. Her interesting subject is public health ethics, history of disease and public health, and bioethics in life/death issues.