

CLIMATE CHANGE AND HEALTH – A STUDY ON JAPANESE PHYSICIANS’ VIEWS

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D2 – International Cooperation for Medical Education

August 30, 2023

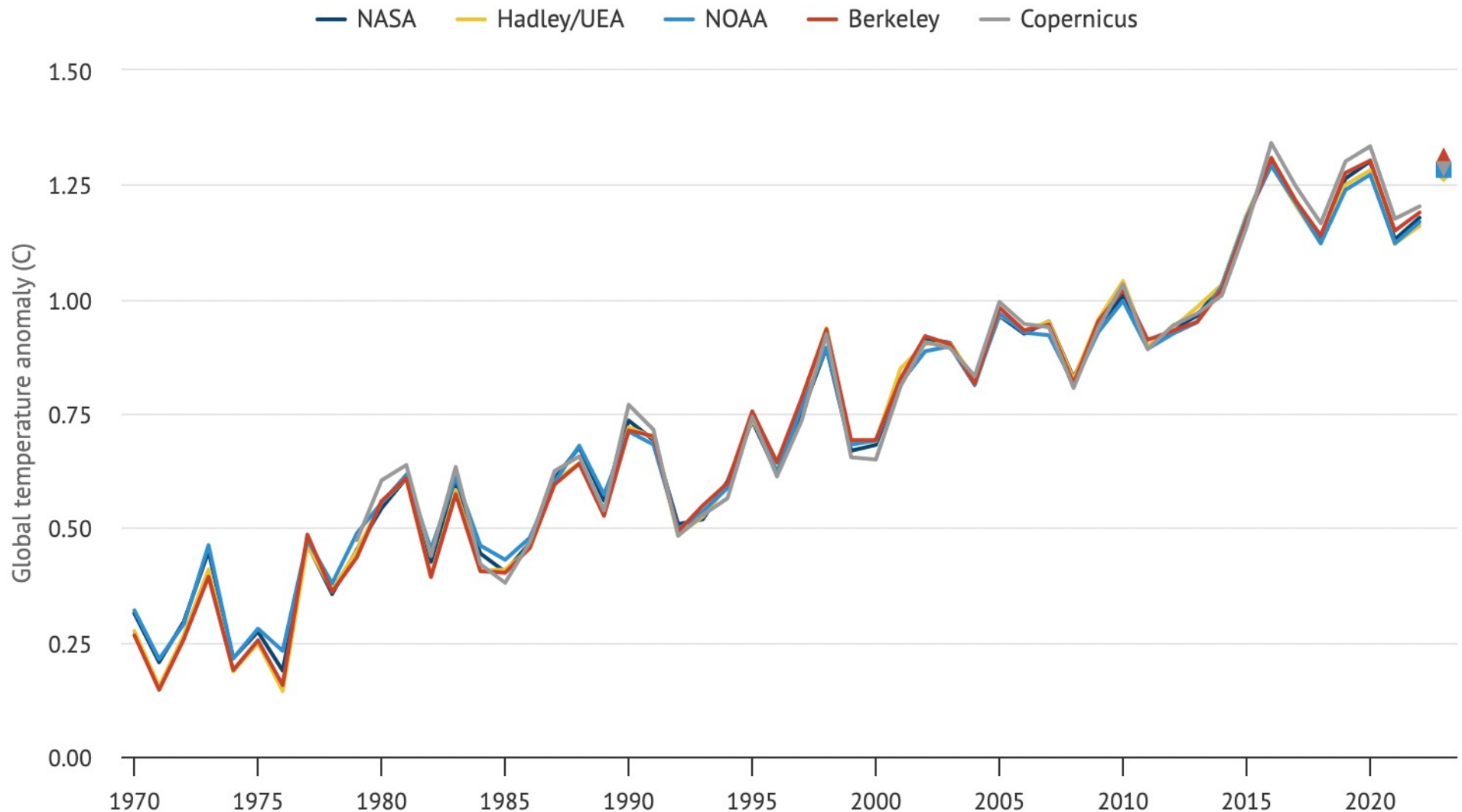


Emissions of greenhouse gases from human activities are responsible for approximately 1.1°C of warming since pre-industrial (1850–1900) levels.

Predictions find that if nothing is done to reduce emissions over the next 20 years, the global temperature is expected to reach or exceed 1.5°C of warming.

Five global surface temperature series


Coloured lines show 1970-2022, shapes show the year so far in 2023



Source: NASA GISTEMP, NOAA GlobalTemp, Hadley/UEA HadCRUT5, Berkeley Earth and Copernicus/ECMWF

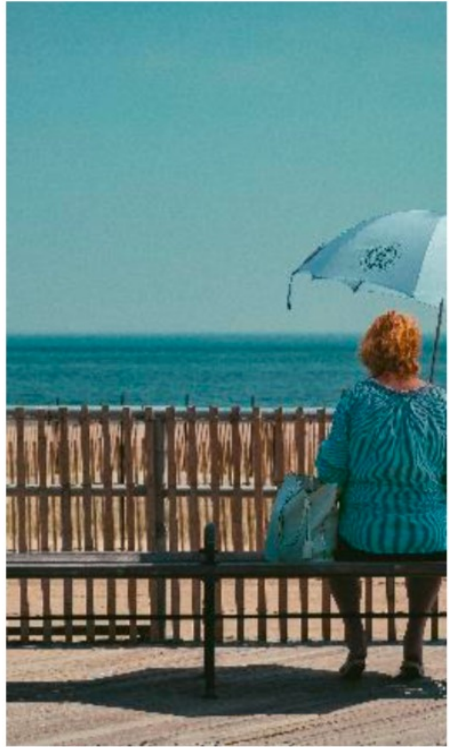
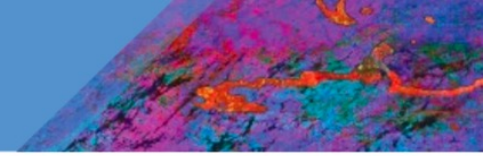
Countries have pledged, under the 2015 Paris Climate Agreement, to try to hold global temperatures to no higher than 1.5°C above pre-industrial levels.

However, scientists have warned that temperatures are likely to temporarily rise by more than 1.5°C, which could have dire consequences.



The
Economist

**What 3°C of
global warming looks like**



Extreme heat

More frequent

More intense



Heavy rainfall

More frequent

More intense



Drought

Increase in some
regions



Fire weather

More frequent



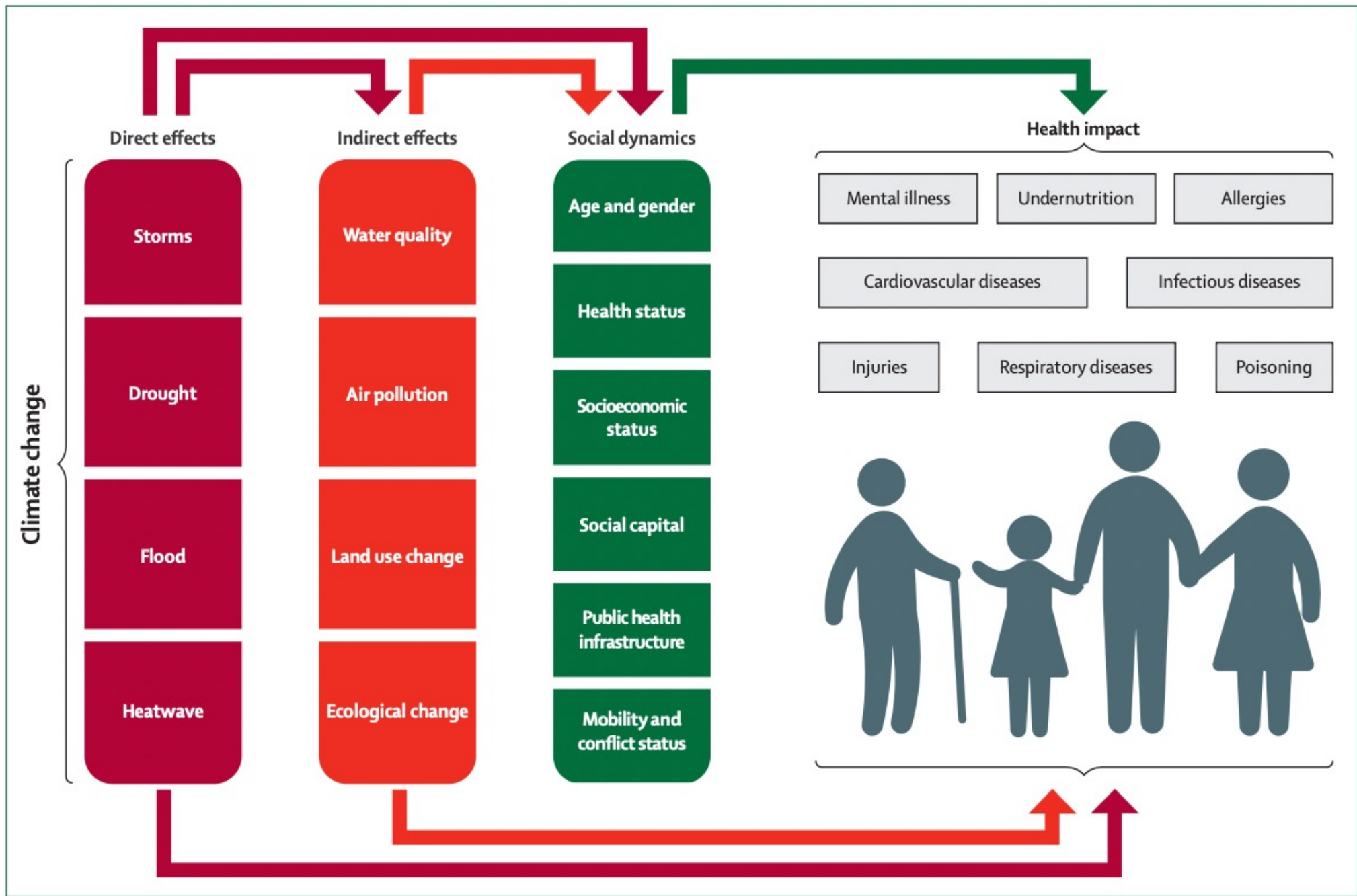
Ocean

Warming
Acidifying
Losing oxygen

The World Health Organization (WHO) named climate change as the single biggest health threat facing humanity.

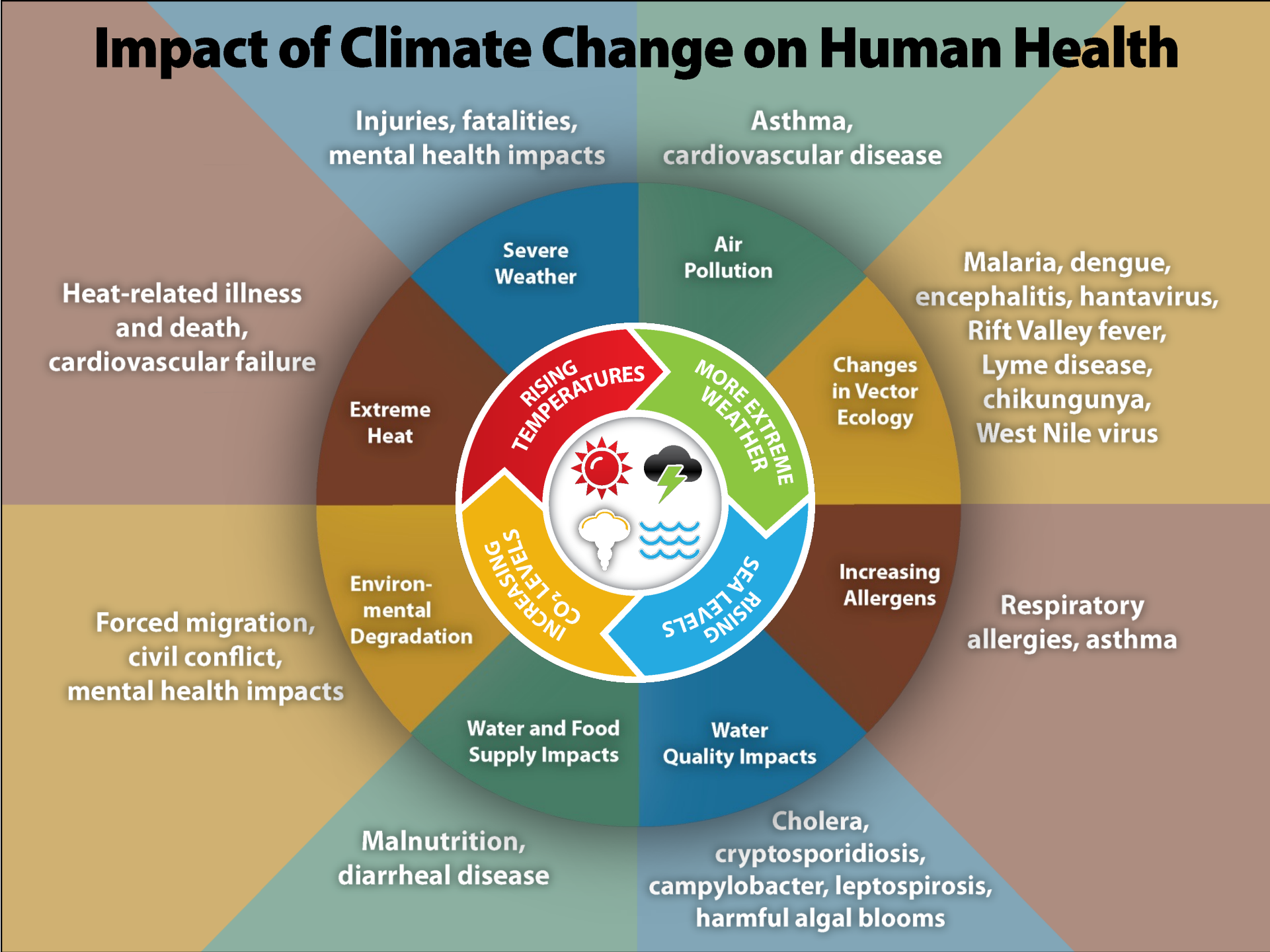
The consequences of climate change directly affect human health, the practice of medicine, and the stability of health care systems.

Climate change disproportionately impacts vulnerable populations (i.e., elderly, children, LMICs, etc.)



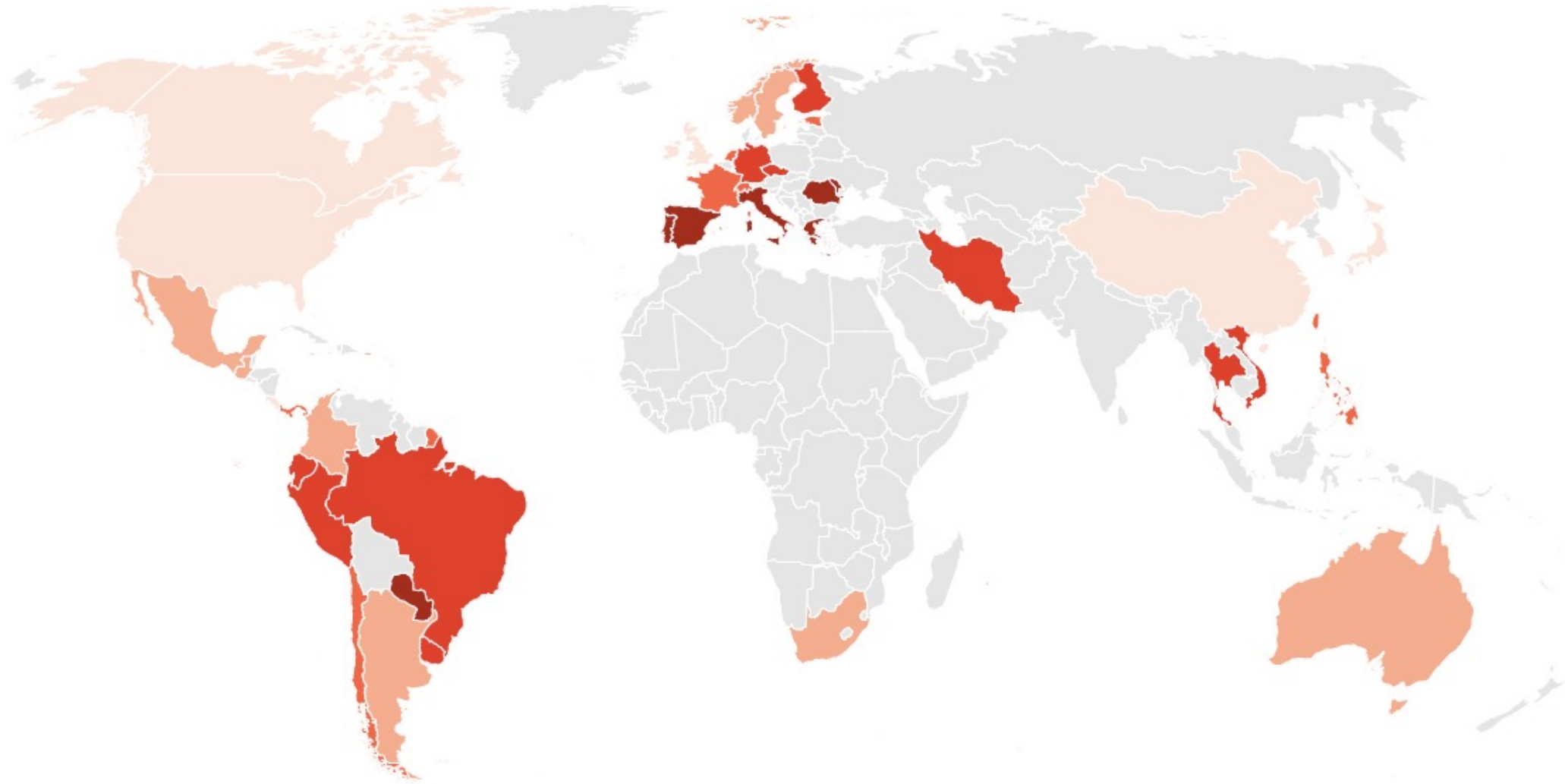
(Watts, et al., 2015)

Impact of Climate Change on Human Health

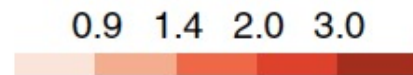


(Image: CDC)

37% of heat-related mortality attributable to climate change

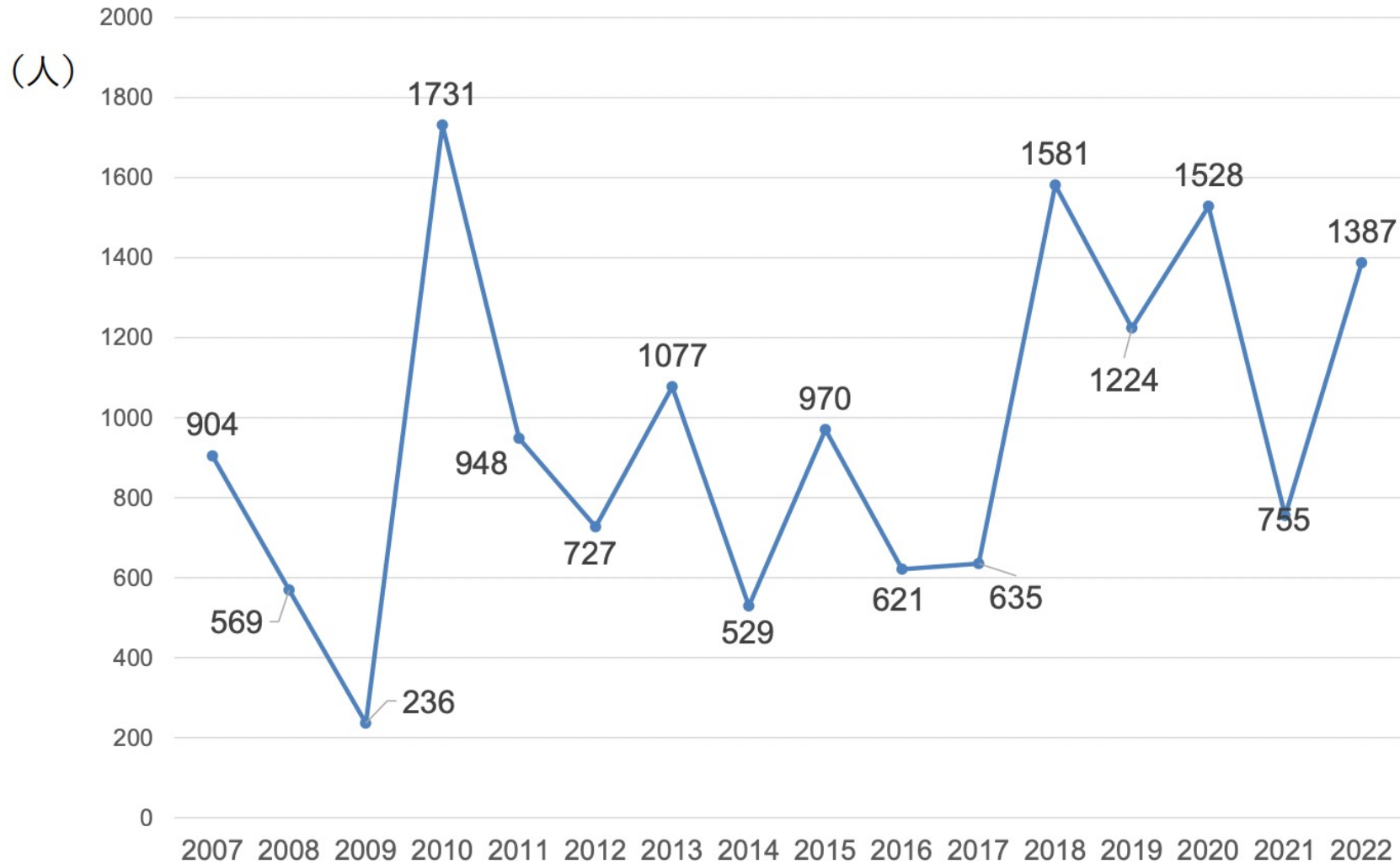


Heat-related mortality rate attributed to human-induced climate change (per 100,000)



(Vicedo-Cabrera et al. Nature CC 2021)

Number of heat stroke deaths in Japan

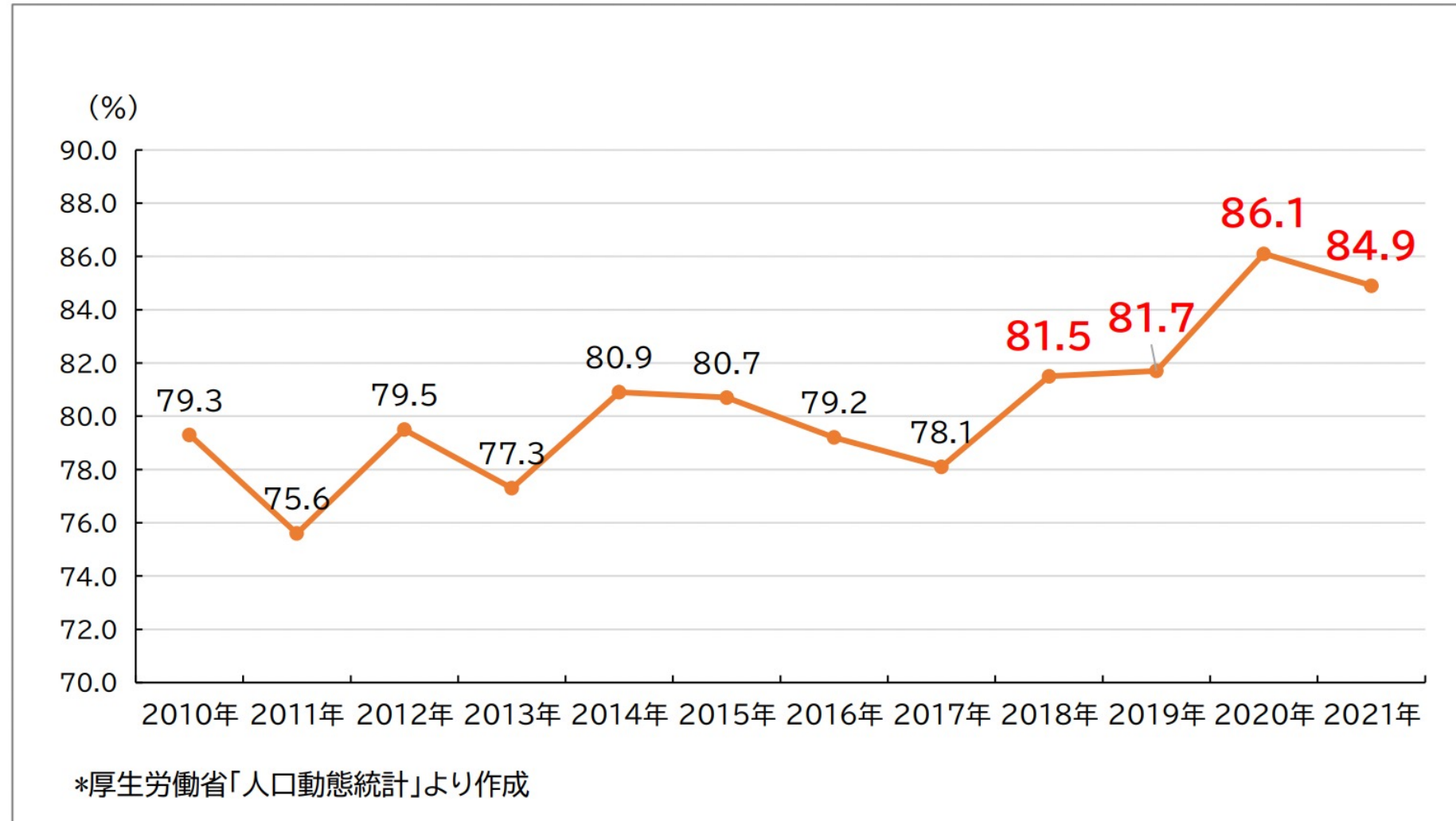


※2022年は6月～9月の合計

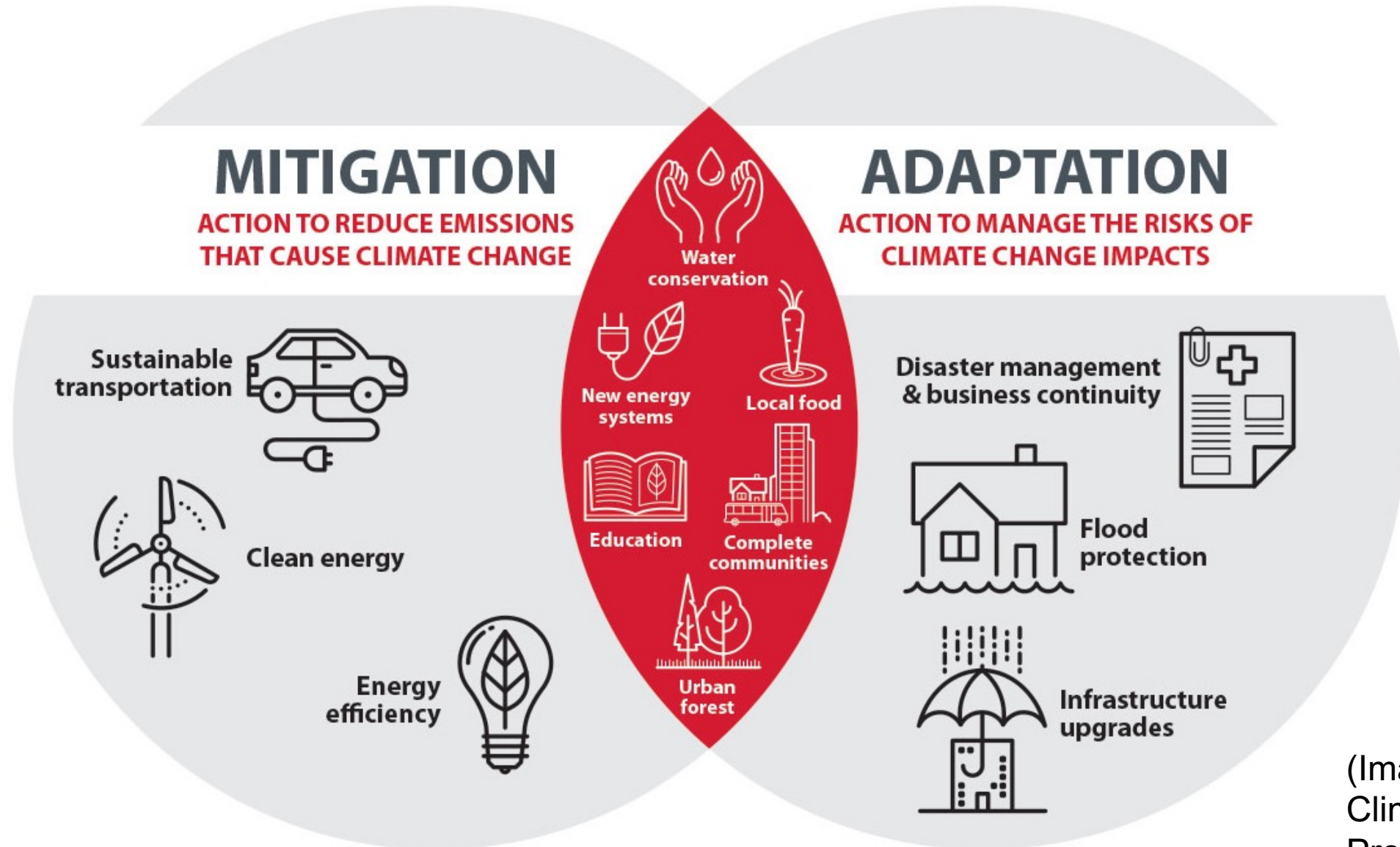
厚生労働省「人口動態統計」より作成

(MHLW, Vital Statistics, 2022)

Percentage of heat stroke deaths in Japan among 65 yrs +



How do we address climate change?



(Image: Calgary Climate Change Program)

Potential health co-benefits through mitigation

Transportation



Shorter travel distances, reduced car use and more active travel through better urban planning, and electrification of the remaining vehicles can benefit health through reducing air pollution, noise pollution, traffic injuries, and physical inactivity.

Agriculture, forestry, and food



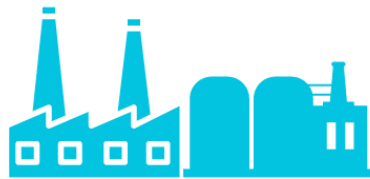
Prevention of biodiversity losses can protect human health and global critical ecological systems. Climate change mitigation would also prevent losses in nutritional value in crops from climate change. Reduction in red meat intake would reduce cardiovascular disease and corresponding methane emissions.

Energy



Across different scenarios, depending on the scale and context, shifting to renewables and bioenergy have quantified co-health benefits that exceed mitigation costs. Insufficient evidence exists on the scalability of carbon capture and storage technology.

Industry



Changes in material flows, improved efficiency, and changes in production methods and technologies are associated with health economic co-benefits.

Lifestyle



Individual's lifestyle choices such as investing in insulation, divesting from fossil fuels, and making overall choices in line with strong sustainable principles can provide health and ecosystem co-benefits. These choices are strongly influenced by policy settings.

The intersection of health and the climate crisis

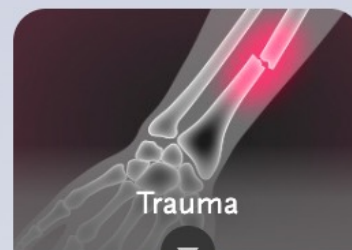
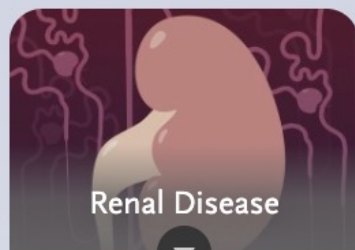
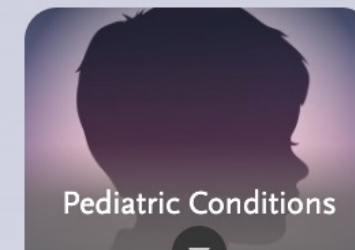
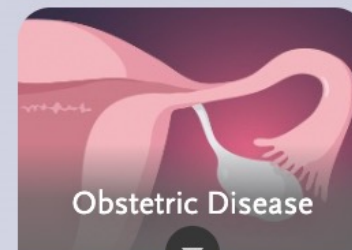
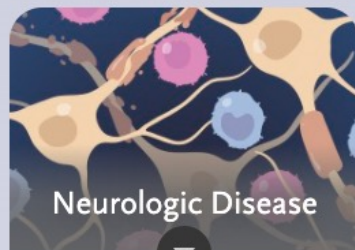
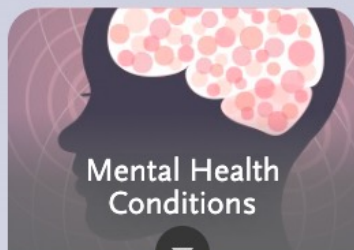
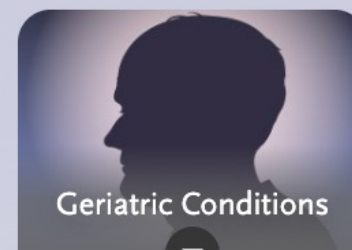
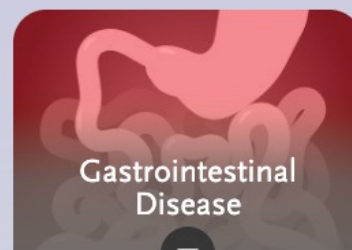
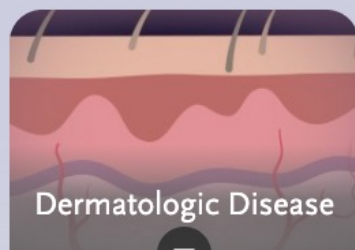
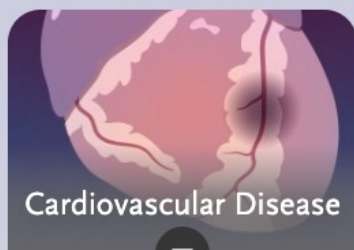
with Renee Salas, MD, MPH, MS

Jan. 20, 2022

AMA
MOVING
MEDICINE

HUMAN HEALTH

HEALTH CARE DELIVERY



Literature Review

Views of health professionals on climate change and health: a multinational survey study

John Kotcher, Edward Maibach, Jeni Miller, Eryn Campbell, Lujain Alqodmani, Marina Maiero, Arthur Wyns

Climate change arguably represents one of the greatest global health threats of our time. Health professionals can advocate for global efforts to reduce emissions and protect people from climate change; however, evidence of their willingness to do so remains scarce. In this Viewpoint, we report findings from a large, multinational survey of health professionals (n=4654) that examined their views of climate change as a human health issue. Consistent with previous research, participants in this survey largely understood that climate change is happening and is caused by humans, viewed climate change as an important and growing cause of health harm in their country, and felt a responsibility to educate the public and policymakers about the problem. Despite their high levels of commitment to engaging in education and advocacy on the issue, many survey participants indicated that a range of personal, professional, and societal barriers impede them from doing so, with time constraints being the most widely reported barrier. However, participants say various resources—continuing professional education, communication training, patient education materials, policy statements, action alerts, and guidance on how to make health-care workplaces sustainable—can help to address those barriers. We offer recommendations on how to strengthen and support health professional education and advocacy activities to address the human health challenges of climate change.

Research article

Patients value climate change counseling provided by their pediatrician: The experience in one Wisconsin pediatric clinic

Andrew A Lewandowski ^a   , Perry E Sheffield ^b , Samantha Ahdoot ^c ,

Climate-specific health literacy and medical advice: The potential for health co-benefits and climate change mitigation. An exploratory study



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ABSTRACT

Background: Despite scientific consensus about the risks of climate change on human health, patients' knowledge on climate change related health risks is largely unexplored. The current study aimed to investigate the current state of *climate-specific health literacy* in patients and the impact of climate-specific medical advice on patients' behavior regarding health co-benefits.

Methods: In December 2020 and January 2021, a total of 449 questionnaires comprising 23 items were completed by patients of general practitioners (GPs) and gynecologists.

Results: The majority of general consultations by physicians (86.6% patients from GPs, 84.5% from gynecologists) did not contain any information about climate change or planetary health. Results indicated that climate change is regarded as a global health threat (84.3%) rather than a concern for patients' own health (66.4%). Patients who received climate-specific medical advice by their physician showed higher knowledge about and awareness of climate change related health risks ($p = 0.002$) as well as emotional concern for their own health ($p = 0.04$) than patients who did not receive advice. Climate-friendly behavior was associated with greater concern about climate change related health-risks ($p < 0.0001$).

Conclusions: Climate-specific health literacy may play an important role for health co-benefits and climate change mitigation. In order to promote and protect both individual and planetary health, it is crucial to enhance climate-specific health literacy.

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What can physicians do about climate change?



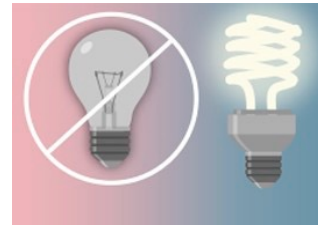
Clinical Practice



**Health Advocacy
for Mitigation**



**Promoting Resilient and
Sustainable Health Care
Systems**



Personal Actions

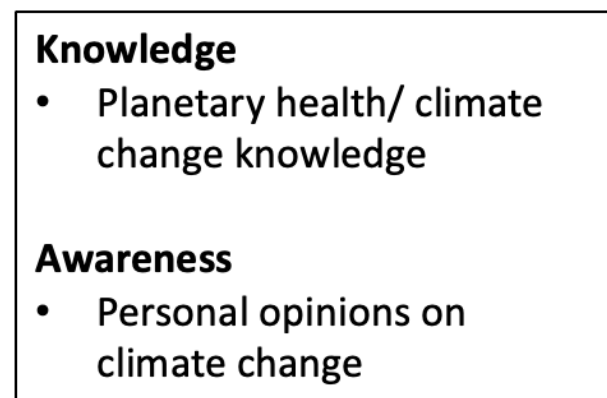


**Protecting Vulnerable
Populations**

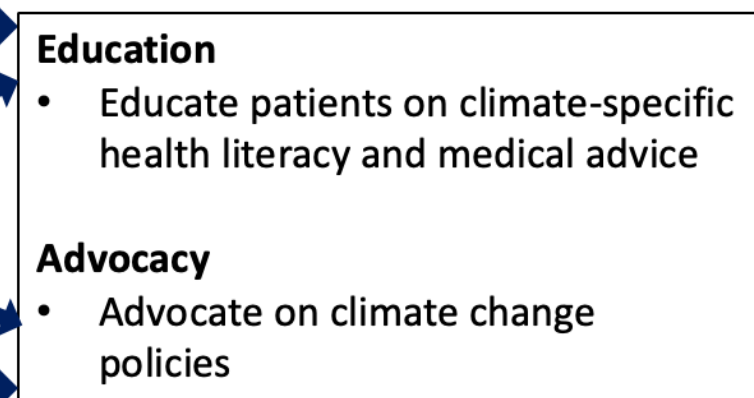
What are the views of physicians in Japan?

Objective: To investigate the climate change knowledge and awareness of physicians, as well as their willingness to provide climate-specific health advice and advocate on climate change policies.

EXPOSURE VARIABLES



OUTCOME VARIABLES



Methods

A quantitative study descriptive in design.

- Web-based self-administered questionnaire (33 questions) among licensed practicing physicians in Japan.
- Data collected through PLAMED data collection platform.
- Estimated sample size of 1,000 physicians.

Variables of interest

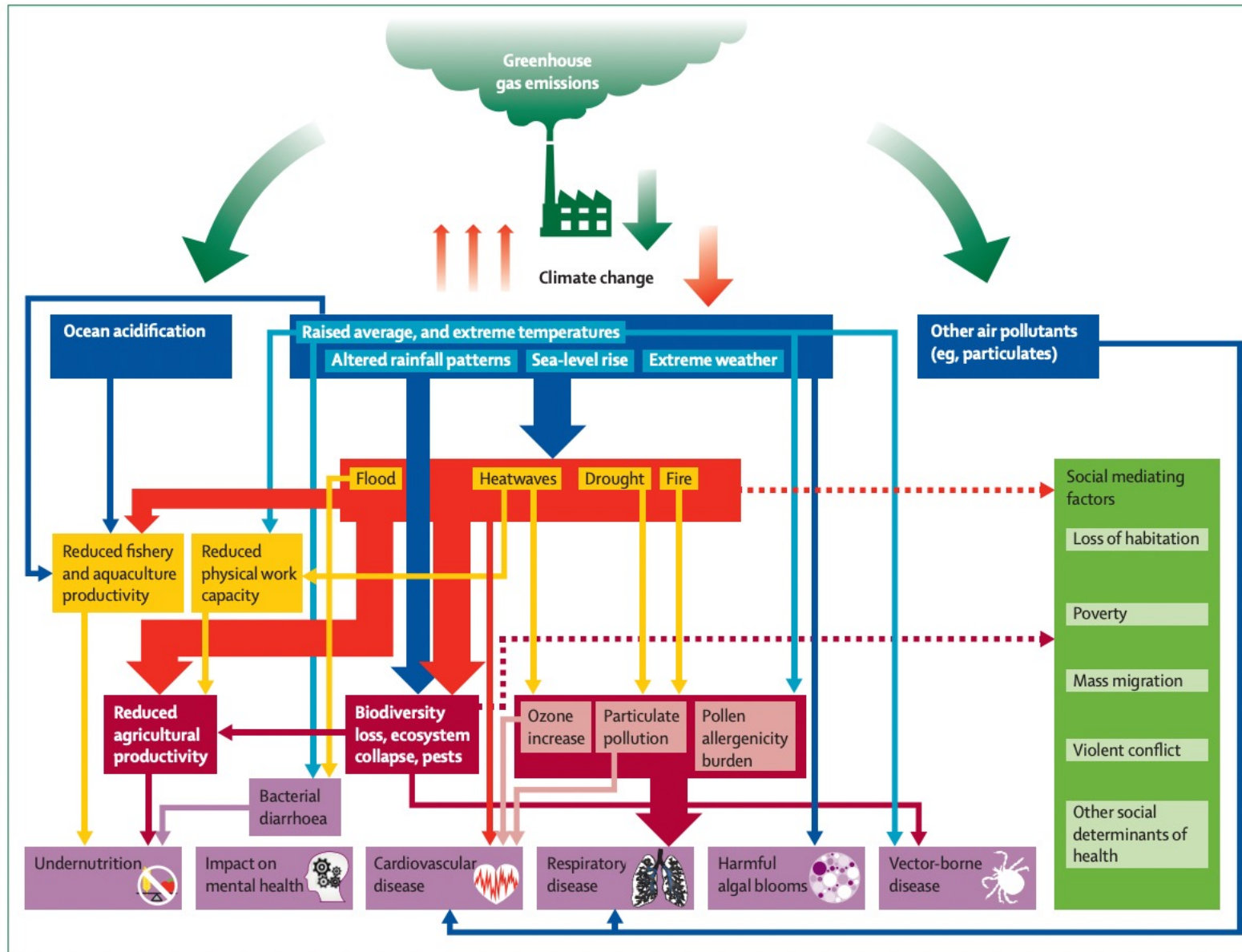
- Knowledge and awareness on climate change
- Participation in delivering climate-specific advice
- Willingness to advocate on climate change policies
- Demographic characteristics

Implications

- Tackling climate change will take a multisectoral approach.
- Physicians are in a unique position to educate patients on co-benefits that will improve their health and the health of the planet.
- Physicians are also trusted sources of information and see first-hand the effects of climate change on health, to be able to advocate and educate policy makers on stronger climate policies.



THANK YOU!



An overview of the links between greenhouse gas emissions, climate change, and health (Watts, et al., 2015)