Managing the Health Risks of Climate Change

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Workshop Policy Paper

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Introduction: Governing Climate Change in the Context of Its Increasing Threats to Health

Climate change has risen to the top of the global health agenda, threatening individuals and populations through multiple exposure pathways, across a full spectrum of physical and mental health conditions and social determinants of health. Millions of people will potentially be displaced due to climate change, undermining social stability in multiple dimensions. Climatic stressors also pose serious consequences for youth development and future generations. The past eight years have been the hottest on record, and the negative impacts of climate change on health are projected to rise as temperatures continue to increase. Despite increasing evidence, risk management and climate mitigation strategies are not yet commensurate with the urgency of the problem, and the fields of climate change and global health security remain distinct.

Gaps in the management of health impacts associated with climate change exist under each pillar of climate action: mitigation, adaptation, and loss and damage (L&D). Within international climate law, parties to the UN Framework Convention on Climate Change (UNFCCC) made commitments to minimize the adverse impacts of climate change to health through national policies, but their governments have yet to take up a health argument in global climate negotiations. At the country level, nationally determined contributions (NDCs)—a national report card feature under the UNFCCC—often fail to include health as a priority issue, to consider the health benefits of adaptation and mitigation actions, or to safeguard the health of children.

Adaptation strategies to address health impacts are generally limited in scope, for various reasons. Fewer than fifty countries identify vulnerable population groups in their NDCs; baseline forecasted evaluations for adaptation are rarely done to assess the effectiveness of responses, particularly in low- and middle-income countries; and attention on adaptation in the health sector is generally focused on emergencies rather than slow-onset effects on health. Overall progress to develop National Adaptation Plans (NAPs) has also been slow since their establishment in 2010. As of August 2022, only thirty-eight countries have submitted a NAP (up from twenty-six in 2021), and only fifteen of those include a monitoring and evaluation framework. Those plans have notable inconsistencies and gaps between health risk assessments and their public health and clinical responses, and lackluster financial planning. Ministries of health have begun a parallel process to produce Health National Adaptation Plans (HNAPs), which more specifically map out health outcomes, priority risks, and government coordination, but this work needs to be accelerated and integrated with multisectoral NAPs.

At the 2022 UN Climate Change Conference (COP 27), governments made a notable shift in global climate change governance that influences the way health impacts can be addressed. In addition to mitigation and adaptation, countries are now committed to financing action on "loss and damage." Loss and damage

are widely understood to refer to economic and noneconomic climate impacts that countries are not equipped to adapt to, nor absorb, resulting in inevitable and permanent harm. Health-related losses are a significant contributor to noneconomic loss but have not yet received much attention. Efficient coordination among existing humanitarian, health, and disaster risk agencies to produce a gap analysis on loss and damage is a priority for steering and coordinating technical assistance.

Global health security is a fairly narrow field and generally excludes consideration of environmental degradation and change. For instance, mitigation, adaptation, and L&D are not part of standard dialogue on health security. Despite a lack of consensus on the definition of global health security, and intense debates on its scope, in practice it predominantly relates to controlling the spread of infectious diseases. This is evident in the definitions of health security used by leading institutions, including the U.S. Center for Disease Control and Prevention and the U.S. Agency for International Development, and the scope of health security practice of the World Health Organization (WHO). The work of those institutions is constrained by both the framing of legal guidance of the 2005 International Health Regulations (IHR), which infers consideration of disease of communicable nature, and by the purpose of the Global Health Security Index, the global health security benchmarking tool used to address epidemics and pandemics in 195 countries. Prevention is also a limited dimension to this work, which leaves environmental drivers of disease out of the discussion and marginalized in policy approaches. Another concern is that a focus on the IHR and global health security in countries with weak and underfunded health systems could impede progress toward universal health coverage, undermining proactive adaptation to climate change and other health emergencies.

Summary of the CFR Workshop

The Council on Foreign Relations held a two-part virtual workshop on November 28, 2022, on "Managing the Health Risks of Climate Change." The workshop's core takeaways included the following:

- *Communication on health risks is not well developed and more should be done to utilize health as a motivator for climate action.* Given that progress has been so slow on mitigation and the major financial interest involved, there is a natural skepticism that a new argument focusing on health will lead to stronger climate action. However, there is significant potential to reach new audiences and use positive communication techniques to shift values and behavior to strengthen advocacy for mitigation. Recent evidence suggests that positive messages about the benefits of action bolster support for climate policies, even among those who are unconcerned about climate change. Efforts to move away from exclusively "doom and gloom" fear tactics and tailor messages to segmented audiences are still in their infancy. At the same time, strategic climate-health messaging aimed to steer government negotiations, such as to advance debate on the scope of adaptation goals or to operationalize support for loss and damage, could have meaningful impact if broadly taken up and incorporated into advocacy more consistently. There are major differences in awareness about the negative effects of climate change and the need for urgent action by age, with a survey of young people in ten countries showing that 59 percent were very or extremely worried about climate change. Overall, communicating the risks of climate change and the benefits of urgent climate action, particularly to middle-aged and older people, could help to support greater ambition. Currently, the understanding of the urgency is not keeping pace with reality, and public awareness is not commensurate with the scope and magnitude of current and projected health impacts.

- *Strategic, integrated data on climate change and health is needed to influence and inform decision-making.* Population-level risks are underassessed, and the current projections of climate-change related health impacts rely on outdated WHO estimates. New estimates of the global burden of disease due to climate change are needed and could help reframe the global climate-health debate and give it greater visibility. Investments in global health research favor genetics, diagnosis, and treatment, not upstream drivers of health outcomes. This mismatch means there is sparse evidence on detection and attribution of health impacts to climate change. Funding limitations also contribute to a narrow range of climate-health research, which tends to focus on the effects of increasing heat, air quality, and vector-borne diseases. Governments tend to view climate change as an environmental issue and give it limited consideration in global health budgetary conversations. More attention to the complex risks to health is needed, such as on the interrelationship of food insecurity due to climate change and associated impacts on vulnerable groups such as people living with HIV. Further, despite growing health evidence, the current data on health effects and responses has not been integrated with UNFCCC decision-making agendas or the policy cycle, resulting in international climate decisions that barely reference health, if at all.
- *Several opportunities to address climate change and health issues in multilateral environmental agreements and other international legal frameworks are being ignored.* For one, as an overarching principle, parties to the UNFCCC could recognize in an outcome decision that strengthening mitigation ambition would directly improve global health outcomes related to air pollution caused by the burning of fossil fuels—a significant benefit. Several areas on the UNFCCC agenda in 2023 could be aligned with global health objectives: first, by detailing health impacts and the needs of the health sector in upcoming drafts of the framework for the Global Goal on Adaptation; second, by expanding the capacity of frontline health organizations to assess noneconomic health losses under the Warsaw International Mechanism on Loss and Damage; third, by increasing the participation of local health experts in the technical support for climate change health emergencies and their wider social impacts under the Santiago Network, a UNFCCC initiative that pools resources for developing countries to address L&D due to climate change; and fourth, by developing a more comprehensive food production systems dialogue within the Koronivia Joint Work on Agriculture. At the same time, taking global action on pandemics, such as through a new international legal instrument on health emergencies, also presents underrecognized opportunities for incorporating prevention and climate change. In general, there is little attention paid to incorporating climate-health issues into policy cycles in either the global health or environmental field.
- *Structural barriers make it difficult to engage different sectors.* Domain expertise in climate change and health are rarely integrated, particularly at the interministerial level, which prevents cross-sectoral action. More support is also needed at the subnational level, particularly for cities, to manage complex risks. One example of this distinction is the segregation of early-warning surveillance systems for climate change associated natural hazards and those for pandemic and other infectious disease risks.
- *Food system reform is a core part of strong climate governance, but food policy is not comprehensive or well-coordinated in the three pillars of climate action—mitigation, adaptation, and L&D.* Moreover, opportunities to influence food policy under international climate law are underrecognized by health experts and organizations. In part, this is because strong segregation exists between the agriculture and nutrition communities in the climate field. Policy changes are needed to reduce the significant greenhouse gas emission contribution of the agriculture sector and to devise robust adaptation and L&D strategies for food systems. The potential migration of tens of millions of affected people in the coming decades due to devastated food systems and agricultural livelihoods is just one of many examples of the centrality of food

systems in climate action. More directly, childhood undernutrition is projected to be a leading underlying risk factor for climate-change mortality. Lamentably, the COP 27 decision on food systems retained the UNFCCC focus on terrestrial agriculture and emphasis on enhanced food production as a solution to climate impacts. This ruling will reinforce the existing global food system model that contributes about 8 percent of global carbon emissions from food loss and waste alone. Shifts in diet and consumption have also not been addressed in UNFCCC agriculture outcomes.

Discussion of Workshop Findings

Within the United Nations, climate change has become a ubiquitous issue, but creating cohesion in mandates, funding streams, and synergizing objectives remains a challenge. This problem is also observed at national and regional levels. Strategic approaches to climate change and health are the exception, not the rule. Overall, attempts to address health risks through global climate governance have been fairly limited. To date, investments by health stakeholder participants in the UNFCCC have largely aimed to raise general awareness of climate-health issues, often at the margins of governmental negotiations.

The UNFCCC neglects some pivotal climate issues, such as food systems and water. A significant body of existing evidence on these topics, including the Intergovernmental Panel on Climate Change (IPCC) assessments of health, nutrition, and agriculture and land use, is not connecting to decision-making conversations. There is also a glaring mismatch between the large pool of nutrition and food experts worldwide and their absence in UNFCCC discussions. Similarly, the water, sanitation, and hygiene field is not incorporated into international climate law under the UNFCCC, resulting in this domain missing from strategic advocacy in global climate negotiations. Surprisingly, even after the impact of climate change on water access reached debate at the UN Security Council in 2016, neither water access nor water governance have featured as prominent themes in UNFCCC discussions.

Climate change is not a clear component of the global health security concept, agenda, or practice. However, opportunity exists to insert it. The scope of the definitions of "health emergency" is still being debated, in which some argue that climate change is a much bigger threat to public health than infectious disease, while also being a risk factor for infectious disease, and therefore should be included in this definition. The Global Fund now points to taking a broader perspective on global health security in a statement on its website, where it infers the field of global health security "won't work" if it neglects risk factors for small outbreaks and prioritizes only wealthy countries' needs on infectious disease. The Global Fund still focuses its investments in global health on infectious diseases, but notes that climate change makes combatting infectious diseases harder.

Discussions on a new international instrument under the WHO to address pandemics show that the inclusion of climate change has evolved over the year-long consultative process toward developing a zero draft on which to begin negotiations. Defining norms and terms will be an important part of this process. Climate change is currently listed as a driver of emergent disease, creating an opportunity for formally linking climate change and global health security. The zero draft briefly outlines an inclusive mechanism for diverse instruments to have some opportunity for jointly overseeing pandemics. Draft arrangements for the new international pandemic instrument emphasize synergies with climate, biodiversity, and ecosystem instruments, among other international agreements. Those arrangements could be a gateway to further integrate institutions and mandates going forward. At the same time, while the current zero draft commits parties to addressing a range of environmental drivers of pandemics, under implementation, parties are only

committed to develop One Health action plans encompassing antimicrobial resistance, falling short of the environmental dimension described in the One Health Joint Plan of Action.

Moreover, metrics to inform a One Health approach are narrowly developed, reductive, and do not yet include a full array of health hazards and their drivers or a transdisciplinary approach. Health and environmental impact assessments are still conducted and employed in siloes, while economic valuation methods tend to overlook significant social and cultural factors that determine health. Accounting for inclusive wealth would be more fit for purpose if comprehensive, quantifiable health outcomes such as environmental burden of disease were evaluated and incorporated into what the United States calls "defensive expenditures," or the cost of minimizing bad outcomes. The merging of international law fields is creating a ripe moment to utilize integrated valuation data to guide and hold industry and the public sector accountable for decisions that create health risks. However, a focus on health outcomes (positive and negative) rather than assets, such as hospital revenues, are needed.

However, any pandemic instrument using the traditional interpretation of "pandemic" (to infer communicable disease) will be insufficient to address the many effects climate change can have on health and the need for both adaptation and mitigation to reduce harms. The recent debates on the definition of "pandemics" in the WHO consultative process provide an interesting opportunity to reconsider norms.

Main Gaps in Global Governance

The main gaps in global governance on climate change and health arise from the accelerating pace of climate change, the difficulty of collective action, and the significant disconnect between science and policy research, action, and funding. Bridges between the environment and health fields are not robust and this inhibits conceptual thinking. Those gaps include the following:

- *The global nature of anthropogenic drivers of climate change requires a strong collective response to mitigation that centers on new approaches to accounting*. Massive investment in thorough, cross-sector emissions reductions should be mobilized immediately. Harnessing the health benefits of climate action and reducing subsidies that drive climate change are two interlinked priorities. Government support for fossil fuels in fifty-one countries increased from $362.4 billion in 2020 to $697.2 billion in 2021. The International Monetary Fund approach, which includes implicit subsidies from undercharging for environmental costs such as air pollution, climate change, and from foregone consumption taxes, estimates annual subsidies to be $5.9 trillion, or 6.8 percent of the global gross domestic product (GDP) in 2020. This is projected to increase to 7.4 percent of global GDP in 2025 because of the growing share of fossil fuel consumption in emerging markets (where price gaps are generally larger). In 2020 only 8 percent of the total subsidy reflected explicit subsidies, when the retail price is below a fuel's supply cost, while 92 percent reflected implicit subsidies. At the same time, carbon pricing initiatives only cover about 23 percent of emissions, and the sums are often too low to deliver the scale and pace of decarbonization needed.
- Valuing the health benefits from climate change mitigation actions can offset the costs of mitigation to variable degrees, depending on the context. Current estimates of the health benefits of phasing out fossil fuels include averting millions of premature deaths from air pollution, with estimates ranging up to nearly nine million annually. Shifts towards the consumption of more sustainable healthy food choices can also reduce emissions, with the substantial health co-benefit of potentially preventing ten to eleven million premature adult deaths per year from improved diet by 2050. Major additional health benefits can result

from increased physical activity by promoting active travel and public transport. The value of the global health benefits from implemented climate mitigation policy could amount to trillions of dollars annually depending on the air quality policies that nations adopt independently of climate change. Redirecting fossil fuel subsidies and funds raised from carbon pricing to support health in climate adaptation and mitigation policies, as well as supporting universal health coverage, could help achieve health and climate goals. UNFCCC parties to COP 28 should agree to "phasing out" fossil fuel subsidies.

- *Adaptation is underfunded and underdeveloped, and analyses of noneconomic health losses and damages are in their infancy.* Progress on the development of NAPs and HNAPs is woefully inadequate for the health risks countries face. As a consequence, countries cannot adequately assess and anticipate those impacts that are beyond the capability of adaptation, and will result in unpreventable loss and damage. Investments should aim to develop an evidence base that supports countries to engage the new UNFCCC L&D financing mechanism. Another major area of focus should be informing the development of criteria for a country to qualify for L&D financing, which in current proposals includes percentage loss of GDP, percentage of population impacted, or ratio of damage to gross national income. Social cost accounting can provide valuable input to this criteria, and should build on the health outcome and health sector data assessed under national disaster loss accounting. The National Institutes of Health (NIH) currently provides just 0.2 percent of its budget to climate change.
- *A severe science-policy disconnect undermines the decision-making process on climate change, which impedes effective and efficient implementation.* Bracing for unavoidable systems-wide change due to climate change requires a higher-level of systems thinking and risk planning than currently exists. Developed science is not informing the policy agenda, and research agendas are not linked to the policy cycle. Science should be geared, and interdisciplinary technical experts trained, to respond to and shape the global climate policy agenda. Proactive approaches are needed.
- *The climate-health field does not feature prominently in either the global health security or climate change agendas.* This discrepancy exists despite the massive, short- and long-term economic costs of hazards associated with climate change, and despite that climate change is, for instance, a driver for emerging zoonotic disease and other infectious disease outbreaks. Greater attention to the norms and legal frameworks for global health security are needed to ensure environmental risks to health are addressed while supporting progress towards universal health coverage.
- *Climate action needs to be developed in synchrony with efforts to address threats to other planetary boundaries.* Climate change is interrelated to and compounds other global environmental changes. Boundaries of six of nine planetary processes that regulate the stability and resilience of the Earth system have been transgressed due to human activity, including climate change, the freshwater cycle, biosphere integrity, biogeochemical cycles (nitrogen and phosphorous pollution), land-system change, and novel entities (pollution by synthetic substances). Multiple environmental threats driven by inequitable patterns of consumption are undermining and reversing progress in health. The emerging field of planetary health, which analyzes and addresses the impacts of human disruptions to Earth's natural systems on human health and all life on Earth, is an important element to the science-policy interface on climate change. An environmentally comprehensive planetary health approach encompassing climate change and One Health, would help to bring together evidence and actions across health and health-determining sectors, and across scales of society and ecosystems to reflect the complex, interconnected reality of climate change, health, and well-being.

Institutional Reforms to Enhance Responsiveness and Resilience

Meeting the challenges of the health threats associated to climate change will require the United States and other countries to take up climate change as a priority health security issue and to position health security as an objective of global climate change governance.

- *The United States should demonstrate leadership in national and global climate change governance, positioning climate change as a health security issue.* This requires the United States to include a health agenda in its Nationally Determined Contribution, to develop a Health National Adaptation Plan, to include climate-health experts on its national delegation to the UNFCCC, and to develop a national research agenda oriented to inform the agenda and cycle of the UNFCCC with comprehensive health and security risks. In these and other ways, the United States should encourage integration of international environmental and human rights law.
- *The United States should invest in the health security of its citizens by rapidly funding broad investments to address the full spectrum of health implications of climate change associated hazards, extremes, vulnerabilities, and exposures.* Innovative initiatives will be necessary to tackle new approaches to combined environment-health risk management, and the $10 billion bump for global health in the U.S. budget for 2023 such as for global health security and innovative ventures could help. Adaptation and resilience cannot be divorced from mitigation since ambitious action to cut emissions is essential to make adaptation more feasible and to reduce the risks of triggering tipping points beyond which adaptation is infeasible.
- *The United States should support coordination between health security and climate change at all scales of governance, including at the municipal, local, and community level.* Reconsideration of the scope of country commitments under the IHR 2005 with updated definitions of "health emergencies" and public health response should be a starting point for adjusting the legal frameworks. This can help move the research field to predicting points of intervention, particularly for adaptation and loss and damage. Any investments for global health security should also support commitments to universal health coverage.
- *The United States should more explicitly link the accounting of natural assets to health security in its National Strategy to Develop Statistics for Environmental Economic Decisions.* In addition to recognizing that nature promotes health, the government should recognize that nature's destruction is detrimental to health. More investment in capturing health spending by health outcome rather than by hospital visit improves valuation and translates it into metrics that are meaningful for economic analysis and the national ecosystem assessment.
- *The United States should emphasize the linkages of climate change and health in all multilateral environmental agreements and ensure that the One Health approach is environmentally comprehensive within the broader framework of planetary health.* A critical international leadership action on the part of the United States would be the ratification of the Convention on Biological Diversity, established in 1992 and ratified by 196 other countries. This move would strongly signal the importance of the environment for a sustainable economy, resilience, One Health, human health, and planetary health.
- *The United States' position on food policy needs to reflect dire economic and health threats of interlinked global environmental changes and growing risks of exceeding planetary boundaries.* Strengthening global policy for food systems through international climate law will yield gains for mitigation, adaptation, and L&D actions, and for safeguarding biodiversity and avoiding malnutrition in all its forms.

- *The Inflation Reduction Act creates an opportunity for benefiting health through climate mitigation actions, including through reduced air pollution, but the act should link evaluations of health and greenhouse gas impacts.* Transformative change is possible across different sectors, including the use of new technologies, but its realization depends on how the Inflation Reduction Act is implemented.

Conclusion

The CFR workshop discussion emphasized many links between global health security and climate change and pointed to the significant opportunity to integrate messaging, policymaking, funding, and collaboration on those issues at all scales to reduce risks.

Climate change has wide-reaching effects on human development and well-being. It leads to health emergencies, immediate and longer-term impacts on communicable and noncommunicable diseases, and on mental health and well-being, as well as exacerbates negative consequences from a range of social determinants of health. It influences social stability, population health, and the capacity for health systems to manage increasingly complex, widespread, and expanding health problems. Health gains from stronger climate governance supporting adaptation and mitigation are widely underrecognized. The rapidly accelerating health hazards of climate change on economic and social stability need to be addressed quickly and comprehensively. The interrelation of climate change with the exceedance of other planetary boundaries poses even greater risks to health security and should not be underestimated.