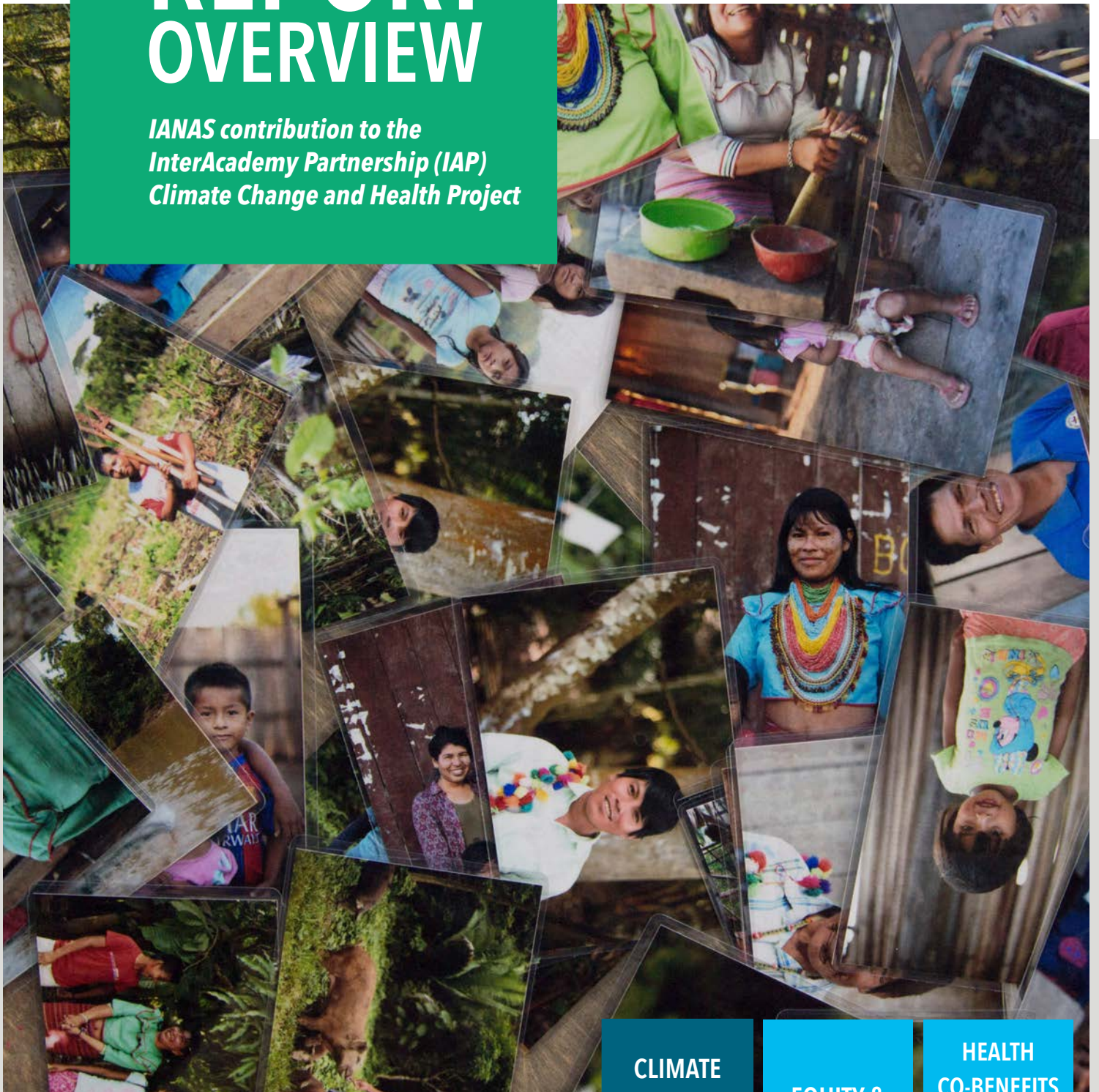


Taking action against climate change will benefit health & improve health equity in the Americas



REPORT OVERVIEW

IANAS contribution to the InterAcademy Partnership (IAP) Climate Change and Health Project



AMERICAS

FINAL REPORT TO BE RELEASED IN 2021

CLIMATE
CHANGE
& HUMAN
HEALTH

EQUITY &
JUSTICE

HEALTH
CO-BENEFITS
OF
ADAPTATION
& MITIGATION



CLIMATE CHANGE IS IMPACTING HEALTH NOW.

GRAFFITI MURALS
AT THE OIKIOTANI
GENERAL HOSPITAL
IN IQALUIT, NUNAVUT,
CANADA

THE REPORT ASSESSES CLIMATE CHANGE IMPACTS ON A VARIETY OF HEALTH OUTCOMES IN THE AMERICAS.

The is no doubt that climate change has arrived in the Americas. We have already experienced record-breaking increases in mean and extreme temperatures, lengthened wildfire seasons, increased intensity and frequency of extreme precipitation and pluvial floods, ocean warming, permafrost thaw, increased

drought, increased aridity, increased frequency of most intense tropical cyclones, sea level rise, and coastal flooding and erosion. The impacts of these events have had widespread and have sweeping implications for all species, including an urgent global public health challenge. This report documents how

climate change has increased heat-related mortality and morbidity, air pollution-related illnesses, nutrition and food security, mental health and wellbeing, respiratory health, and waterborne, foodborne and vectorborne illnesses in the Americas.

CLIMATE SENSITIVE HEALTH RISKS

Assessed in this report



OVERVIEW OF CLIMATE-HEALTH IMPACTS BY GEOGRAPHICAL REGIONS

NORTHERN NORTH AMERICA

KEY CLIMATE RISKS	KEY HEALTH IMPACTS
Rapid climate warming	Food & water security
Reductions in winter snow, sea ice, and glacial mass	Travel safety
Increases in heavy precipitation	Climate migration away from coastal areas
Sea level rise	Mental health & wellbeing

NORTH AMERICA

KEY CLIMATE RISKS	KEY HEALTH IMPACTS
Climate warming	Increases in infectious disease (water, food, and vectorborne)
Increases in heavy precipitation in northern regions	Increases in chronic disease due to reduced access to fruits and vegetables
Reductions in food crop production	

WESTERN NORTH AMERICA, CENTRAL AMERICA

KEY CLIMATE RISKS	KEY HEALTH IMPACTS
Climate warming	Food & water security
Air pollution	Heat-related morbidities & mortality
Wildfires	Vectorborne disease increases
Increase in drought conditions	Respiratory health impacts & ambient air pollution deaths

NORTHERN & SOUTHEASTERN SOUTH AMERICA

KEY CLIMATE RISKS	KEY HEALTH IMPACTS
Climate warming	Food & water security
Air pollution	Heat-related morbidities & mortality
Increases in heavy precipitation	Changes in vectorborne disease distribution
Loss of glacial mass in Andes	Respiratory health impacts & ambient air pollution deaths

COASTAL UNITED STATES, CARIBBEAN, NORTHEASTERN SOUTH AMERICA

KEY CLIMATE RISKS	KEY HEALTH IMPACTS
Climate warming	Food & water security
Increased frequency & intensity of hurricanes	Heat-related morbidities & mortality
Increase in drought conditions throughout Caribbean	Climate migration
Sea level rise	Respiratory health impacts & ambient air pollution deaths
Air pollution	



CLIMATE CHANGE CONVERGES WITH & COMPOUNDS OTHER HEALTH CRISES.

Photo credit: Will Vanderbilt, IHACC Research Project

CLIMATE CHANGE AND COVID-19

This report comes at a time when the effects of the climate crisis on human health converge with those associated with COVID-19 pandemic. As a consequence, over the last two years health systems have had to respond to COVID-19, as well as the impacts of record-breaking heatwaves, intense storms and disasters, and wildfires. For example, in July 2020, hurricane Hanna made landfall in southern Texas at the time when the State was experiencing the highest COVID-19 incidence of

hospitalization in the United States. Efforts to evacuate and provide shelter for people, while simultaneously limiting viral transmission, presented difficult logistical challenges, while residents who chose not to evacuate due to fear of COVID-19 increased their risk of injury and drowning.

Both crises are pertinent reminders of how the interconnectedness of social, environmental, and climatic factors have exacerbated existing social and health inequities.

Factors that increase vulnerability to climate change, such as age, gender, and socioeconomic status, are the same as those that increase vulnerability to COVID-19. Thus, it is essential as we move forward with preparedness and robust response planning that issues of equity and social justice are incorporated.



REPORT CROSS-CUTTING THEMES:

- Necessity for urgent action to limit climate-health impacts
- Equity in climate-health evidence synthesis and responses
- The intersection of various social conditions, factors, and characteristics
- Sustainability, transdisciplinarity, and systems thinking
- Indigenous knowledge
- Coupled socio-ecological systems
- Cascading and cumulative climate-health risks

REPORT CASE STUDIES

Case studies are incorporated throughout to provide local to regional context and highlight in depth examples of climate-health impacts and response strategies across the Americas.

IN-DEPTH
CLIMATE-HEALTH
EXAMPLES

Examples of case studies in the report:

- Case Study 1.** Climate change and urban heat island effects in Mexico City
- Case Study 2.** Impacts and solutions relating to heatwave mortality in Argentina
- Case Study 3.** Heatwaves in Brazil
- Case Study 4.** COVID-19 and air-pollution-related mortality
- Case Study 5.** Climate change, water, and health in the Caribbean
- Case Study 6.** Climate change and foodborne illness linked to seafood in the Americas
- Case Study 7.** Climate change, health, and the GEOHealth Hub Centered in Peru
- Case Study 8.** COVID-19 and climate change in the Americas
- Case Study 9.** Climate change, wildfire, and respiratory health in Canada and the USA
- Case Study 10.** Climate migration and health in the Americas
- Case Study 11.** Climate change impacts on Indigenous health in the Americas
- Case Study 12.** Climate-health education for health professionals
- Case Study 13.** Health content in the Nationally Determined Contributions
- Case Study 14.** Youth engagement in climate action in the Americas



Photo credit: Will Vanderbilt,
IHACC Research Project



CLIMATE CHANGE ACTION WILL IMPROVE HUMAN HEALTH IN THE AMERICAS.

HEALTH SYSTEMS MUST WORK ACROSS SECTORS ADAPT TO CLIMATE CHANGE.

Climate change has already negatively impacted health in the Americas and in this report we address how, through adaptation and mitigation, our health systems can adapt to cope with current and expected climate change and simultaneously reduce harmful health impacts. Examples of climate change adaptation include (i) raising public awareness of climate-health risks including improved climate-health education in schools, (ii) heat action plans, (iii) modifying the built environment to cope with higher temperatures, (iv) explicitly incorporating health into disaster risk management plans, (v) early warning and response systems, (vi) incorporating mental health impacts into disaster risk management, (vii) integrated environment and health surveillance and response systems, and (viii) improved access to key services, including improved water, sanitation, and hygiene systems. Importantly, when addressing adaptations to reduce the health impacts of climate change it is essential that the health sector coordinates its efforts with other sectors such as water and sanitation, food production, transportation, housing, education, and land use planning.

The Americas need adaptation strategies, policies, and programs to build climate-resilient and environmentally sustainable health and healthcare systems. This report outlines how assessing the vulnerability of regions, populations and individuals, as well as the capacity to prepare for and manage changes in the magnitude and pattern of risks, have been used to establish a knowledge base of current and projected health risks. These assessments are important for informing the health components of national adaptation plans (HNAP), Nationally Determined Contributions, and other key climate change planning, programming, and response.

But there are limits to our ability to adapt to future climate change and current, effective adaptations may become inadequate over the medium- to longer-term. Furthermore, it is critical to understand that adaptations designed without sufficient attention to equity and the needs of the most vulnerable may actually increase risks or shift risks to other groups. Therefore, this report identifies situations where health systems might no longer be able to avoid intolerable risks due to the extent of climate change and/or physiological, institutional, technological, behavioural, or economic factors. For example, climatic conditions could significantly increase the geographic range of vectors carrying climate-sensitive infectious diseases. Similarly, if average global temperature increases exceed 2°C, outdoor workers in several Latin American countries could experience extreme heat conditions that exceed the threshold for safe working for even moderate physical labour during the hottest month of the year. These impacts are likely to increase poverty and inequities, with the potential to undermine or reverse gains made by the Sustainable Development Goals.

IMMEDIATE CLIMATE CHANGE MITIGATION CAN HAVE IMMEDIATE HEALTH BENEFITS.

There are clear benefits to drastically reducing emissions to meet the Paris Agreement targets, including reduced health risks in the coming decades; however, there are also clear immediate and nearer-term benefits of climate change mitigation action. This report provides examples of how climate change mitigation can improve human health and result in reduced health care costs, providing decision makers with important rationale to take more aggressive climate action now.



COAL PHASE-OUT

Coal phase-out has particularly promising co-benefits for the environment and human health in the Americas. While necessary to reduce global greenhouse gas emissions, coal phase-out has immense additional benefits as it reduces health risks, such as cardiovascular disease, respiratory disease, lung cancer, and negative infant and child health outcomes.



MASS-ACTIVE TRANSPORT

Road traffic currently accounts for nearly three-quarters of transport-related emissions which, based on current trends, will only increase. Thus, modifying transportation systems to reduce emissions can also provide health benefits. For example, if more people used active transport (e.g. cycling, walking, running) this would reduce emissions while providing important health co-benefits, such as significant reductions in the prevalence of ischaemic heart disease, cerebrovascular disease, depression, and diabetes.



LOW EMISSIONS DIETS

The food production system contributes to an estimated 20-30% of global GHG emissions, and as livestock production contributes substantially more to GHG emissions than plant-based products, this represents a critical area of focus for mitigation. Importantly, this would also have health co-benefits. Diets low in red and processed meats and high in fruit, vegetables and legumes are associated with reduced deaths and lower risk of developing conditions including cardiovascular disease, coronary heart disease, and colorectal cancer. However, equity and justice must be carefully considered in these mitigation efforts. Indeed, dietary transitions may not look the same, or be appropriate, in some settings.

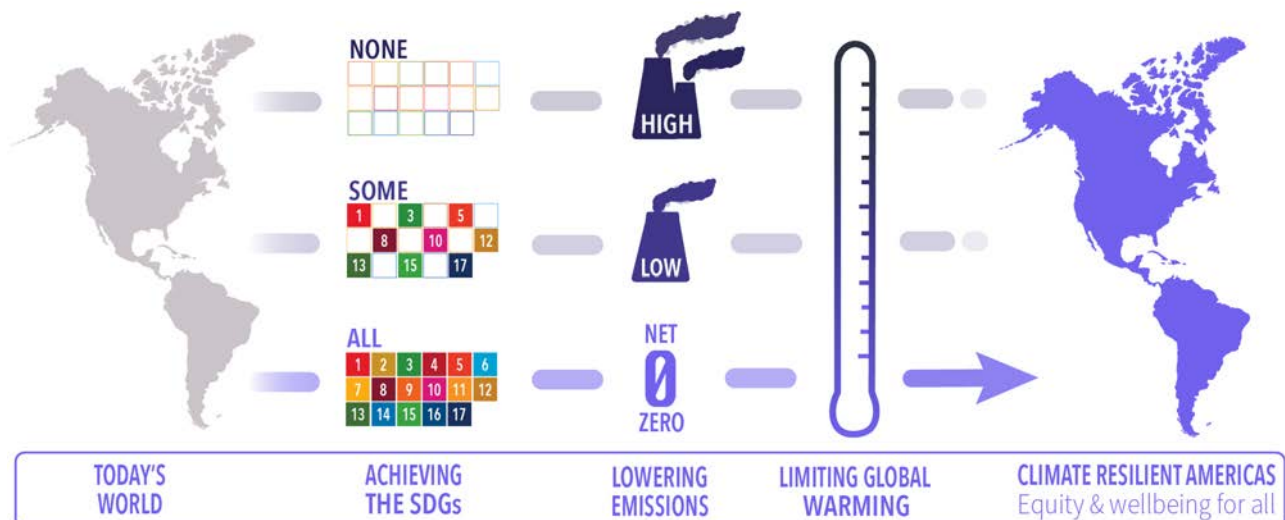
ADDRESSING EQUITY & JUSTICE UNDERPIN EFFECTIVE CLIMATE CHANGE ACTIONS THAT IMPROVE HEALTH.

Climate change impacts the health of everyone. However, an individual's health risks will be influenced by factors such as current health status; social and economic conditions; and governance, in a complex manner that will be highly dependent on location and population. As noted earlier, climate change impacts are already distributed unfairly, exacerbating insecurities and injustices already experienced by vulnerable populations, many of which are founded in historical injustices such as colonialism, oppression, and development challenges. This report examines how climate change health risks, as well as health-related adaptation and mitigation efforts need to

prioritize Indigenous Peoples, ageing populations, children, women and girls, those living in challenging socioeconomic settings, and geographically vulnerable populations.

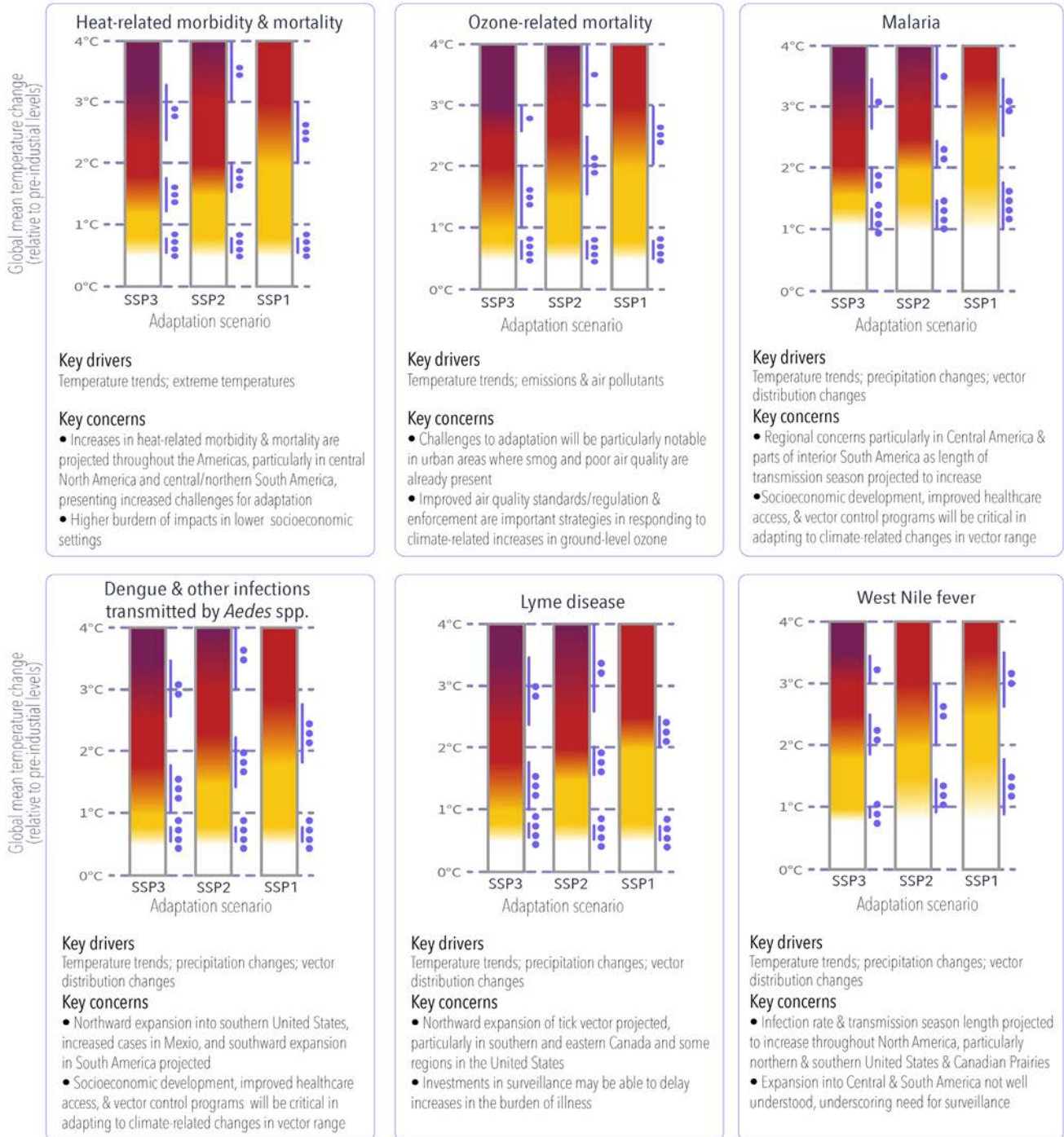
The report also highlights how the integrity and legitimacy of decisions made by governing bodies in response to climate change rely on the extent to which equity and justice are incorporated in decision-making processes and their respective outcomes. To address this challenge, the report presents equity and justice considerations for decision-makers, including distributional, procedural, capabilities, and recognition considerations in all climate-health actions.

CLIMATE CHANGE ADAPTATION & MITIGATION ARE INEXTRICABLY LINKED TO ALL SUSTAINABLE DEVELOPMENT GOALS



Climate change adaptation and mitigation are inextricably linked to all Sustainable Development Goals (SDGs). Achieving the SDGs and maintaining their benefits into the future requires decision-making that considers climate change and health in all policies (figure adapted from IPCC, 2018).

FOCUSING ON EQUITY & SUSTAINABILITY REDUCES CLIMATE CHANGE IMPACTS



Levels of risk/impact



Purple: Very high probability of severe impacts/risks & presence of significant irreversibility of the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazards or impacts/risks

Red: Significant & widespread impacts/risks

Yellow: Impacts/risks are detectable & attributable to climate change with at least medium confidence

White: Impacts/risks are undetectable

Change in risks for six climate-sensitive health outcomes by increases in temperature above pre-industrial levels, under adaptation scenarios (figure adapted from Ebi et al., 2021).

EVIDENCE-BASED RECOMMENDATIONS TO SUPPORT AN EMERGENCY RESPONSE TO CLIMATE CHANGE.

BASED ON THE ASSESSMENT AND KNOWLEDGE SYNTHESIS PROVIDED IN THE REPORT, WE HAVE ARRIVED AT THE FOLLOWING KEY CONCLUSIONS:

- 01** Climate change is already impacting everyone, everywhere – but the magnitude and distribution of impacts varies.
- 02** Every degree (°C) of climate warming matters in the Americas, underscoring the importance of taking all actions possible to limit warming well below 2°C according to the Paris Agreement.
- 03** Equity is at the core of effective responses. Globally socially, politically, and geographically excluded groups are at the highest risk of health impacts from climate change, yet are not adequately represented in the evidence base, which has policymaking implications. Therefore, equity must be at the forefront of research and policy responses moving forward from local to international scales.
- 04** Actions taken now to build climate-health resilience will limit future risks. Investing in climate-resilient infrastructure, programming, and healthcare systems will support adaptation and reduce future health risks from climate change.
- 05** A “health in all policies” response will not only support climate change adaptation and mitigation actions to meet the goals of the Paris Agreement, but will also have co-benefits for health and support the achievement of key international initiatives such as the Sustainable Development Goals.
- 06** A focus on building climate-health research momentum in the Americas is needed. The body of climate-health literature is growing, yet is still understudied compared to other areas of climate research. Continued efforts to build the evidence-base are needed, and particularly for regions of the Americas that are currently underrepresented in the evidence base.



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- 07** Cross-sectoral and global collaboration is needed. Filling additional research gaps and acting on the current evidence base will require intersectional, intersectoral and interdisciplinary approaches that bring together microbiologists, epidemiologists, social scientists, ecologists, engineers, economists, demographers, and climatologists with decision-makers.
- 08** Climate change intersects with, and exacerbates, other global challenges such as COVID-19. The current pandemic has highlighted the intersections between climate, environment, and society, and how these factors can contribute to exacerbation of existing health and social inequities. COVID-19 also provides us with important lessons about responding to grand global challenges through co-operation and rapid mobilization at large scale.



TAKING ACTION AGAINST CLIMATE CHANGE WILL BENEFIT HEALTH AND IMPROVE HEALTH EQUITY IN THE AMERICAS

Report will be released in 2021

To request a free copy of the report, please contact:

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