

The solution space for climate adaptation is underdeveloped or lacks implementation at scale in most areas.

Status of climate adaptation solutions, illustrative

● Limited solutions exist
 ● Solutions exist but not at scale
 ● Solutions increasingly deployed at scale¹
 □ Solutions required explicitly at the climate–health nexus

Climate hazards and other exposure pathways

| Adaptation type | Adaptation | Climate hazards and other exposure pathways | | | | | | | | |
|---|--|---|-----------|--------|--------|-------------|----------------------------|--------------------------|---------------------------------|--|
| | | Heat | Wildfires | Storms | Floods | Air quality | Water quality and quantity | Food security and safety | Vector distribution and ecology | |
| Development of medical products and technology for climate-related diseases (including preventative and therapeutics) | Develop new vaccines and point-of-care testing for existing diseases | | | | | | ● | ● | ● | |
| | Develop rapid-response procedures that can be quickly adapted to help develop vaccines and diagnostics against the next disease (eg, remote clinical trials) | | | | | | □ | □ | □ | |
| | Develop products and tools for air quality improvement (eg, biofilters) | | | | | ● | | | | |
| | Develop products and tools for water and sanitation management (eg, water filters) | | | | | | ● | | | |
| | Develop products for food security and safety (eg, rehydration, microbiome intervention) | | | | | | | ● | | |
| | Develop products and tools for vector control programs (eg, mosquito nets) | | | | | | | | ● | |
| | Develop treatments against climate-related illnesses (eg, antimalaria drugs, oral rehydration therapy) | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Develop solutions to treat mental health issues related to climate risks | □ | □ | □ | □ | □ | □ | □ | □ | |
| | Develop digital and Internet of Things solutions to prevent climate-induced health emergencies (eg, drones against dengue spread) | □ | □ | □ | □ | □ | □ | □ | □ | |
| | Develop medical products that are less vulnerable to climate hazards (eg, heat-resistant drugs) | □ | □ | □ | □ | | | | | |
| Develop products and tools for heat-related illness (eg, geriatric solutions) | □ | | | | | | | | | |

¹However, may not be reaching all populations (eg, those in remote or conflict areas). The solution space draws on an extensive literature review, including calls for innovations in the climate change and climate health space (eg, Grand Challenges Canada’s Stars in Global Health program, Health Innovation Exchange’s Climate Health Innovation Equity Fund call for applications, PATH’s Climate x Health challenge) and established literature (eg, from Inter-American Development Bank, Intergovernmental Panel on Climate Change, WHO, World Economic Forum), as well as more than 20 calls with experts.

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| Climate-resilient healthcare supply chains | Improve resilience of transport routes (eg, underground tunnels) | □ | □ | □ | □ | | | | |
| | Increase climate resilience of supply chains for treatments (eg, battery-powered portable refrigerators) | □ | □ | □ | □ | | | | |
| | Diversify supply sources to mitigate climate shocks | □ | □ | □ | □ | | | | |
| | Increase data transparency and real-time information on healthcare supply chain, including digital supply networks | ● | ● | ● | ● | ● | ● | ● | ● |
| | Build and maintain strategic stockpiles of essential medical supplies and equipment (eg, vaccines, medical devices) | ● | ● | ● | ● | ● | ● | ● | ● |
| | Increase supply chain capacity during emergencies (eg, manufacturing capacities, local manufacturing) | ● | ● | ● | ● | ● | ● | ● | ● |
| Climate-informed healthcare workforce | Provide on-the-ground training for healthcare professionals to respond to climate-induced healthcare demand and emergencies (eg, heat stress, mental health) | □ | □ | □ | □ | □ | □ | □ | □ |
| | Integrate courses on climate change and health into medical training programs | □ | □ | □ | □ | □ | □ | □ | □ |

Source: Eurostat, OECD, and WHO, “Classification of health care functions (ICHA-HC),” chapter 5 in *A System of Health Accounts 2011: Revised edition*, OECD Publishing, Mar 2017; *Climate change: Science and solutions; Healthy planet, healthy people*, Royal Society, 2021; *Climate change and health: Vulnerability and adaptation assessment*, WHO, Oct 2021; *ICD-11: International Classification of Diseases 11th revision*, WHO, Feb 2022; *Operational framework for building climate resilient and low carbon health systems*, WHO, Nov 2023