

Health gains threatened by climate variability and change in Sub-Saharan Africa

Remarkable progress is being made across Sub-Saharan Africa on public health. Child mortality, rates of stunting, and incidence of diseases such as malaria and meningitis are dropping. But these gains may be lost as changes in climate and weather foster disease outbreaks and food insecurity.

With climate change, Africa's most deadly health challenges are likely to persist—and even worsen.



Over the next several decades, **malaria** hot spots are likely to shift from West to Central to East Africa, with disease risk becoming seasonal in some areas and rising in others. By 2050, 45-65 million more people are expected to be at risk in East Africa alone.



Higher temperatures are likely to reduce yields and lower the micronutrient content of staple grains, putting 10 million more children under age 5 at risk of **stunting** by 2050.



Already a top killer of children under 5, **diarrheal disease** risk is expected to rise 22% by 2100, due to higher temperatures. An increase of 1°C one day in a week increases incidence that same week by 1-6%.

Other health concerns are likely to grow, greatly adding to the burden of disease, particularly in countries whose health systems already have major capacity challenges.



Linked to heavy rainfall and flooding, **Rift Valley Fever** may increase, devastating livestock and increasing food insecurity.



Predominantly an urban disease, **dengue fever** is expected to rise due to warming and humidity, with up to 56% of the world's population at risk by 2050. Africa, the world's most rapidly urbanizing continent, is likely to see sharp increases in disease incidence.



With 10% more of the continent likely to become arid, the bacterium that causes **meningococcal meningitis** – associated with dry, dusty winds – may increase.



Higher temperatures will create new habitat for snails that carry **schistosomiasis**, with an estimated 20% rise in cases by 2050.



Newly recognized as a major threat in Africa, **heat stress** is expected to increase mortality, especially among the elderly and very young.

Projected climate and weather changes by 2050



Increased temperatures, from 2°C to 6°C



Variable rainfall, with declines in some areas and increases in others



More extreme events, including cycles of droughts and flooding, and more frequent and intense cyclones



Sea level rise, 25 cm on average



Increased evaporation of surface water and soil/plant moisture

WHAT WE CAN DO

Invest in decision-support information

- Identify and map areas at highest risk of negative health outcomes to support planning, considering appropriate time frames
- Expand research on climate-sensitive diseases and health outcomes

Strengthen health system response

- Ensure that relevant information is used to prioritize health resources
- Build technical knowledge and skills to help health specialists address climate-driven health impacts

Manage risk

- Strengthen early warning/surveillance tools to inform response, e.g., use of satellite weather data for predictive models on vector activity and disease outbreaks
- Strengthen emergency preparedness and management