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Heat-related health risks get AXA Research Chairs' attention through Wellcome Trust initiative

The Wellcome Trust has provided funding to support research addressing heat-related health risks in Sub-Saharan Africa (SSA) to past and current AXA Research Chairs based at the University of Cape Town (UCT) – Professor Mark New and Professor Lara Dugas, together with their collaborators.

Professor New is the past Chair in African Climate Risk, while Professor Dugas is the Chair in Non-Communicable Diseases (NCD) Epidemiology.

Climate change has a complex and multi-faceted impact both on the planet and its inhabitants. Even under the most ambitious climate scenarios, heat-related health risks are expected to increase, posing a significant climate and health threat to vulnerable communities globally. SSA is particularly exposed because of the intersection of some of the hottest pre-existing weather conditions and extant burden of disease.

Through her AXA Research Chair appointment, Dugas, a Professor in the Division of Epidemiology and Biostatistics in the School of Public Health, has been investigating how the lived environment impacts long-term NCD outcomes in African populations. She said: "As global temperatures increase, so does the risk for chronic diseases because the human body has to work harder to maintain normal bodily functioning, including a narrow body temperature range."

Temperatures across Africa are expected to rise at up to [twice the rate of global temperatures](#), with some groups – such as informal settlement dwellers and manual labourers – being doubly exposed through their work and environment. However, limited objective evidence exists on heat adaptation options available to these groups and their impact on human health outcomes in this region.

Previous evaluation studies have primarily relied on experimental conditions or questionnaires rather than real-world settings, and few have considered health outcomes. In instances where interventions such as heat early warning systems are available, little work has been conducted to tailor these products to the needs of vulnerable communities. This funding from the Wellcome Trust will provide New and Dugas a unique opportunity to bridge this critical gap and generate actionable insights to protect communities in SSA.

According to New, director of UCT's African Climate and Development Initiative (ACDI), "this research is exciting because it addresses the widespread call for solutions-oriented research on climate change risk reduction and it is also one of the first that will be able to quantify the physiological and psychological outcomes of specific heat-related adaptations."

The project, titled Heat Adaptation Benefits for Vulnerable groups In Africa (HABVIA), will implement physical and behavioural interventions across four heat-vulnerable study sites in Ghana and South Africa. Impact will be assessed by collecting high-quality cohort data on physiological and mental health, climate, environmental and socio-economic circumstance.

By working closely with local stakeholders and engaging communities directly, New and Dugas will introduce socially desirable, affordable and scalable heat adaptation interventions specifically targeting informal settlements and manual labourers. The anticipated impact of the research extends beyond academia and into international fora and policy.

New explained: "Up to now, especially in South Africa, collaboration between the climate and health sciences has been rare. This project brings together rigorous epidemiological and climate data analysis methods in an integrated design. Previous work on climate and health has largely been based on retrospective analysis independent climate and health data, which has meant data harder to analyse and interpret."

The collaborating partners:

The UCT team is collaborating with the South African Medical Research Council, the University of Ghana, Kwame Nkrumah University of Science and Technology (Ghana), the University of Bristol (UK), the Ghana Meteorological Agency, the South Africa Weather Services and Slum Dwellers International to action this work.

While the project will bring together this expertise, it also seeks to build a sustainable pipeline of African researchers by providing opportunities for PhD students, post-doctoral fellows, and other professionals to contribute to the research and capacity-building efforts.

More about Wellcome Trust:

Wellcome Trust is a global charitable foundation dedicated to advancing research in life, health and wellbeing, announced the award supporting pioneering research projects testing and evaluating heat adaptation interventions across a variety of outcomes like health, equity and gender impacts.

Through their [Heat adaptation: evaluating interventions to help manage the health effects of heat funding scheme](#), the foundation has awarded multi-million pound funding to support this research across 11 countries.

HABVIA is one of nine initiatives to receive funding, aligning with Wellcome Trust's mission to tackle worldwide health challenges, including mental health, infectious diseases, and climate and health.

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