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Connecting climate change and health to protect the most vulnerable

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The concurrent rise in global temperatures and air pollution levels has raised concerns regarding their joint effects on human health. Heatwaves, exacerbated by climate change, have become more frequent and intense, posing significant health risks to vulnerable populations. Concurrently, air pollution, stemming from anthropogenic activities and environmental factors, contributes to respiratory and cardiovascular ailments, amplifying the health burden.

It becomes important to utilize multifaceted data from climate models, demographic and socioeconomic projections like the Shared Socioeconomic Pathways (SSPs), geographical information and other pertinent datasets in exploring the complex relationship between climate change, exposure to air pollution, extreme heat and related health outcomes. Using various data sets including climate, demographic, and socioeconomic information at different scales (cohort, city, and small area levels), the recently concluded EU Horizon 2020 EXHAUSTION project quantified the synergetic effects of exposure to extreme heat and air pollution on mortality risks for respiratory and cardiovascular diseases. The project also investigated the influence of various vulnerability factors (e.g. socioeconomic conditions, access to green space) on the health risks. The heat-health burden was projected under future scenarios until 2100, taking into account shifting demographic patterns and baseline health status in various scenarios.

We advocate for the extension of methodologies employed in EXHAUSTION to encompass low- and middle-income countries in South Asia and sub-Saharan Africa, where extreme occurrences of heat and air pollution prevail. The assessment of climate change impacts on human health in these regions is notably challenging due to the scarcity of data across various domains, encompassing health, climate, and socio-demographic information. We advocate for enhanced accessibility and availability of this data to deepen our understanding of the effects of climate change-induced extreme heat and air pollution on mortality and morbidity in LMICs. This improved access will better equip health officials to strategize interventions and bolster adaptation responses. Furthermore, there is a need for more detailed emission and socio-demographic projections in LMICs, underpinned by data and reflective of current trends.

