The hidden health costs of climate change: Accounting for extreme heat harms to women in the global South

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Global climate warming is fueling complex and compounding threats to populations worldwide, especially in the Global South where climate hazards pose an additional threat to health and well-being in communities heavily burdened by pollution [1]. Extreme heat poses a particular hazard to populations in South Asia because temperatures in that region are approaching the physiological limits to human tolerability [2].

While climate change-fueled extreme heat is dangerous to all, it poses particular risks to women— but the gendered dimensions of heat-related health impacts are poorly captured in current understanding of harms and policy responses to address climate-sensitive health inequalities. Researchers estimate that extreme heat caused about 47,000 premature deaths in India in 2019 [1], but it is unclear the extent to which gender-specific health risks identified in other studies are considered in such national-level estimates. This limitation is a concern because finer scale data on heat-related health harms suggests that women are suffering disproportionately from heat: for example, during a May 2010 extreme heat event in Ahmedabad, India 1,344 excess deaths were recorded, with a significantly higher share of female deaths during this event [3].

Even as evidence continues to emerge on the health hazards that extreme heat poses to women, the true societal costs of this growing problem, in economic terms, are not being adequately considered in climate change policies [4]. Extreme temperatures inflict damage to physical and mental health, but also impose financial costs on individuals, families, communities, employers, and governments [4, 5]. Prior research in the United States has illuminated billion-dollar ramifications of extreme heat-related health costs linked to morbidity and mortality, including those tied to healthcare delivery, prescription medications, outpatient care needs, and lost work wages [5]. However, such evidence on the health-related financial costs of extreme heat (and other climate-sensitive hazards such as floods, ozone air pollution, and certain infectious diseases) is limited in the Global South due to myriad data access challenges and gender-specific health considerations are typically excluded from economic assessments of heat-related economic risks. For example, a prominent 2020 of potential future economic productivity losses tied to extreme heat in India did not quantify heat-related health problems that could reduce worker productivity amongst women, including in informal work sectors [6].

More information on the health-related financial harms of extreme heat can help to inform planning for climate change adaptation South Asia and the Global South by helping to provide robust evidence for the avoidable health harms and associated financial damage achievable through enhanced implementation of climate change adaptation projects [4].
adaptation to extreme heat is an urgent priority in this region, and India has taken leadership to confront heat-related health risks by initiating comprehensive Heat Action Plans (HAPs) that help to disseminate temperature forecasts, socialize heat as a threat to human health, and strengthen capacity building in the healthcare sector to anticipate and respond to heat-related health problems in hospitals and emergency rooms [7]. Preliminary evidence indicates that HAPs can achieve reductions in all-cause mortality post-implementatio n [8], but the gender equity benefits of these plans are not yet clear.

Greater attention to the health-related costs of extreme heat on women’s health can help to strengthen resilience efforts at multiple scales in Global South communities. At the municipal level where cities are implementing heat preparedness actions on the ground, preliminary evidence indicates that certain elements of HAPs are cost-effective, but a deeper understanding of these dynamics could help to provide a stronger rationale for expanded implementation of adaptation actions in the Global South. For example, cool roof installations that help to reduce the concentration of heat in urban areas [9] can also deliver important health benefits and energy savings [10]. Cool roof materials are affordable and widely available, but their implementation in India thus far lags behind the available potential. Improved quantification of the health benefits of improved thermal comfort and energy savings from lower air conditioning burdens is needed to better characterize the economic benefits of such interventions [11].

At the regional level, health cost estimates can provide new insight to inform planning for extreme heat preparedness for countries of the Global South. In an analysis of HAPs across India, researchers identified gender-specific vulnerability analyses as a key limitation [12]. Such information can also be used to shape equitable public policy responses and deployment of limited resources to address priority heat risks [13]; for example, evaluation of health benefits from adaptation expressed in economic terms can help to motivate greater financing for HAP implementation [14].

At the national and international levels, improved accounting of the full range of health-related financial costs associated with climbing global temperatures can also help to ground the global dialogue on financial compensation for irreversible loss and damage resulting from climate impacts. It is clear that the global burden of climate-sensitive hazards will be shouldered by countries that are collectively least responsible for emissions of climate pollution. Climate change impact assessments of damages experienced to date and integrated assessment modeling of potential future harms, however, are dominated by accounting of insurable losses—that is, resources for which climate damages are readily assessed and for which insurance instruments can be used to attach economic value. Inclusion of a broader range of extreme heat-related health endpoints is needed to improve economic models so that these tools can better characterize intensifying economic losses being borne by vulnerable populations [15].

Climate change-driven damages to health are already widespread across the Global South, but a lack of data on costs shouldered by women undermines efforts to equitably respond to this intensifying challenge through expanded investments in climate change adaptation. Stronger attention to the health-related financial costs of extreme heat can provide an evidence base from which to justify greater investments in health-protective programs that will ultimately help to keep more women out of harm’s way. Ultimately, better estimates of the true health and financial tolls of climate change on women in the Global South can function to motivate stronger health-protective and cost-effective climate change response actions over the long-term.

References


