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Keeping Mothers and Babies Safe from Extreme Heat: A Global Call to Action

Image credit: Photography by Howard Mills



As heatwaves become more frequent and intense, pregnant and postpartum women, and newborn babies are not adequately protected from the growing risks that extreme heat poses to their health. Exposure to excessive heat during pregnancy is associated with higher risks of premature birth, low birth weight, stillbirth, and maternal complications.

These risks to health are rising as global temperatures climb. Decades of improvement in maternal and newborn health are increasingly at risk from climate change – in every country, not only those already considered most vulnerable.



Every city and country should have heat-health action plans, early warning systems and public health measures that reach every community in time.



**António Guterres,
United Nations Secretary-General**

The recent UNEP Overshoot Report warns that the world is heading towards a 2°C+ warmer future, and we have a responsibility to prepare for that reality now.

Yet, health systems, clinical guidance frameworks, and resilience plans are not equipped to respond to the warming world. As the UN Secretary General has warned: the health threats from extreme heat are growing and the response is inadequate.

At the same time there remain some important gaps in evidence. Populations adapt over time to their local environment, and the temperatures at which individuals experience heat stress therefore vary across geographical locations. This means that quantifying locally contextualised thresholds for heat tolerance is important for setting guidelines to protect population health. This is why Wellcome is investing over £20 million in research across regions, countries and communities on heat & maternal health, including the HAPI study in sub-Saharan Africa, which is testing practical, affordable measures to protect pregnant mothers from heat in real-world settings.

HAPI Study

Many pregnant women cannot change or adapt their environment. HAPI takes a solutions-driven approach: it's co-designing and testing heat adaptation strategies with women, healthcare workers, and policymakers in both urban South Africa and rural Zimbabwe.

Interventions include cooling clinics, increasing water access, painting roofs white, and revising health guidance.

A trial with around 1,500 women will evaluate health outcomes, feasibility, and cost-effectiveness - with the goal of creating scalable models for other heat-vulnerable regions.



But the evidence gaps are not a reason for inaction. Further research will continue to strengthen our understanding of risks and effective interventions in different contexts, but the existing evidence base available today is already sufficient to justify preventive policy action and a precautionary approach. Action is also an opportunity: countries can demonstrate credible leadership on climate adaptation, health system resilience and maternal health, both domestically and globally.

In the UK, for example, our recent report on pregnancy and heat identified gaps in how pregnant women are protected as heat events become more frequent, intense and prolonged. It found that national guidance could be more consistent, maternity services need further adaptation to rising temperatures, and heat-health planning could better account for the specific vulnerability of pregnancy.

By embedding protection for pregnant women and newborns in adaptation frameworks, adapting health systems, and building the data infrastructure to track and respond to heat-related maternal harm – governments can protect lives while strengthening climate resilience and health-system preparedness.

CommHATS

The Wellcome-funded CommHATS (Community Heat Adaptation and Treatment Strategies) project is a major worker-led research initiative tracking how extreme heat impacts women in India's informal labor economy. 800 women workers from the Self Employed Women's Association are partnering with academics at Harvard to track how extreme heat reshapes their health, homes, and wages – day and night, across seasons.

The recommendations that follow set out what this action looks like: from immediate measures to close urgent gaps in guidance and preparedness, to longer-term structural changes that will keep health systems resilient as the climate changes.

The case for immediate action is clear. Pregnant women are not consistently identified or planned for in heat-health action plans. No dedicated clinical guidance exists at global level for the midwives and obstetricians managing heat exposure in their patients. In many countries, pregnant workers also lack clear, evidence-based exposure limits to protect them. These are not gaps that require new evidence to close: they can be addressed through political will and institutional commitment: including dedicated WHO guidance, stronger national heat-health plans, and better integration of health data. Every heat season that passes without these measures leaves pregnant women and newborns exposed to harm that is, in many cases, can be prevented.

MAGENTA

Research being undertaken by the Wellcome supported Maternal and Pregnancy Health and Elevated Heat (MAGENTA) project, based in Swansea and London, will help to better understand heat risk and pregnancy in the UK. MAGENTA combines high-resolution heat mapping with direct monitoring of home environments, population-level pregnancy data, and biological sampling. In doing so, it will measure real-world heat exposure and examine how it interacts with deprivation, ethnicity and urban heat to influence pregnancy outcomes, while also shedding light on the underlying biological mechanisms.

Findings are expected to be published in 2027 and will be an important guide for shaping the UK responses.



Global commitment needed:

Establish dedicated WHO clinical guidance on heat, pregnancy, and the postpartum period

WHO must commit to developing the first dedicated clinical guideline on protecting pregnant and postpartum women and newborns from extreme heat. Building on WHO's forthcoming heat-and-maternal-newborn-child-health indicators, this guidance should cover training for midwives and obstetricians; the use of heat-index data in antenatal, postnatal and maternity care; measures to adapt maternity services to extreme heat; and protection for pregnant workers, including evidence-based exposure thresholds aligned with ILO recommendations on occupational safety in extreme heat. The guidance should explicitly recognise women in informal and precarious employment, who are often among those most exposed to extreme heat but least protected by occupational health frameworks.

Protect pregnant and postpartum women and newborn babies in national climate plans and health systems

As part of a clear framework for protecting high-risk groups, governments must include specific measures in their National Adaptation Plans to protect pregnant and postpartum women, newborns and the health workers who care for them from extreme heat, with defined lines of accountability and dedicated funding. Health system adaptation must address the distinct vulnerabilities of pregnancy, the postpartum period, and the newborn period, while actively reducing the health inequalities that leave the most marginalised women most exposed.

Build the data systems that make accountability possible

Governments must strengthen national surveillance and data systems to track the health impacts of extreme heat on pregnant and postpartum women newborns and children. This should include integrating heat-exposure and heat-index data into existing health surveillance systems, including Maternal Death Surveillance and Response, and linking these data with national meteorological data and early-warning networks. Bringing heat, health and meteorological data together in this way will enable governments to identify those most at risk, monitor the effectiveness of interventions and strengthen accountability for protecting vulnerable populations.

These recommendations will only translate into meaningful protection if governments also commit to the financing, accountability, and monitoring structures needed to deliver solutions at scale and ensure they reach all pregnant women and newborn babies in the face of a changing climate. And ultimately, to prevent future and increasingly dangerous global warming governments must rapidly transition away from fossil fuels.

Wellcome supports science to solve the urgent health challenges facing everyone. We support discovery research into life, health and wellbeing, and we're taking on three worldwide health challenges: mental health, infectious disease, and climate and health.

**Wellcome Trust, 215 Euston Road, London NW1 2BE, United Kingdom
T +44 (0)20 7611 8888, E contact@wellcome.org, [wellcome.org](https://www.wellcome.org)**

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