

THE IMPACT OF EXTREME HEAT ON MATERNAL, NEWBORN AND CHILD HEALTH

POLICY BRIEF

Redefining actionable responses using a climate lens

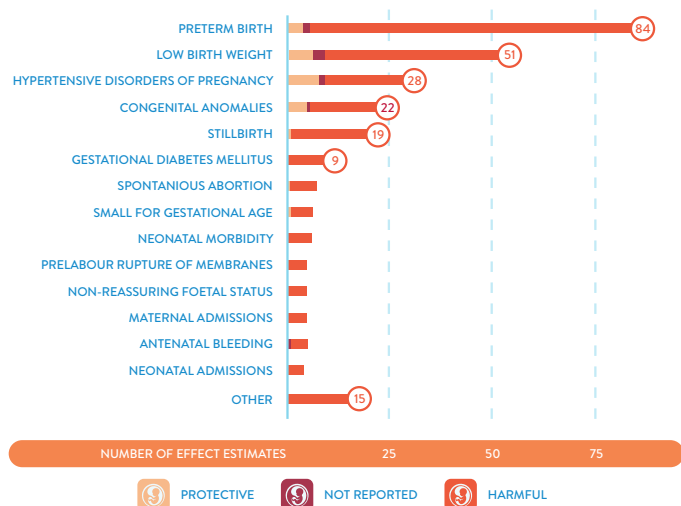
BACKGROUND & CONTEXT

South Africa, along with the rest of Africa, is experiencing increasingly frequent, intense and prolonged **extreme heat events driven by climate change**. These events have significant consequences for population health and health systems, with particularly severe impacts on maternal, newborn and child health (MNCH). **Heat exposure** is associated with adverse pregnancy outcomes and growing strain on frontline healthcare services.

The health impacts of climate change will continue to worsen with every increase in global temperature, making it critical that all countries urgently **reduce their carbon emissions**. At the same time, we need to be able to **accurately monitor the health impacts of heat**, especially for vulnerable populations.

Climate-health attribution studies are essential to establish the **causal links between specific climate events and measurable health outcomes**; this will provide crucial evidence for **climate justice** by demonstrating that communities least responsible for emissions bear a disproportionate burden of harm.

Evidence shows a predominantly harmful relationship between heat exposure and MNCH outcomes, especially preterm births, low birth weight and hypertensive disorders of pregnancy.¹ **Numbers reflect how many published studies reported each outcome.**



POLICY & IMPLEMENTATION GAPS

Heat warnings alone do not protect vulnerable populations unless they trigger timely, coordinated and equitable responses.

South Africa has made important progress in defining heat-MNCH indicators and strengthening national stakeholder alignment. However, these indicators are not yet consistently operationalised within health systems, municipal planning, or frontline service delivery. Existing heat warnings are not tailored to specific populations, nor do they offer clear guidance on actions for frontline health workers and community members. To be better prepared for extreme heat, heat-MNCH indicators need to be operationalised to support interventions for pregnant and postpartum women and their infants – before, during and after heat events.

- Vulnerable groups are not consistently prioritised in heat planning
- Early warning systems are insufficiently heat-focused and population-specific
- Context-specific heat thresholds and standardised protocols remain limited
- Risk communication often remains top-down rather than co-designed
- Municipalities often lack budgets and subject matter expertise
- Scarce climate-health funding keeps programmes donor-dependent
- Climate and health data systems remain fragmented across sectors



WHAT HEAT FEELS LIKE IN PRACTICE:
LIVED EXPERIENCES OF MOTHERS AND HEALTHCARE WORKERS

“...normally when it’s too hot, the baby would cry even when you try breastfeeding. Nothing is helping...”

“...other wards, they are cooler than this one. This one, it’s a bomb.”

HEAT-HEALTH ACTION PATHWAY: BEFORE, DURING AND AFTER HEAT EVENTS



BEFORE: PREPARE & ANTICIPATE

- **Strengthen early warning systems:**
Develop and disseminate heat event preparedness plans at facility and community levels.
- **Build awareness:**
Educate health workers, communities and policymakers on heat risks and responses.
- **Strengthen coordination:**
Clarify roles and actions across sectors and build coordination mechanisms.
- **Involve communities:**
Engage communities in planning and awareness-raising.



DURING: RESPOND & PROTECT

- **Activate response:**
Implement heatwave response plans and early warning systems. Keep health facilities and emergency services updated.
- **Protect health:**
Stay hydrated, avoid outdoor activity and keep cool. Ensure babies are hydrated and not over-dressed.
- **Prioritise vulnerable populations:**
Prioritise vulnerable groups (pregnant women & infants, informal settlement residents, outdoor workers, the elderly).



AFTER: RECOVER & LEARN

- **Monitor health:**
Monitor and review health impacts and needs.
- **Learn lessons:**
Promote collective learning across partners and communities.
- **Strengthen systems:**
Improve early warning reach and adapt infrastructure for future events.
- **Sustain awareness:**
Continue education and engagement with stakeholders and influencers.

CROSS-CUTTING ACTIONS

Build capacity of health workers and communities

Use multiple channels: alerts, WhatsApp groups, social media

Use data to inform actions before, during and after

Engage local government and partners at all levels

RECOMMENDATIONS



COMMUNITY

- Develop and support community-led monitoring and response systems
- Prioritise vulnerable populations in risk communication



CAPACITY BUILDING

- Invest in heat-health capacity across sectors to strengthen responses within existing systems
- Co-design solutions with vulnerable populations to strengthen local capacity, enhance ownership and support sustainable institutionalisation



HEALTH SYSTEM

- Use local epidemiological data to define actionable heat-health thresholds that trigger responses
- Integrate heat preparedness into MNCH policies and guidelines as well as climate adaptation and health sector plans
- Develop clear, nationally endorsed guidelines for municipalities, health facilities and NGOs



INFRASTRUCTURE

- Invest in cooling infrastructure (such as white 'cool roofs'), improved ventilation, shading and uninterrupted access to clean water
- Establish climate-health funds, insurance schemes, or public-private partnerships to sustain interventions
- Support the integration of renewable energy and urban greening initiatives



RESEARCH & DATA

- Strengthen local evidence generation on heat-MNCH impacts
- Invest in climate-health attribution science, implementation science and operational research
- Build interoperable platforms linking meteorological data with health surveillance, enabling real-time decision-making.

CONCLUSION

Extreme heat is no longer a distant environmental concern. It is an immediate and escalating public health emergency. MNCH populations require targeted, evidence-based protection, not generic warnings. Action must shift from reactive messaging to anticipatory coordination: we need to embed heat resilience within the health system and across all sectors.

¹ Lakhoo, D.P., Brink, N., Radebe, L., Craig, M.H. et al. 2025. A systematic review and meta-analysis of heat exposure impacts on maternal, fetal and neonatal health. *Nature Medicine*, 31:684–694.

² World Health Organization Regional Office for Europe. 2008. *Heat-health action plans: guidance*. Copenhagen: WHO Regional Office for Europe.

³ World Health Organization Regional Office for Europe. 2011. *Public health advice on preventing health effects of heat*. Copenhagen: WHO Regional Office for Europe.



BOTTOM LINE: Heat-MNCH indicators only become protective when they trigger funded, locally appropriate and accountable action across health facilities, municipalities and communities.