

# HIGHER TEMPERATURES HURT MOMS AND BABIES

AUTHORS  
BLOSMELI LEÓN-DEPASS  
CAROL SAKALA

## THE PROBLEM: OUR CLIMATE IS GETTING HOTTER AND IT RISKS THE HEALTH OF MOMS AND BABIES

Climate change, a pattern of shifts in average weather conditions over many years, is widely recognized as an environmental emergency threatening human health.<sup>1</sup> In the United States and around the world, annual average temperatures have been increasing since the beginning of the 20th century, and are expected to continue to rise.<sup>2</sup> This consistent increase in average temperatures often triggers extreme heat conditions – temperatures that are much hotter than average for a particular date and place.<sup>3</sup> Rising temperatures also trigger heat waves, prolonged periods of extreme heat, which have been occurring more frequently and severely in major U.S. cities since the mid-20th century.<sup>4</sup> Unfortunately, this increased exposure to heat has negative impacts on people’s health, which can be even worse for pregnant people† and their infants.

Extreme heat is a leading cause of weather-related deaths in the United States, killing more than 600 people per year – more than all other weather-related deaths combined.<sup>5</sup> High temperatures interfere with our body’s ability to release heat and regulate its own temperature.<sup>6</sup> This is particularly true for pregnant people, whose body temperatures average higher than usual.<sup>7</sup> Pregnancy affects the body’s ability to regulate temperature, making pregnant people more vulnerable to heat exposure and to serious adverse pregnancy outcomes, including a higher risk of preterm birth, having a baby with a low birth weight, and even infant mortality.<sup>8</sup> This climate trend will continue to increase pregnant people’s risk of heat exposure nationwide,<sup>9</sup> with alarming effects on maternal and infant health.

† We recognize and respect that pregnant, birthing, postpartum, and parenting people have a range of gender identities, and do not always identify as “women” or “mothers.” In recognition of the diversity of identities, this series prioritizes the use of non-gendered language where possible.

### ABOUT THE SERIES:

Our maternity care system often fails to provide equitable, respectful, culturally centered, safe, effective, and affordable care. It spectacularly fails communities struggling with the burden of structural racism and other forms of inequity, including: Black, Indigenous, and other People of Color (BIPOC); rural communities; and people with low incomes. The multiple crises of the COVID pandemic, economic downturn, and national reckoning on racism have underscored the need to address the social influencers of health. This series identifies ways to improve maternal and infant health by tackling some of these factors. Topics were chosen based on importance and urgency, and availability of systematic reviews and complementary research.



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## HEAT EXPOSURE HARMS PREGNANT PEOPLE AND THEIR INFANTS

Systematic reviews (rigorous appraisals that collect, assess, and synthesize the best available evidence from existing studies) found that heat exposure during pregnancy hurts babies' health.

- Maternal exposure to heat was associated with an increased risk of preterm and early term birth, low and decreased birth weight, stillbirth, and harmful newborn stress.<sup>10</sup>
- Pooled results of multiple studies found that preterm births increased by 16 percent during heat waves.<sup>11</sup>

Other individual studies have found:

- Exposure to hot weather at the end of pregnancy shortened gestational age. For example, a one-day exposure to temperatures above 87 degrees Fahrenheit was associated with a decrease in the average length of pregnancy by five days.<sup>12</sup>
- Fetuses exposed to heat waves while in utero were more likely to suffer from fetal distress and breathing problems at birth.<sup>13</sup>
- Maternal exposure to heat waves during pregnancy was linked to a higher likelihood of one or more of the following risks: high blood pressure, high-blood pressure with seizures (eclampsia), uterine bleeding, and a cervix that opens too early and increases risk for preterm birth.<sup>14</sup>



“ IT WAS VERY HOT. I FELT FEVERISH CHILLS... I HAD HEADACHES AND EVERYTHING, AND YOU FEEL DIZZY AND WANT TO THROW UP BECAUSE YOU ARE BENT OVER WHILE YOU ARE PREGNANT. ”



## HIGHER TEMPERATURES HURT MOMS AND BABIES

# COMMUNITIES OF COLOR, OUTDOOR WORKERS, AND PEOPLE WITH LOW INCOMES ARE MOST AFFECTED BY EXTREME HEAT

Climate change is exacerbating the already large racial gap in maternal and infant health outcomes:

- A systematic review found that in four U.S. studies, compared to white women, Black or Hispanic<sup>††</sup> women with heat exposure had double or more the risk of preterm birth or stillbirth.<sup>15</sup>
- For each additional day a pregnant person spends in extreme heat during the second trimester, the odds of hospitalization increase by almost 5 percent.
  - For each additional day of extreme heat during the third trimester, the odds of hospitalization increase by 3 percent.<sup>16</sup>
  - For Black women in particular, an additional day of exposure to extreme heat during the third trimester doubles the odds of hospitalization compared to white women (5 percent in Black women versus 2.6 percent in white women).<sup>17</sup>
- Residential patterns resulting from racist redlining practices<sup>18</sup> and lack of access to mitigating technologies like air conditioning have resulted in Black women being more exposed to extreme heat than white women.<sup>19</sup>
  - In cities like Baltimore, Dallas, Denver, Miami, Portland, and New York, neighborhoods that are lower-income and have more residents of color can be 5 to 20 degrees Fahrenheit hotter in summer than wealthier, whiter parts of the same city.<sup>20</sup>
- Because pregnancy naturally elevates the body's temperature, pregnant people who work outdoors in high temperatures (such as farmworkers) have a higher risk for heat exhaustion and adverse newborn outcomes such as preterm birth, low birth weight, heart birth defects, and infant mortality.<sup>21</sup>
  - Pregnant farmworkers work in fields where temperatures can rise as high as 120 degrees.<sup>22</sup>
  - Female farmworkers lack information on the symptoms of heat-related illness (HRI), especially with respect to pregnancy health. This makes it difficult to recognize HRI symptoms (such as heat exhaustion, dehydration, and heat stroke) and differentiate them from other possible causes.<sup>23</sup>
- Low-income pregnant women who live in cities often have little to no relief from the soaring temperatures due to older housing, the lack of greenery, and limited access to air conditioning.<sup>24</sup>

†† To be more inclusive of diverse gender identities, this bulletin uses "Latinx" to describe people who trace their roots to Latin America, except where the research uses Latino/a and Hispanic, to ensure fidelity to the data.



## HIGHER TEMPERATURES HURT MOMS AND BABIES

# RECOMMENDATIONS

1. Congress must mandate and fund – and state Medicaid agencies must cover – heat-mitigating technologies for pregnant people, such as air conditioning units and electric fans, as well as subsidies to cover the increased electrical costs associated with the technology.
2. Congress must pass the Protecting Moms and Babies Against Climate Change Act (H.R. 957 / S. 423), which would mandate and fund the designation of maternal environmental risk zones and the development and implementation of heat-island cooling strategies to mitigate maternal heat risks in the designated zones.
3. Congress must pass the Pregnant Workers Fairness Act (H.R. 1065), which would allow pregnant workers to seek accommodations for extreme heat conditions. The PWFA requires employers to provide reasonable health related accommodations for pregnancy, childbirth, and related medical conditions, such as more flexible breaks, permission to sit, and the right to carry a water bottle.
4. Congress must pass the Asunción Valdivia Heat Illness and Fatality Prevention Act which would require the Department of Labor to promulgate occupational safety and health standards to prevent exposure to both indoor and outdoor excessive heat.
5. The US Department of Labor, as well as state-level regulators, should develop and disseminate worker-facing educational materials in relevant languages about the dangers of, and how to prevent, heat-related illnesses, especially for pregnant workers.
6. Federal, state, and local policymakers must urgently implement policies to reduce the rate of climate change and mitigate its ongoing impacts.

**BLACK WOMEN'S RISK OF  
HOSPITALIZATION DUE TO EXTREME  
HEAT DURING THE THIRD TRIMESTER IS  
TWICE AS HIGH  
AS WHITE WOMEN'S<sup>ii</sup>**



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i See note 23.

ii See note 17.

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**This bulletin was authored by:**  
**Blosemeli León-Depass, Policy Counsel, NPWF**  
**Carol Sakala, Director for Maternal Health, NPWF**

The following people contributed to this bulletin:  
Sinsi Hernández-Cancio, Vice President for Health Justice, NPWF  
Erin Mackay, Managing Director for Health Justice, NPWF  
Jessi Leigh Swenson, Director, Congressional Relations, NPWF  
Isabel Morgan, Fellow, NBEC  
Karen Dale, Market President/CEO, AmeriHealth Caritas DC  
Jorge Morales, Editor  
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## **National Partnership for Women & Families**

1875 Connecticut Avenue, NW | Suite 650 | Washington, DC 20009  
202.986.2600 | [NationalPartnership.org](https://www.NationalPartnership.org)

## **National Birth Equity Collaborative**

1301 Connecticut Ave, NW | Suite 200 | Washington, DC 20026  
202.964.0213 | [BirthEquity.org](https://www.BirthEquity.org)

FOR MORE INFORMATION:  
[NATIONALPARTNERSHIP.ORG/MOMSANDBABIES](https://www.NationalPartnership.org/MOMSANDBABIES)