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# Maternal Wellness in a Changing Climate: Doulas' Vital Perspectives

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# Acknowledgements

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## Resources



For additional resources on this intersection of climate change and reproductive health, feel free to visit the website below or scan the QR Code.

<https://linktr.ee/doulasandclimate>



and



**the praxis project**

Reproductive Health (RH) Impact is a fiscally sponsored project of The Praxis Project.

The Praxis Project is a national nonprofit organization that works in partnership with national, regional, state, and local partners to achieve health equity and justice for all communities.

Our mission is to build healthy communities by transforming the power relationships and structures that affect our lives and communities.

### **\*\*Disclaimer:\*\***

It is important to note that this project took an exploratory approach and is not intended to serve as formalized research. Our primary goal was to capture the landscape of perinatal community health workers' perspectives on the intersection of climate change and maternal health. The survey findings and recommendations presented here are based on insights gathered from a preliminary exploration of this topic. Our intentions were to use this information to inform the development of a more comprehensive survey, which will undergo IRB approval before dissemination. We recognize the limitations of this exploratory study and acknowledge the need for further research to validate and expand upon our findings.

About Our

# Collaboration



## RH Impact

In collaboration with communities, RH Impact challenges systemic inequities to achieve reproductive health equity. Through Black women-led scholarship, we apply research & evaluation to policy advocacy, capacity-building, and power-shifting strategies. We center Black women's lived experiences, scholarship, and activism.



## Metro Mommy Agency

At Metro Mommy Agency, our mission is to provide quality healthcare strategy consulting for public and private organizations while influencing and enlightening women with education to support their emotional, physical and informational needs as they navigate through their journey into motherhood and become healthy contributors to the wellness of their society.



## National Association of Nurse Practitioners in Women's Health

NPWH is the professional community for Women's Health Nurse Practitioners and other advanced practice registered nurses who provide women's and gender-related healthcare. We set a standard of excellence by generating, translating, and promoting the latest research and evidence-based clinical guidance, providing high quality continuing education, and advocating for patients, providers, and the WHNP profession. Our mission includes protecting and promoting a woman and all individuals' rights to make their own choices regarding their health and well-being within the context of their lived experience and their personal, religious, cultural, and family beliefs.



## The Mom and Baby Action Network (M-BAN)

The Mom and Baby Action Network (M-BAN) is a national action-oriented coalition of cross-sector partners leading broad changes in policy, research, funding and systems to address inequities in maternal and infant health.



## Nurturely

Nurturely eliminates disparities in postpartum and infant health through education, research, and cultural change

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# Executive Summary

Doulas, community based organizations and national advocacy organizations in maternal health are all asking these questions:

- Are doulas seeing the impacts of environmental disasters on their clients?
- Are doulas interested in doing and learning more to prepare their clients for environmental disasters?
- What can we learn from doulas serving at-risk populations?



Due to the lack of assessments available answering these questions, this group decided to disseminate a survey and try to discern preliminary findings of doulas' knowledge of environmental health issues and how to best support community-based doulas and other perinatal health workers, to incorporate environmental health and justice in their lifesaving work.

**107**

respondents  
completed the survey

**95%**

of respondents work  
with low income  
birthing people

**86%**

of respondents feel  
that compensation is  
a barrier to their  
ability to care for  
birthing people

The findings from the survey suggest there is a need for comprehensive initiatives that integrate climate change awareness and protection strategies into perinatal care. Equipping perinatal community health workers with the necessary knowledge, training, and resources is, in our view, a very important and valuable way to address climate-related health disparities and promote maternal and newborn well-being in the face of environmental challenges.

# Overview of the Survey

To address the critical intersection of climate change and maternal health, our team conducted a survey titled "The Environmental Justice, Reproductive Justice, and Perinatal Community Health Worker Survey." This survey aimed to gauge the awareness, concerns, and experiences of perinatal community health workers regarding climate impacts on maternal and newborn health. It predominantly targeted doulas serving marginalized populations, especially Black, Indigenous, and People of Color (BIPOC) communities.

Conducted online from June to July 2023 via Typeform, the survey received responses from 107 perinatal community health workers, emphasizing those serving low-income or underserved clients. The survey employed a mix of multiple choice and open ended questions to gather insights into various aspects of perinatal community health work and its intersection with climate impacts. Overall, the survey provided valuable insights into the challenges faced by perinatal community health workers and highlighted the urgent need for increased support, training, and resources to address climate-related health risks effectively.

## Emergent themes from the survey include:

1. **Awareness and Concerns Regarding Climate Change Impacts on Health:** Perinatal community health workers show significant awareness and concern about climate change's adverse effects on maternal and newborn health.
2. **General Climate Change Concerns:** Respondents note various climate-related hazards in their areas, including wildfires, flooding, and poor air quality, highlighting the diverse challenges faced by pregnant people and newborns.
3. **Training Gaps:** Many workers lack comprehensive training on various environmental health issues, indicating a need for more education and resources to address climate impacts effectively.
4. **Support and Resource Needs:** Workers expressed a strong desire for resources to address environmental health threats, especially improving access to care for vulnerable populations.
5. **Doula Compensation Challenges:** Financial barriers, like poor compensation, hinder workers' ability to provide support to vulnerable populations, underscoring the need to address economic obstacles in access to care.
6. **Current Practices and Aspirations:** While some workers provide guidance on climate impacts, others feel under-resourced, highlighting a gap between current practices and aspirations and the need for increased support and resources.



# Key Recommendations

## The US Federal Government can:

- Take more action to end the climate crisis including ending Fossil Fuel Subsidies, new fossil fuel development and better regulate chemicals.
- Establish an interagency taskforce to develop a “Reproductive Justice White Paper” or resolution that would detail the ways current environmental injustices are a reproductive justice concern and the necessary steps to address environmental harms on reproductive health, maternal, newborn and child health and family wellbeing.
- Congress should prioritize key legislative acts to support maternal health and address the intertwined challenges of climate change and reproductive justice. These include the Mamas First Act, the Midwives for Moms Act, and the Protecting Moms and Babies Against Climate Change Act.
- Integrate protections for pregnant individuals within emergency preparedness documents as current guidelines often lack specific provisions for infant feeding, labor and delivery support, and access to healthcare during disasters.

## Grantmakers and Donors can:

- Seek to engage community-based doula organizations to build knowledge, share their knowledge from working with at-risk communities, build trainings and knowledge-sharing within doula networks and other activities.

## Policymakers & Healthcare Providers can:

- Prioritize efforts to raise awareness and provide training on environmental health harms among policymakers and health providers.
- Recognize an "EnviroNatal Equity Week" to highlight the interdependence of maternal and environmental health.

## Leaders & Community Based Organizations can:

- Facilitate allyship, build power and seek ways to share learnings.
- Engage in coalition building and collaboration by amplifying advocacy efforts, pooling resources, and advancing policies to address climate-related and other health disparities.

By implementing these recommendations, the US federal government and other stakeholders in maternal health, climate, and reproductive justice can work towards ensuring equitable access to safe and healthy pregnancies for all individuals, regardless of their race, socioeconomic status or background.

## Survey Participants Were From:

IL 31  
CA 15  
NE 11  
MO 7  
OH 7  
FL 6  
TX 6  
MA 5  
MD 3  
NC 3  
NM 3  
SC 2  
AL 1  
AZ 1  
IO 1  
MI 1  
OK 1  
OR 1  
VA 1  
WA 1  
WI 1

This endeavor is based on a survey of 107 perinatal community health workers, mostly doulas, conducted by RH Impact, Metro Mommy Agency, Nurturely, March of Dimes Mom and Baby Action Network (M-BAN), and the National Association of Nurse Practitioners in Women's Health (NPWH). It is driven by a shared commitment to advancing reproductive justice, promoting perinatal wellness, and addressing maternal and infant health inequities in the US. The partner organizations recognize the critical importance of supporting individuals throughout their journey into motherhood and ensuring equitable access to healthcare resources and support systems.

We wish at the outset to thank the doulas, community health workers, lactation consultants, and others that participated in the survey for the precious time they spent doing it and for providing a very useful first glimpse into what may be an incredible opportunity.

We hope policy makers will consider better resourcing doulas and other community perinatal health workers who want to bridge the gap between what science tells us about the harms of the climate crisis and other environmental crises on maternal health and what pregnant people know. This is relevant for stakeholders interested in improving maternal and newborn health and equity in the US and increasing awareness and action on environmental health.

The integration of climate change into maternal health initiatives is imperative due to the increasing harmful impact of environmental factors on pregnancy outcomes and on maternal wellbeing. More specifically, the climate crisis further exacerbates existing disparities in maternal and infant health in the US, particularly affecting marginalized and racialized communities. Pregnant individuals, especially those from low-income and underserved populations, are disproportionately affected by climate-related hazards such as extreme weather events. The same is true of air pollution, and lead exposure.

By acknowledging and addressing the intersection of climate change and maternal health, the partner organizations behind this survey and short report strive to mitigate adverse outcomes and promote the well-being of pregnant individuals and newborns. This integration allows for a holistic approach to perinatal care, emphasizing the importance of environmental health awareness, preventative measures, and equitable access to resources.



# Introduction

Doulas play a crucial role in providing holistic support to pregnant individuals. However, despite their effectiveness in improving birth outcomes, doulas often face under compensation, particularly impacting marginalized communities. Moreover, the climate crisis poses unique challenges to maternal health, with pregnant individuals facing increased vulnerability to environmental hazards such as extreme heat and wildfires. These challenges are compounded by intersecting injustices, including racism and economic marginalization, which disproportionately affect communities of color. Recognizing the importance of reproductive justice, the report underscores the need for comprehensive initiatives to ensure equitable access to safe pregnancies and environments for all individuals.

## Community Based Doula Overview

Doulas are trained professionals who provide expert care and emotional, physical, and informational support to a significant health-related experience such as pregnancy, childbirth, miscarriage, induced abortion, or stillbirth. Community Based Doulas adopt a holistic, “whole person” approach to care that considers social determinants of health, such as the pregnant person’s race, financial situation, immigration status, mental health, and access to housing, nutrition, familial support, and child care. As client advocates, doulas ensure pregnant people have information on health care decision making options, including during pregnancy, birth and postpartum, understand their rights, and feel they can ask medical providers questions and self-advocate.<sup>3</sup> Black and Indigenous reproductive justice activists across the US have supported culturally congruent doula care for BIPOC pregnant people as one important way to disrupt for-profit medical systems that can be racist and disrespectful.<sup>4</sup>

Studies show doula care is associated with higher rates of vaginal delivery, breast- or body feeding, and improved parenting skills as well as lower rates of unnecessary C-sections, premature births, low birth weight infants, newborn deaths, use of analgesics, and medical interventions.<sup>5</sup>

The American College of Obstetricians and Gynecologists has called “continuous labor support by a doula ... one of the most effective tools to improve labor and delivery outcomes.”<sup>6</sup>

### Footnote:

[3] Nora Ellmann, “Community-Based Doulas and Midwives: Key to Addressing the U.S. Maternal Health Crisis,” the Centre for American Progress, April 14, 2020, <https://www.americanprogress.org/article/community-based-doulas-midwives/> (accessed June 30, 2023).

[4] <https://everymothercounts.org/wp-content/uploads/2019/03/Advancing-Birth-Justice-CBD-Models-as-Std-of-Care-3-25-19.pdf>

[5] Ramey-Collier K, Jackson M, Malloy A, McMillan C, Scraders-Pyatt A, Wheeler SM. Doula Care: A Review of Outcomes and Impact on Birth Experience. *Obstet Gynecol Surv.* 2023 Feb;78(2):124-127. doi: 10.1097/OGX.0000000000001103. PMID: 36786720.

[6] Safe Prevention of the Primary Cesarean Delivery, American College of Obstetricians and Gynecologists, *Obstetric Care Consensus*, March 2014, <https://www.acog.org/clinical/clinical-guidance/obstetric-care-consensus/articles/2014/03/safe-prevention-of-the-primary-c>

# Doula care work is undercompensated

Doulas who seek to serve low-income women including in marginalized communities, who often need the knowledge, allyship and advocacy the most, struggle to do so, unless they are part of a non-profit or other organization providing this care.<sup>7</sup> When doulas receive poor pay, it limits the availability of doula care.<sup>8</sup> Serving doulas must rely on grants, a second job, or do free work. By not providing just compensation, the government is burden shifting onto already stressed Black and brown care workers (mostly women) as well as undermining its articulated goal of equity in who gets to have a healthy pregnancy, a safe and beautiful birth, and a healthy newborn baby. Improving compensation and respect for care work is a feminist priority in the US and globally, because so much care work is done by women and girls, because care work saves lives and deserves to be compensated justly, and because its inadequate compensation poses a major obstacle to achievement of the right to the highest attainable standard of health.<sup>9</sup>



Evidence suggests that doula care can be cost-effective but despite this and the human rights gains from doula care, only few states provide doula care for Medicaid clients.<sup>10</sup> This number is growing however. Doula organizations that work with marginalized communities have advocated for, and in some states such as Oregon and California, won, significant recent increases in compensation rates. If US Congress passed the “Mamas First” bill or similar legislation they could ensure Medicaid compensation across the country.<sup>11</sup>

## Footnote:

[7] Gomez AM, Arteaga S, Arcara J, Cuentos A, Armstead M, Mehra R, Logan RG, Jackson AV, Marshall CJ. “My 9 to 5 Job Is Birth Work”: A Case Study of Two Compensation Approaches for Community Doula Care. *Int J Environ Res Public Health*. 2021 Oct 14;18(20):10817. doi: 10.3390/ijerph182010817. PMID: 34682558; PMCID: PMC8535486.

[8] Ibid

[9] <https://www.brookings.edu/articles/why-centering-care-work-is-essential-for-gender-equality/#:~:text=For%20example%2C%20feminist%20research%20on,in%20reproducing%20inequality%20and%20patriarchy>

[10] Kozhimannil KB, Hardeman RR, Alarid-Escudero F, Vogelsang CA, Blauer-Peterson C, Howell EA. Modeling the Cost-Effectiveness of Doula Care Associated with Reductions in Preterm Birth and Cesarean Delivery. *Birth*. 2016 Mar;43(1):20-7. doi: 10.1111/birt.12218. Epub 2016 Jan 14. PMID: 26762249; PMCID: PMC5544530 For a list of states providing Medicaid compensation for doula care see: <https://healthlaw.org/doulamedicaidproject/#current-efforts-at-expanding-access-to-doula-care>

[11] <https://www.congress.gov/bill/117th-congress/senate-bill/4100?s=1&r=66>

# Climate Change x Maternal Health

For both biological and socio-economic reasons pregnant people have specific vulnerabilities to pollution, climate disasters and other environmental harms.<sup>12</sup> The fetus is extremely sensitive and especially at certain points in development.<sup>13</sup> Pregnant people are also at greater risk from environmental pollution as they breathe more, and their bodies are already under significant pressure. For example, pregnant people have enlarged hearts and increased blood volume, and additional pressure on their metabolic systems.<sup>14</sup> Pregnancy, birth and the postpartum periods are extremely relevant to the lifelong health of the pregnant person and newborn. Environmental harms can have implications across the life course both for the pregnant person, and for newborns.

Exposure to extreme heat and/or higher than normal temperatures is associated with increases in preterm birth and still birth.<sup>15</sup> A growing body of evidence suggests that higher temperatures may be associated with pregnancy complications including maternal hypertension<sup>16</sup> and hospitalizations.<sup>17</sup> Extreme heat is associated with greater maternal morbidity in one California study. <sup>18</sup> When the data are disaggregated by race and ethnicity, studies often show greater effects on Black pregnant people than white pregnant <sup>19</sup>.



## Footnote:

[12] M. Dolores Gómez-Roig, Rosalia Pascal, Marc Josep Cahuana, Oscar García-Algar, Giorgia Sebastiani, Vicente Andreu-Fernández, Leopoldo Martínez, Gerardo Rodríguez, Iris Iglesia, Olimpia Ortiz-Arrabal, María Dolores Mesa, María Jesús Cabero, Lorenzo Guerra, Elisa Llorba, Carla Domínguez, María Julia Zanini, María Foraster, Elvira Larqué, Fernando Cabañas, Manuela Lopez-Azorín, Aitziber Pérez, Begoña Loureiro, Carmen Rosa Pallás-Alonso, Diana Escuder-Vieco, Máximo Vento; Environmental Exposure during Pregnancy: Influence on Prenatal Development and Early Life: A Comprehensive Review. *Fetal Diagn Ther* 19 April 2021; 48 (4): 245–257. <https://doi.org/10.1159/000514884>

[13] Ibid

[14] <https://wspshsu.ucsf.edu/wp-content/uploads/2023/01/climate-change-and-pregnancy-.pdf> (Zee, this might be a good “pull out” resource).

[15] Bekkar B, Pacheco S, Basu R, DeNicola N. Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review. *JAMA Netw Open*. 2020;3(6):e208243. doi:10.1001/jamanetworkopen.2020.8243

[16] <https://www.tandfonline.com/doi/full/10.1080/10641955.2023.2288586>

[17] <https://www.journals.uchicago.edu/doi/epdf/10.1086/714359>

[18] See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10485728/>

[19] <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2767260> and [Analysis of Heat Exposure During Pregnancy and Severe Maternal Morbidity | Environmental Health | JAMA Network Open | JAMA Network and https://onlinelibrary.wiley.com/doi/10.1002/heh.4559](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2767260)

The climate crisis is driving the severity of the wildfire crisis in the US as well.<sup>20</sup> Wildfires create large amounts of toxic smoke that can spread across very large areas. Studies suggest that wildfire exposure may be associated with preterm birth and low birthweight and may have detrimental impacts on maternal mental health.<sup>21</sup>

Other climate disasters such as flooding and tropical storms are also associated with worse maternal health.<sup>22</sup> The climate crisis is hurting lower income racial minorities in the US harder than better-off and whiter communities who already benefit from health systems that result in better maternal health outcomes.<sup>23</sup>

## Why this intersection is important (RJ)

Reproductive justice is defined by the organization SisterSong as “the human right to maintain personal bodily autonomy, have children, not have children and parent the children we have in safe and sustainable communities.” The US reproductive justice framework is based on international human rights law but takes an explicitly intersectional approach by highlighting how intersecting harms such as racism and economic marginalization undermines their communities’ ability to have a healthy pregnancy and a healthy baby and a safe and healthy environment to parent in.

The reproductive justice framework has always uplifted the importance of the right to a healthy environment, free from toxics for example, but this dimension has been increasingly a focus of interest for reproductive justice organizations as environmental crises deepen. Racism, stress and poor nutrition are all issues that are deeply connected to environmental racism in the US. Lead in paint and water, air pollution and higher levels of pesticides in foods are just some of the harms that in the US hurt communities of color worse than white communities, because of greater exposures, worse overall environmental health to begin with and higher pre-existing health vulnerabilities.<sup>24</sup>

### Footnote:

[20] Ostoja, S.M., A.R. Crimmins, R.G. Byron, A.E. East, M. Méndez, S.M. O'Neill, D.L. Peterson, J.R. Pierce, C. Raymond, A. Tripathi, and A. Vaidyanathan, 2023: Focus on western wildfires In: Fifth National Climate Assessment. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. <https://doi.org/10.7930/NCA5.2023.F2>

[21] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9657128/>

[22] Hilmert, C. J., Kvasnicka-Gates, L., Teoh, A. N., Bresin, K., & Fiebiger, S. (2016). Major flood related strains and pregnancy outcomes. *Health Psychology*, 35(11), 1189–1196. Noelene K. Jeffers, Nancy Glass, *Integrative Review of Pregnancy and Birth Outcomes After Exposure to a Hurricane*, *Journal of Obstetric, Gynecologic & Neonatal Nursing*, Volume 49, Issue 4, 2020, <https://doi.org/10.1016/j.jogn.2020.04.006>. Shengzhi Sun, Kate R. Weinberger, Meilin Yan, G. Brooke Anderson, Gregory A. Wellenius,

*Tropical cyclones and risk of preterm birth: A retrospective analysis of 20 million births across 378 US counties*, *Environment International*, Volume 140, 2020, <https://doi.org/10.1016/j.envint.2020.105825>.

[23] <https://www.epa.gov/newsreleases/epa-report-shows-disproportionate-impacts-climate-change-socially-vulnerable#:~:text=Key%20findings%20of%20the%20report,to%20all%20other%20demographic%20groups.>

[24] <https://pubmed.ncbi.nlm.nih.gov/16828737/>

# Doula Survey Overview

To explore the intersection of climate change and maternal health among this community, the project team created a survey titled “The Environmental Justice, Reproductive Justice and Perinatal Community Health Worker Survey”. The survey, conducted among perinatal community health workers predominantly doulas, sheds light on the critical intersection between climate change and maternal health. It reflects the concerns and insights of those deeply engaged in supporting pregnant individuals, particularly within marginalized and racialized communities.

## Aims of Survey

The survey's main objective was to gauge the awareness, concerns, and experiences of perinatal community health workers regarding climate impacts on maternal and newborn health. Specifically, the survey aimed to

1

Understand the level of awareness and concern among perinatal community health workers regarding climate change impacts, such as extreme weather events, air pollution, and lead exposure, on pregnancy and newborn health.

2

Assess the extent to which perinatal community health workers feel equipped to address environmental health issues in their practice.

3

Explore the level of training and resources available to perinatal community health workers related to environmental health and climate impacts.

4

Identify areas where perinatal community health workers feel additional support, training, and resources are needed to better address climate-related health concerns among pregnant individuals and newborns.



# Methodology

The survey employed a purposive sampling methodology, targeting perinatal community health workers, particularly doulas, who primarily serve marginalized populations, especially Black, Indigenous, and People of Color (BIPOC) communities. The survey was conducted online over a month, from June to July 2023, utilizing the online tool Typeform. Respondents were incentivized with a \$15 gift card for their participation.

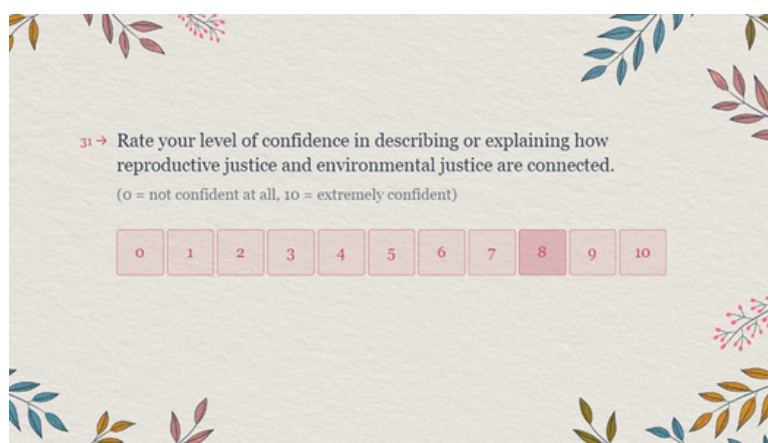
To ensure a diverse representation of perspectives, connections by the project team were leveraged within community-based doula networks across the United States. Additionally, the National Health Law Program listserv, focused on doula Medicaid projects, facilitated outreach to a broad spectrum of perinatal community health workers.

The survey received responses from 107 perinatal community health workers, with a strong emphasis on individuals serving low-income or underserved clients, as indicated by 101 respondents affirming intentional work with such populations.

## Format

The survey comprised a range of questions structured to gather insights into various aspects of perinatal community health work and its intersection with climate impacts. Questions covered respondents' concerns about climate change, training received on environmental health issues, provision of guidance to pregnant clients regarding climate-related health risks, and confidence levels in addressing environmental justice issues.

The survey format allowed for both quantitative and qualitative data collection, enabling a comprehensive analysis of the respondents' perspectives and experiences regarding climate impacts on maternal and newborn health. In summary, the survey provided valuable insights into the challenges faced by perinatal community health workers in addressing climate-related health risks and underscored the pressing need for increased support, training, and resources to effectively navigate this critical intersection between environmental health and maternal well-being.



31 → Rate your level of confidence in describing or explaining how reproductive justice and environmental justice are connected.  
(0 = not confident at all, 10 = extremely confident)

0 1 2 3 4 5 6 7 8 9 10

The image shows a screenshot of a survey question from a Typeform interface. The question is numbered 31 and asks the respondent to rate their level of confidence in describing or explaining how reproductive justice and environmental justice are connected. Below the question, there is a scale from 0 to 10, where 0 represents 'not confident at all' and 10 represents 'extremely confident'. The scale is displayed as a row of 11 red square buttons, each containing a number from 0 to 10. The button for '8' is highlighted with a darker red background, indicating it is the selected response. The entire form is set against a light beige background with decorative floral and leaf patterns in the corners.



# Survey Findings

**Awareness &  
Concerns  
Regarding  
Climate  
Change  
Impacts on  
Health**

**General  
Climate  
Change  
Concerns**

**Desire for  
More  
Trainings &  
Resources**

**Training gaps  
Environmental  
health Issues**

**Barriers to  
Providing  
Support**

**Current  
Practices &  
Future  
Aspirations**

The findings from the survey of perinatal community health workers, primarily doulas, shed light on their perceptions, concerns, and experiences regarding the intersection of climate change and maternal health. The survey aimed to explore their awareness, training, and readiness to address environmental health issues in their practice and their perceptions of climate-related hazards on pregnant individuals and newborns.

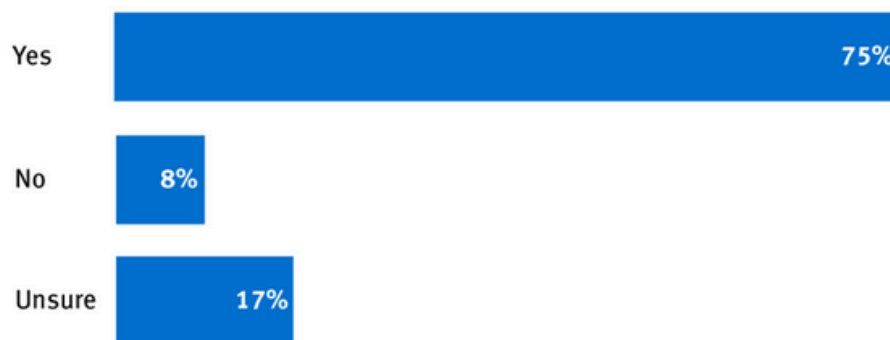


For more information on the survey, including results and raw data, see the Appendix.

# Awareness and Concerns Regarding Climate Change Impacts on Health

Respondents were asked to rate their level of concern about climate change impacts, such as increasingly hot weather, wildfires, hurricanes, sea level rise, or other problems harming their clients' pregnancy health or economic well-being on a scale of 0 to 10. The results indicate a significant level of concern among respondents, with the majority rating their worry as 7 or above. Findings also indicate that approximately 74% of respondents express concern about air pollution affecting their clients, while about 63% express concern about lead pollution.

## Are your clients exposed to any negative climate change impacts?

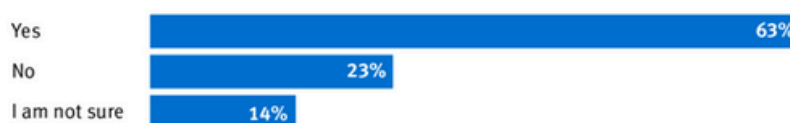


Source: Survey of 107 perinatal community health workers in the US, July 2023.

## In your work, are you concerned about air pollution for at least some of your clients?



## In your work, are you concerned about lead pollution for at least some of your clients?

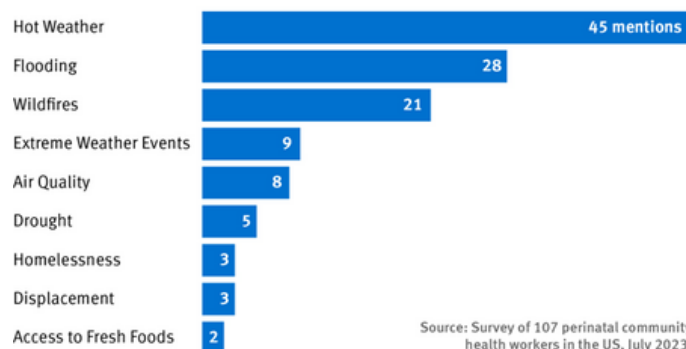


Source: Survey of 107 perinatal community health workers in the US, July 2023.

## General Climate Change Concerns

Respondents were asked to list any climate change concerns in the geographical area where they work. The most frequently mentioned concerns included hot weather (45 mentions), wildfires (21 mentions), flooding (28 mentions), air quality (8 mentions), extreme weather events (9 mentions), drought (5 mentions), homelessness (3 mentions), displacement (3 mentions), and access to fresh foods (2 mentions). These results highlight the diverse range of climate-related hazards perceived by perinatal community health workers. Across the US pregnant individuals and newborns face different climate challenges depending on geography.

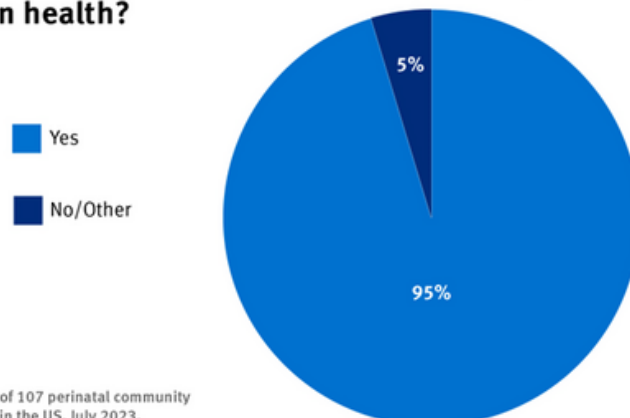
### Please list any climate change concerns in the geographical area where you work:



## Desire for More Training and Resources

The survey revealed a strong desire among respondents for more training and information about environmental health threats to pregnant individuals and newborns. The majority of respondents expressed interest in working on improving environmental health for pregnant people (95%), providing more information about environmental health to clients/families/communities (83%), and advocating for improved environmental health for communities of color or other marginalized groups (74%). These findings underscore the importance of equipping perinatal community health workers with the necessary knowledge and resources to address climate-related health disparities and promote maternal and newborn well-being.

### Would you like to get more training and information on environmental health threats to pregnancy and newborn health?



# Training on Environmental Health Issues

When asked whether environmental health was a component of their doula or perinatal community health worker training, 58 respondents indicated that it was not, while 13 reported that climate impacts were included, 11 mentioned air pollution, and 18 cited lead harms. These findings suggest a lack of comprehensive training on environmental health issues among perinatal community health workers, indicating a potential gap in their preparedness to address climate-related health concerns in their practice.

## Barriers to Providing Support

A significant proportion of respondents expressed concerns about poor compensation for their work, with 79% indicating that they would like to do more work with low-income or underserved clients but are unable to do so due to poor compensation. Additionally, only 21% of respondents reported being able to earn a living wage just by working as a doula or perinatal community health worker, highlighting financial barriers that may hinder their ability to provide support to vulnerable populations. Asking doulas to provide environmental health information and advice in addition to other tasks is only just or fair if they are properly compensated for their work.

**Would you like to be able to do more work with low-income or underserved clients but are unable to do so because of poor compensation for this work?**

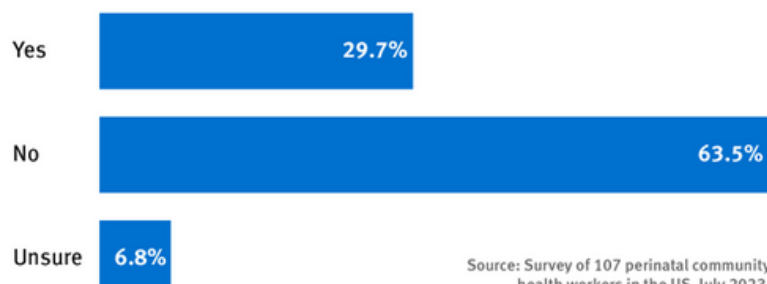
Non-answers were not included



Source: Survey of 107 perinatal community health workers in the US, July 2023.

**Are you able to earn a living wage just by working as a doula/other perinatal community health worker? Or would you easily be able to, if you don't do this work full time, but wanted to?**

Non-answers were not included



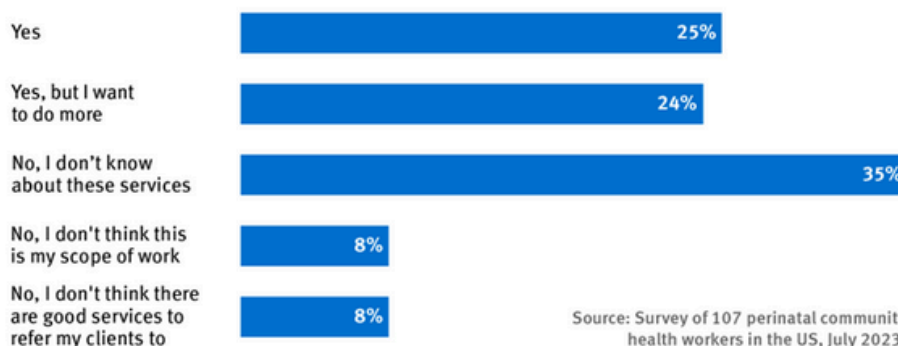
Source: Survey of 107 perinatal community health workers in the US, July 2023.

## Current Practices and Future Aspirations

While some respondents reported already providing guidance and information to pregnant clients about handling climate or other impacts, others expressed a desire to do more but felt inadequately resourced. The survey findings indicate a gap between current practices and the aspirations of perinatal community health workers, highlighting the need for increased support, training, and resources to effectively address climate-related health concerns in their practice.

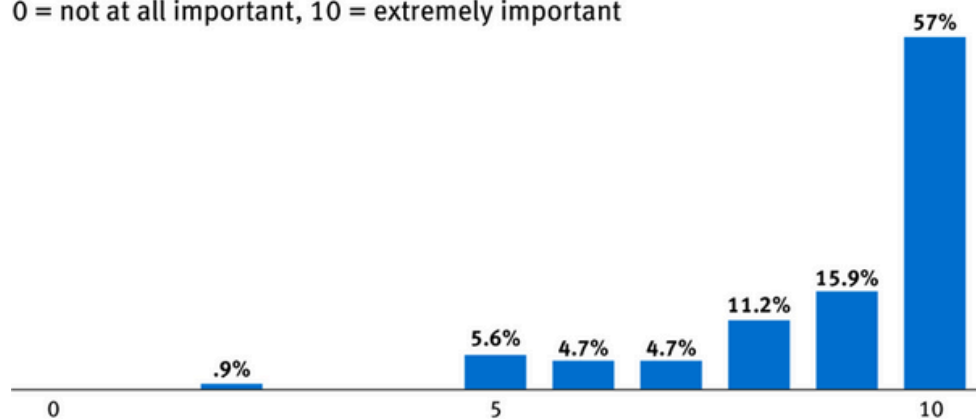
### Do you provide any information about emergency response, government assistance, or other support that could help pregnant people deal with hurricanes, heat waves, or other climate crisis related impacts?

Non-answers were not included



### Do you think it is important for doulas to have knowledge on environmental health (like pollution in the air and water, chemicals in products, and climate change)?

0 = not at all important, 10 = extremely important



Source: Survey of 107 perinatal community health workers in the US, July 2023.

In summary, the findings from the survey underscore the urgent need for comprehensive initiatives that integrate climate change awareness and mitigation strategies into perinatal care. Equipping perinatal community health workers with the necessary knowledge, training, and resources is essential to address climate-related health disparities and promote maternal and newborn well-being in the face of environmental challenges.

# Recommendations

The findings of the survey with perinatal community health workers underscore the critical need to address the intersection of climate change and maternal health. As climate-related hazards continue to escalate, pregnant individuals and newborns, particularly those from marginalized communities, face heightened risks to their health and well-being. From extreme heat to air pollution and lead exposure, environmental factors are increasingly recognized as determinant of maternal and newborn health outcomes.

In light of these challenges, it is imperative that concerted efforts be made to mitigate the adverse effects of climate change on maternal health and promote reproductive justice. The recommendations outlined below offer actionable steps to address this pressing issue, aiming to empower frontline health workers, raise awareness, advocate for policy changes, and foster collaboration across sectors. By implementing these recommendations, we can work towards ensuring that all individuals, regardless of their socioeconomic status or background, have access to safer and healthier pregnancies.

**End Fossil Fuel Subsidies, Halt New Fossil Fuel Development and Better Regulate Chemicals**

**Establish an Interagency Taskforce for Reproductive Justice White Paper**

**Pass Essential Legislation to Support Maternal Health**

**Fund Reproductive Justice Organizations and Frontline Community Health Workers**

**Increase Knowledge about Environmental Health Harms**

**Promote Coalition Building and Collaboration**

**Recognize "EnviroNatal Equity Week"**

**Incorporate Pregnancy Protections into Emergency Preparedness**



# The Federal Government can...



1

## End Fossil Fuel Subsidies, Halt New Fossil Fuel Development and Better Regulate Chemicals:

To address the root causes of environmental health harms, it is recommended to end subsidies to the fossil fuel industry and halt all new fossil fuel development as part of a just transition to renewable energy. Additionally, better regulation of chemicals in consumer products is essential to reduce exposure to harmful toxins and protect maternal and newborn health. These policy measures are crucial steps towards mitigating the adverse effects of climate change and promoting environmental justice for vulnerable communities.

## Establish an Interagency Taskforce for Reproductive Justice White Paper:

In response to the findings indicating a gap of understanding of environmental health harms among perinatal community health workers, Congress, a federal agency, or the White House should establish an interagency task force composed of experts from academia, reproductive justice advocates, and frontline health workers. This task force should be tasked with analyzing the state of the science regarding harms to reproductive justice in the US, focusing on the intersection of climate change and maternal health and producing a white paper of their findings. By leveraging the expertise of diverse stakeholders, this initiative can help bridge knowledge gaps and inform policy and practice.



2

## Fund Reproductive Justice Organizations and Frontline Community Health Workers:

The survey findings underscored the financial barriers hindering perinatal community health workers' ability to provide support to vulnerable populations. To address this challenge, government and non-government donors and grant makers should allocate funding to reproductive justice organizations and frontline community health workers who work with the most at-risk pregnant individuals. This funding should support the provision of information and access to wraparound services that could help protect healthy pregnancies, addressing the identified need for increased resources and support. As an example, perinatal health workers should have resources to apply for environmental justice grants provided by the EPA.



3

# The Federal Government can...

4

## Pass Essential Legislation to Support Maternal Health:

The US Congress should prioritize the passage of key legislative acts aimed at supporting maternal health and addressing the intersecting challenges of climate change and reproductive justice. This includes passing the Mamas First Act, which mandates state Medicaid programs to cover doula and midwife services encompassing prenatal, delivery, and postpartum care across various settings. Congress should enact the Midwives for Moms Act to address maternity care shortages and enhance educational opportunities for midwives.

Policymakers should endorse the Protecting Moms and Babies Against Climate Change Act, part of the MOMNIBUS package of bills, allocating grants and resources to address health risks associated with climate change, particularly focusing on vulnerable populations such as racial and ethnic minorities, pregnant or postpartum individuals, and young children under the age of three. Additionally, the US Congress should pass other essential legislative acts, such as the MOMMIES Act, the Commission to Study and Develop Reparation Proposals for African Americans Act, the HEAL for Immigrant Families Act, and the Women's Health Protection Act, to further support maternal health, address systemic injustices, and promote equitable access to healthcare services.

## Incorporate Pregnancy Protections into Emergency Preparedness:

In light of the deficiencies observed in current emergency preparedness documents, particularly in addressing the unique needs of pregnant individuals and infants during disasters, it is crucial to expand the integration of protection and planning measures. Comprehensive guidance should encompass various aspects of maternal and infant care, including provisions for labor and delivery support amidst natural disasters and breastfeeding support.

Additionally, strategies for navigating limited access to healthcare resources during emergencies should be emphasized, ensuring that pregnant individuals receive the necessary assistance and medical attention required for safe childbirth and postpartum care. By incorporating these elements into emergency preparedness protocols, policymakers can better safeguard the health and well-being of pregnant individuals and newborns in times of crisis, enhancing overall disaster response effectiveness.

5

## Everyone can...

### Increase Knowledge about Environmental Health Harms:

Given the findings highlighting a lack of awareness and training on environmental health harms among policymakers and health providers, it is recommended to prioritize efforts to increase knowledge about environmental health harms in both the public and among relevant stakeholders. This may involve developing Federal, state and local funding opportunities to support educational campaigns, training programs, and dissemination of information on environmental and social determinants of health.

By raising awareness and improving understanding, stakeholders can better address climate-related health disparities and promote maternal and newborn well-being. In addition to this, reproductive justice organizations and environmental justice organizations and allies should also build bridges and power and seek ways to work together and share learnings.

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### Recognize "EnviroNatal Equity Week":

Building on existing awareness opportunities such as Black Maternal Health Week and Earth Day, it is recommended to recognize "EnviroNatal Equity Week" annually from April 18-21. This initiative created by Nurturely, which bridges Black Maternal Health Week with Earth Day, aims to raise awareness and promote action on the intersection of environmental justice and maternal health. By recognizing and amplifying this critical issue, stakeholders can mobilize support for policies and initiatives that address climate-related health disparities and promote environmental justice.

### Promote Coalition Building and Collaboration:

Recognizing the interconnected nature of climate justice, reproductive justice, and maternal health, it is recommended to promote coalition building and collaboration among allies in these communities. By working together, stakeholders can amplify their voices, leverage resources, and advocate for policies and initiatives that address the climate crisis and other harms on individual, community, and intergenerational health.

This can be accomplished in many ways including creating online platforms or forums for communication, as well as hosting conferences, workshops, or training sessions centered on intersectional issues. Collaboration is essential to achieving meaningful progress towards environmental justice and reproductive justice for all.

8

# Appendix

## Survey Results- Select Raw Data

**Note that respondents sometimes did not answer one or more questions so the number of respondents reported for each choice does not always add up to the same number.**

Q: Are your clients exposed to any negative climate change impacts?

- No = 9
- Unsure = 18
- Yes = 80

Q: How worried are you about climate change impacts, such as increasingly hot weather, wildfire, hurricanes, sea level rise, or other problems harming your clients' pregnancy health or economic well-being? (0 = not at all worried, 10 = extremely worried).

- 0 = 5
- 1= none
- 2= 4
- 3= 9
- 4=8
- 5= 12
- 6= 5
- 7= 12
- 8= 17
- 9= 11
- 10= 24

Q: Please list any climate change concerns in the geographical area where you work.

- Hot Weather: 45 mentions
- Wildfires: 21 mentions
- Flooding: 28 mentions
- Air Quality: 8 mentions
- Extreme Weather Events: 9 mentions
- Drought: 5 mentions
- Homelessness: 3 mentions
- Displacement: 3 mentions
- Access to Fresh Foods: 2 mentions

Q: Do you feel like that families you serve are being supported to prepare for climate impacts on their health and economic wellbeing?

- I do not know = 7
- Families do not need it = 2
- To an extent = 24
- No = 71

Q: Was environmental health a component of your doula or perinatal community health worker training cover environmental health?

- No = 58
- Climate impacts were included = 13
- Air pollution was included = 11
- Lead harms were included = 18

Q: Would you like to get more training and information on environmental health threats to pregnancy and newborn health?

- No/other = 5
- Yes = 102

In addition,

- 86 respondents wanted to "Work on improving environmental health for pregnant people."
- 89 wanted to "Provide more information about environmental health to clients/families/communities."
- 79 respondents said they wanted to learn more about how "To advocate for improved environmental health for communities of color or other marginalized groups."

Q: Do you think it is important for doulas to have knowledge on environmental health (like pollution in the air and water, chemicals in products, and climate change)? (0 = not at all important, 10 = extremely important)

- 0 = 0
- 1 = 0
- 2 = 1
- 3 = 0
- 4 = 0
- 5 = 6
- 6 = 5
- 7 = 5
- 8 = 12
- 9 = 17
- 10 = 61

Q: Would you like to be able to do more work with low-income or underserved clients but are unable to do so because of poor compensation for this work?

- Yes = 84
- No = 8
- Unsure = 5

Q: Are you able to earn a living wage just by working as a doula/other perinatal community health worker? (Or would you easily be able to, if you don't do this work full time, but wanted to).

- Yes = 22
- No = 47
- Unsure = 5

Q: Do you provide any guidance or information about pregnancy health harms from extreme heat, hurricanes, flooding, or other extreme weather to your clients?

- No, I would like to but don't have/know how to find out about this information = 34
- No = 13
- No, these are not concerns = 3
- Yes = 50

Q: Do you provide any information about emergency response, government assistance or other support that could help pregnant people deal with hurricanes, heat waves or other climate crisis related impacts?

- Yes = 26
- Yes, but I want to do more = 25
- No, I don't know about these services = 36
- No, I don't think this is my scope of work = 8
- No, I don't think there are good services to refer my clients to = 8

In addition:

Respondents said they share information with clients about some environmental health concerns, including climate change impacts like extreme heat, hurricanes [was chosen 39 times] air pollution [was chosen 44 time] lead and other heavy metals [was chosen 51 times] or other toxics [was chosen 47 times]. Some chose "I don't raise any of these issues but am interested in doing so" [21 chose this option] and only a few chose "none of these issues are a concern in location/region I work in" [3 chose this option].

Q: In your work, are you concerned about \*air pollution\* for at least some of your clients?

- No: 19
- Yes: 79
- I am not sure: 9

Q: In your work, are you concerned about \*lead pollution\* for at least some of your clients?

- No: 25
- Yes: 67
- I am not sure: 15

Q: Do most of your clients know how to access information about air quality?

- Yes: 11
- No: 57
- I am not sure: 37
- No answer: 2

Q: Do most of your clients know how to access information about their exposure to lead, for example how to measure lead in their drinking water?

- Yes: 16
- No: 61
- I am not sure: 30

Q: Rate your clients' overall understanding and knowledge of environmental harms to pregnancy health? (0 = no understanding at all, 10 = excellent understanding).

- 0 = 5
- 1 = 7
- 2 = 16
- 3 = 13
- 4 = 20
- 5 = 21
- 6 = 7
- 7 = 6
- 8 = 4
- 9 = 3
- 10 = 1

Q: If 0 is not confident at all, and 10 is extremely confident, rate:

(a) Your level of confidence in describing how structural racism impacts the right to a healthy environment.

- 0 = 3
- 1 = 2
- 2 = 2
- 3 = 5
- 4 = 7
- 5 = 9
- 6 = 7
- 7 = 20
- 8 = 19
- 9 = 11
- 10 = 22

(b) Your level of confidence in describing how reproductive justice and environmental justice are connected.

- 0 = 5
- 1 = 2
- 2 = 7
- 3 = 7
- 4 = 5
- 5 = 13
- 6 = 5
- 7 = 17
- 8 = 15
- 9 = 12
- 10 = 18

(c) Your understanding of the relevance of the climate crisis to the communities, families, and individuals you provide services to?

- 0 = 3
- 1 = 4
- 2 = 4
- 3 = 5
- 4 = 11
- 5 = 16
- 6 = 8
- 7 = 18
- 8 = 13
- 9 = 15
- 10 = 10

(d) Your understanding of the relevance of air pollution to the communities, families, and individuals you provide services to?

- 0 = 6
- 1 = 2
- 2 = 4
- 3 = 1
- 4 = 9
- 5 = 20
- 6 = 11
- 7 = 11
- 8 = 19
- 9 = 9
- 10 = 12

(e) Rate your understanding of lead pollution to the communities, families, and individuals you provide services to?

- 0 = 4
- 1 = 1
- 2 = 7
- 3 = 5
- 4 = 12
- 5 = 17
- 6 = 13
- 7 = 8
- 8 = 19
- 9 = 12
- 10 = 9