

Impact of Climate Change - How Reproductive Health Providers Can Make a Difference

June 8, 2023

Transcript

Slide 1



- [Bemi] Hello everyone, this is Bemi Oworu with the Reproductive Health National Training Center. I'm delighted to welcome you all to today's webinar about the impact of climate change on maternal health, how reproductive health providers can make a difference. I have a few announcements before we begin. Everyone on the webinar today is muted, given the large number of participants. We plan to have some time for questions at the end of the webinar today. You can ask your questions using the chat at any time during the webinar. A recording of today's webinar, the slide deck, and a transcript will be available on [RHNTC.org](https://rhntc.org) within the next few days. Closed captioning has been enabled for this webinar. To view closed captioning, click on the CC icon at the bottom of your screen. Your feedback is extremely important to us, and has enabled RHNTC to make quality improvements in our work, based on your comments. Please take a moment to open the evaluation link in the chat, and consider completing the evaluation real-time. In order to obtain a certificate of completion for attending this webinar, you must be logged into RHNTC when you complete the evaluation.

2 – CNE statement – this activity

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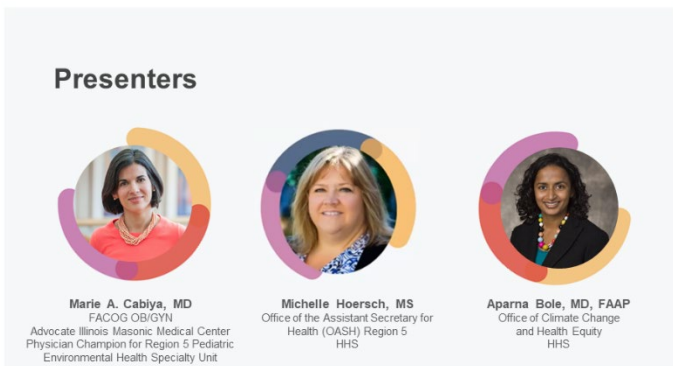
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All right, I'd like to briefly introduce our speakers today. Our first speaker, or our first speaker on the list, is Dr. Marie Cabiya, who was born in Puerto Rico. She is a graduate of Tufts University, attended med school at the University of Puerto Rico, and completed her residency in Obstetrics and Gynecology at the University of Illinois Chicago in 2008. Since then, she's been the attending physician at Advocate Illinois Masonic Medical Center in Chicago. She has served as the medical director of the Obstetrics and Gynecology Resident Clinic, and leads their family planning curriculum. Her clinical interests are contraceptive care, menopause, cervical dysplasia, and the effects of the environment and climate change on health. She is a Physician Champion for Region 5's Pediatric Environmental Health Specialty Unit, and is passionate about promoting the health benefits of climate action, and how mitigation can help tackle existing disparities. Our next speaker, Michelle Hoersch, is the Public Health Analyst for the Office of

Assistant Secretary of Health in the U.S. Department of Health and Human Services in Region V, and has been with the Department since 1996, most of that time being spent in the Office of Women's Health. Michelle has a Master of Science degree in Health Law Administration from DePaul University in Chicago. Michelle works to improve the health and wellbeing of women across the lifespan, with a particular emphasis on underserved groups of women and girls, through policies, programs, initiatives. Her work focuses on increasing health equity through trauma-informed, gender-responsive approaches. Michelle is an active member of collaboratives at both the national and local level, working to advance health equity and trauma-informed principles and approaches in policy, program practice, and culture. More recently, Michelle has focused on efforts to address the intersection of maternal morbidity and mortality, health equity, and the impact of climate change. Lastly, Dr. Aparna Bole serves as the Special Expert at the Agency for Healthcare Research and Quality, and a senior consultant in the HHS Office of Climate Change and Health Equity. She is an Adjunct Professor of Pediatrics at Case Western University School of Medicine, and practiced as a primary care pediatrician in Cleveland, Ohio, prior to joining HHS. She is interested in the intersection between environmental stewardship, environmental justice, and pediatric public health. Dr. Bole is the immediate past chairman of the American Academy of Pediatrics Council in Environmental Healthcare and Climate Change, and a former co-chair of the Health Care Without Harm Board of Directors. She has previously served in numerous other environmental health leadership roles, including as a member of the State of Ohio's Lead Advisory Council, the Lead Safe Cleveland Coalition Steering Committee, the Trust for Public Lands, Ohio Advisory Council, and the Ohio Environmental Council Board of Directors. With that, I would now like to turn things over to Michelle, to get us started.

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Learning objectives

By the end of this session, participants will be able to:

- Explain the impact of climate change-related events, such as extreme heat and air pollution, on maternal health outcomes
- Describe at least two strategies for cultivating climate resilience among clients by integrating patient education and intervention into clinical practice
- List at least three resources on climate change and maternal health that reproductive health providers can use

- [Michelle] Thank you, Bemí, and on behalf of my colleague, Chris Woolslayer in Region III out of Philadelphia, I again want to welcome all of the participants here today. We're delighted that you're joining us. We're sad that we need to have this conversation, but we are so pleased that you're here to take a proactive approach in this area. Today, you will have the opportunity to learn more about the intersection of maternal health and climate change, and at the end of the session, you should be able to explain the impact of climate change-related events such as extreme heat and air pollution on maternal health outcomes, describe at least two strategies for cultivating climate resilience among clients by integrating patient education and intervention into

clinical practice, and list at least three resources on climate change and maternal health that reproductive health providers can use.

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OASH


OASH Office on Women's Health (OWH)

Vision
All women and girls achieve the best possible health

Mission
OWH provides national leadership and coordination to improve the health of women and girls through policy, education, and innovative programs.

Goals

- Inform and influence policies
- Educate the public
- Educate professionals
- Develop and expand innovative approaches




I'd like to also once again thank the Office on Women's Health, our sister office within the Office of the Assistant Secretary for Health. OWH, Office of Women's Health, or OWH for short, has a vision that all women and girls achieve the best possible health. And one of the ways they help to do that is through educating professionals, which is what we're here to do today.

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OASH

Maternal health care crisis in U.S.



- U.S. has highest maternal mortality rate of any developed nation in the world—more than double the rate of peer countries
- Most pregnancy-related deaths are considered preventable
- Regardless of their income or education
 - ◊ Black women are more than three times as likely to die from pregnancy-related complications as White women
 - ◊ Native American women are more than twice as likely

© 2017 American College of Obstetricians and Gynecologists. All rights reserved. DOI: 10.1097/AOG.0000000000000211
WHITE HOUSE BLUEPRINT FOR ADDRESSING THE MATERNAL HEALTH CRISIS | December 1, 2017

I'm sure if you're on here, you've probably, you're probably familiar with this document, the White House Blueprint for Addressing the Maternal Health Crisis. It's no surprise to anyone here that we are facing a maternal health crisis in this country, and that we have the highest maternal mortality of any other developed nation, and that of those deaths, the vast majority are considered preventable. And from a perspective of equity, we need to recognize that regardless of income or education, Black women are at least three times more likely to die from pregnancy-related complications as white women, and Native American women are more than twice as likely.

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I was also pleased that with, in looking through the Blueprint, there are at least five mentions of the intersection of climate change on maternal health. So the Blueprint, while out for a while now, has been forward-thinking in that direction as well.

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Climate change and the HHS role

Climate change poses current and increasing threats to human health. As the climate continues to warm, the risks to human health will grow, exacerbating existing health threats and creating new public health challenges.

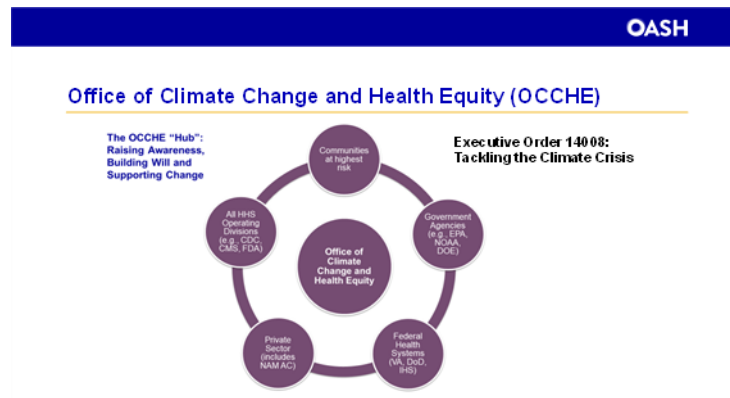
HHS is committed to taking actions across the whole department to protect the health and well-being of all people, especially those most vulnerable.



- [Aparna] Thank you Michelle, and thanks for the opportunity to be part of this important conversation. As Michelle said, it's increasingly timely. As we all know, we are witnessing before our very eyes how climate change-fueled extreme weather events and disasters are affecting the health of the communities that we serve, and also affecting our healthcare delivery systems. From Hurricane Ian to the current air quality crisis that's unfolding in the Northeast, we have been on the front lines of experiencing these disasters, and they're very costly in terms of human health and healthcare, and when it comes to maternal health and perinatal health, certainly a population at risk from these kinds of disasters. In the setting of climate change is health impacts, both from extreme weather and disasters, and some of the chronic effects of climate change that we'll get into in a moment. We know that fundamentally, climate change is a public health issue. In fact, in a somewhat unprecedented move, over 200 medical journals around the world recently published a consensus statement identifying climate change as the most pressing public health threat, and climate action as the most significant opportunity for public health action of this century. That's a kind of consensus we rarely see in the medical community, as you all know. And because of that, it is an issue that is, that lives within HHS, the

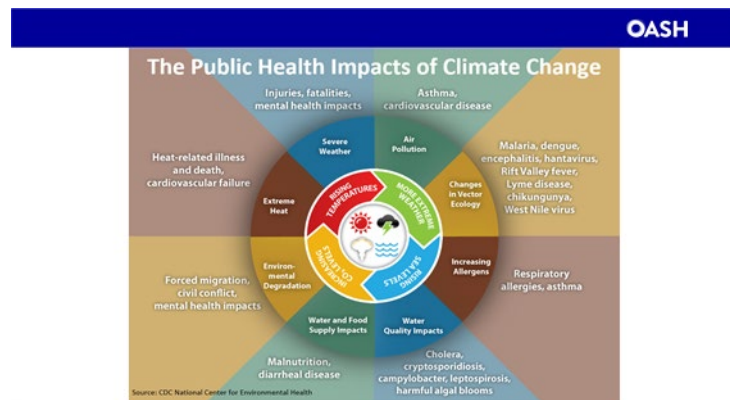
Department of Health and Human Services. It is an issue that healthcare and human services need to grapple with, in order to protect especially the most vulnerable populations from the health impacts of climate change. And that's why the Department of Health and Human Services is committed to action across the entire Department.

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And to tell you a little bit about our office, I'm with the Office of Climate Change and Health Equity, that we affectionately pronounce OCCHE. I'm also in the Office of the Assistant Secretary of Health, and our role is to really coordinate that response across the Department of Health and Human Services. We work with our sister agencies and operating divisions across HHS to develop a coordinated strategy across HHS to address the health impacts of climate change, to fuel action in the health sector, to ensure that human services are part of the equation of protecting at-risk populations, and that the resilience of those health and human services systems are something that we plan for and invest in.

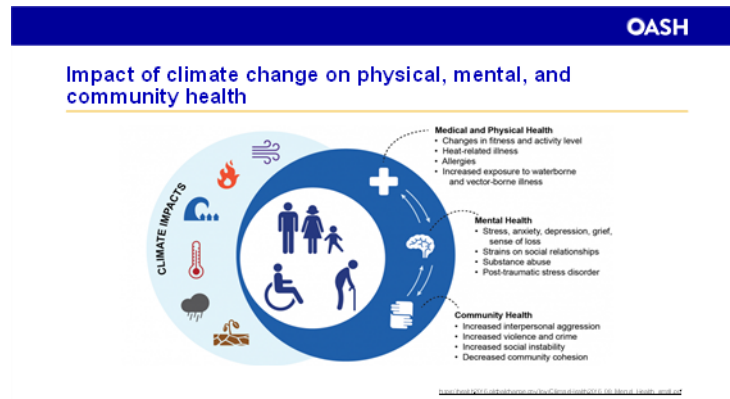
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One thing I'll mention, actually just parenthetically, there are some resources that OCCHE has published that may be of interest to you all, and I'll make sure to pop them into the chat, some information about our health sector climate pledge that articulates opportunities for healthcare organizations to act on climate, some of our other resources in the space, and I'll make sure to pop some links into the chat, for your interest. While we are focusing specifically on maternal

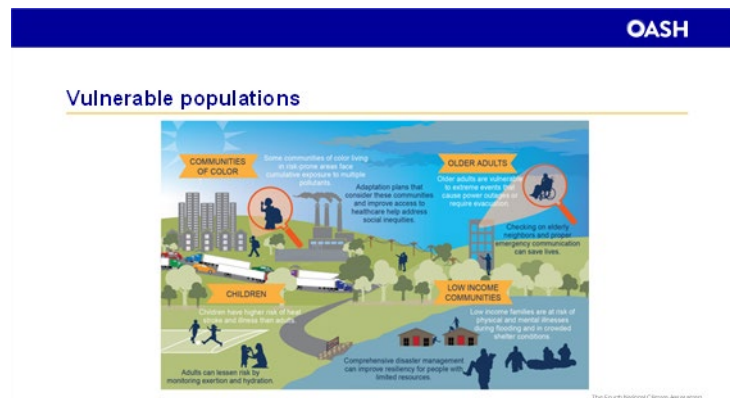
and perinatal health today, there are really, just important to kind of articulate that there is a broad range of health impacts of climate change, from medical issues like from air pollution, exacerbating asthma, cardiovascular disease, and affecting maternal health and child health as well, changing patterns of infectious disease, extreme weather events like extreme heat disruptions from climate-related disasters, resulting in displacement and migration, impacts on mental health, mental health and social cohesion.

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This is another way of sort of conceptualizing that, sort of articulating the fact that climate-related impacts, kind of pictured in the left circle, how those impacts can affect medical and physical health. As you can see outlined here, mental health and some of those community systems that can disrupt community health and social cohesion. And in the center of the circle are represented people who are impacted by these effects, especially populations at specific risk, including children, pregnant people, seniors, people with disabilities.

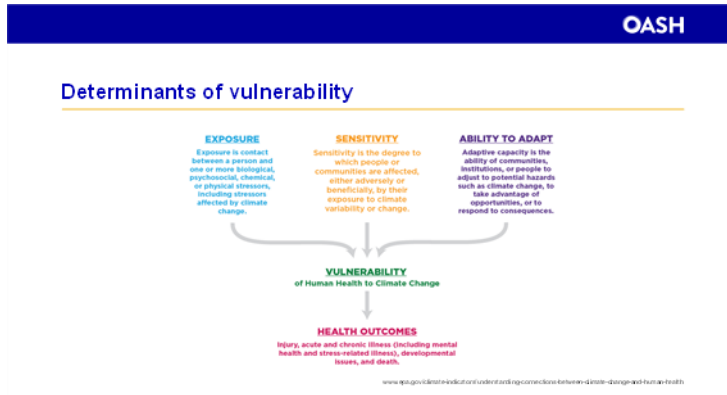
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Talk a little bit in the next slide please on these disproportionate impacts. As with all public health issues, the health impacts of climate change are not equitably distributed for a variety of reasons. And here there are some just sort of a representation of what that looks like. There are populations who, for physiologic reasons are sensitive to climate related exposures like children, pregnant people, seniors. There are populations who, because of systemic discrimination and

structural racism communities, many communities of color are at disproportionate risk to exposure of environmental hazards, including climate related hazards. There are populations, low income communities who lack potentially the adaptive capacity or political capital or resources to be able to adapt and recover from disruptions.

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So just to kind of spell that out, this inequitable distribution of climate related health impacts is related to this combination of differences in risks for exposure, difference in sensitivity to that exposure and differences in the ability to adapt to that exposure. And again, it can be a mix of physiologic considerations, systemic and systemic considerations in terms of like who is at risk and who is on the front lines of some of these toxic exposures. And that resource deprivation that can affect our ability to adapt and all of that together underpins vulnerability of health to climate change and then can then lead to disparities in health outcomes. So another way of saying that is that climate change can sort of reinforce and also exacerbate systemic health inequities. And so addressing health inequities and health disparities and acting on climate are really intimately related. And here's where I will turn it back over to Michelle.

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EXPOSURE

- Heat-related populations:** People who live in hot climates, work in hot environments, or live in poorly insulated homes are more vulnerable to heat-related illness and death.
- Older populations:** Older people are more vulnerable to heat-related illness and death because they may have pre-existing health conditions and may not be able to regulate their body temperature as well as younger people.
- People with pre-existing health conditions:** People with pre-existing health conditions, such as heart disease, lung disease, and diabetes, are more vulnerable to heat-related illness and death.
- People who work outdoors:** People who work outdoors in hot environments are more vulnerable to heat-related illness and death.
- People who live in poorly insulated homes:** People who live in poorly insulated homes are more vulnerable to heat-related illness and death.

SENSITIVITY

- Pregnant women:** Pregnant women are sensitive to health risks from extreme weather such as hurricanes and floods. These events can affect their mental health and the health of their unborn babies by contributing to low birthweight or preterm birth.

ABILITY TO ADAPT

- People with financial resources:** People with financial resources are more able to adapt to climate change by moving to a safer location or by purchasing air conditioning.
- People with access to resources:** People with access to resources, such as air conditioning, are more able to adapt to climate change.
- People with knowledge:** People with knowledge about climate change and its impacts are more able to adapt to climate change.
- People with social networks:** People with social networks are more able to adapt to climate change by receiving help from their neighbors.
- People with political voice:** People with political voice are more able to adapt to climate change by influencing public policy.

SENSITIVITY

Pregnant women are sensitive to health risks from extreme weather such as hurricanes and floods. These events can affect their mental health and the health of their unborn babies by contributing to low birthweight or preterm birth.

http://www.epa.gov/determinants-of-vulnerability/connections-between-climate-change-and-human-health

- Thank you Dr. Bole. And thank you so much for your leadership and the leadership of OCCHE across the department and across the federal government in working to address and put these

things, these issues, very much front and center. As Dr. Bole commented, there are certain groups that suffer disproportionately given the impact of climate change.


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Climate change and the health of pregnant, breastfeeding, and postpartum individuals

Pregnant individuals are more vulnerable to the health impacts of climate change.

- People who are pregnant need reliable access to transportation and medical care, which can be disrupted by extreme weather events.
- Biological and behavioral changes during pregnancy and postpartum increase vulnerability to insect-, food-, and water-borne illnesses.
- Increased risk of post-traumatic stress disorder (PTSD) and depression after natural disasters and extreme weather events.



www.epa.gov/climatechange/health/health-programs/breastfeeding-andpostpartumwomen

And the one that of course that we're focusing on today will be pregnant women and the specific sensitivities pregnant women have pregnant and postpartum women have. With respect to climate change, pregnant women are vulnerable in so many ways that are exacerbated by climate change. Not the least of which people who are pregnant need reliable access and transportation and medical care, which can be disrupted during extreme events. There are biological and behavioral changes during pregnancy and postpartum, postpartum increase vulnerability to insect, food and waterborne illnesses. And there are also increased risks of post-traumatic stress disorder and depression after natural disasters and extreme weather events.

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Impacts of climate change on maternal health

Climate Driver	Exposure	Health Outcome	Impact
Extreme Heat	More frequent, severe, prolonged heat events	Elevated temperatures	Heat-related death and illness
Outdoor Air Quality	Increasing temperatures and changing precipitation patterns	Worsened air quality (ozone, particulate matter, and higher pollen counts)	Prenatal death, acute and chronic cardiovascular and respiratory illnesses
Mental Health and Well-being	Climate change impacts, especially extreme weather	Level of exposure to harmful events, like disasters	Distress, grief, behavioral health disorders, social impacts, resilience

https://www.nrh.nhs.gov/sites/default/files/2018/06/16/20180616-climate-change-impacts-01-01-18.pdf

We will be focusing on all, to some extent all of the different climate change impacts on maternal health.

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Impact of extreme heat and air pollution

- Placental abruption
- Preterm birth
- Low birthweight
- Hypertensive disorders
- Lower fertility and live birth rates in spontaneous conceptions and after in vitro fertilization and embryo transfer (IVF-ET)
- Adverse obstetric outcomes with higher rates of miscarriage

But really very with a more of a fine point on the impact of extreme heat, indoor air quality and the impact of climate change on mental health and wellbeing, specifically extreme heat and air pollution can cause placental abruption, preterm birth, low birth weight, hypertensive disorders and lower fertility as well as adverse obstetric outcomes and higher rates of miscarriage.

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Extreme heat exposure during pregnancy


- Pregnant people can thermoregulate
- However, extreme heat exposure may cause:
 - Reduction in placental blood flow
 - Dehydration
 - An inflammatory response that may trigger preterm birth
- Other possible complications:
 - Stillbirth
 - Low birthweight
 - Congenital anomalies
 - Pre-eclampsia
 - Gestational diabetes
 - Emergency hospital admissions
- There is also evidence of high temperatures negatively impacting the mental health of pregnant people

And extreme heat exposure during pregnancy is a particular problem. We are at 25 years out from Chicago having a heat wave disaster in which over 700 people died. And so we really need to be acutely aware of this in the public health and clinical settings while pregnant women can thermoregulate. However, extreme heat exposure may cause reduction of placental blood flow, dehydration and an anti, I'm sorry, an inflammatory response that may trigger preterm birth. Other related complications include stillbirth, low birth weight, congenital anomalies, preeclampsia, gestational diabetes and emergency hospital admissions. And there's also abundant evidence that high temperatures negatively impact the mental health of all people and particularly pregnant women.

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ACOG addressing climate change



"Conclusive evidence has demonstrated that climate change is negatively affecting the lives of people in the United States and around the world. The American College of Obstetricians and Gynecologists, as an organization representing physicians and other health care professionals who care for women and everyone seeking obstetric and gynecologic care, recognizes that climate change is an urgent women's health concern and a major public health challenge.

ACOG recognizes that addressing climate change is an urgent health priority that affects everyone. As leaders in women's health care, we support a proactive approach to this important issue."


Approved by the Executive Board, January 2019
Revised April 2019
Revised April 2019
Revised November 2021

This is such an issue and an area of concern that the American College of Obstetrics and Gynecologists has put forth a statement recognizing the importance of addressing climate change. And I will read it because I think it's just that important, that conclusive evidence is demonstrated that climate change is negatively affecting the lives of people in the United States and around the world. ACOG as an organization representing physicians and other healthcare professionals who care for women and everyone seeking obstetric and gynecologic care recognizes that climate change is an urgent women's health concern and a major public health issue. And they encourage that this take high priority because it affects the lives of everyone. And that as a public health and maternal health women's health community, we need to be proactive.

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Climate solutions are health and equity solutions



Clean energy

Sustainable city infrastructure

Sustainable food systems

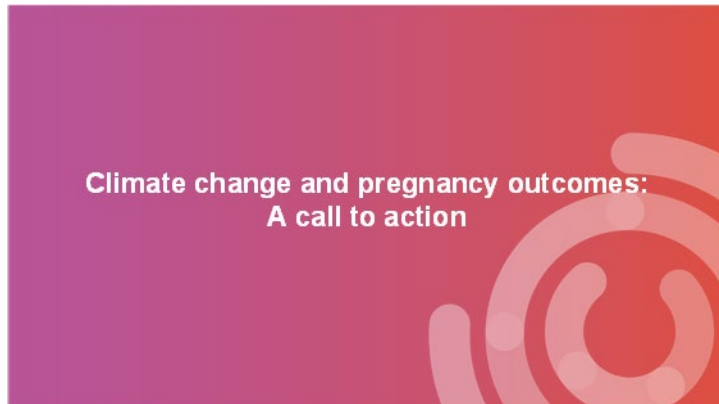
Accessible green space

Resilient and affordable housing stock

Healthier environments and improved health outcomes

Just to sum up before I hand it over to Dr. Cabiya, when we're thinking about climate solutions, we also recognize that these are very effective in improving health and contributing to equitable solutions. So thinking clean energy, sustainable city infrastructure, food systems that are sustainable, availability of green space, tree cover, resilient and affordable housing stock, all of those contribute to as solutions to the climate crisis as well as improve the health and equity issues. So healthier environments can in fact improve health outcomes.

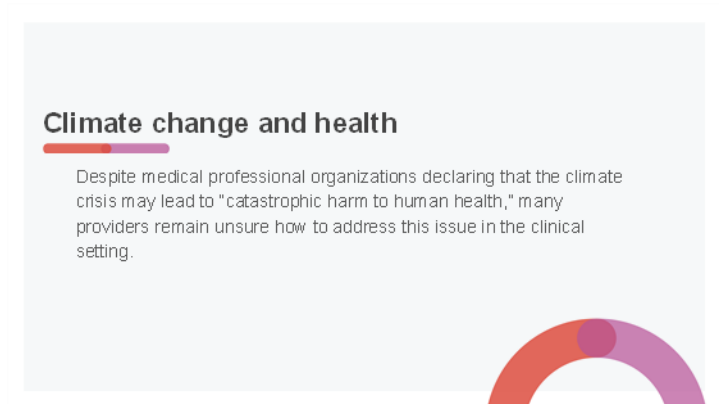
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It now gives me great pleasure to hand the presentation over to Dr. Marie Cabiya. Marie?

- [Marie] Thank you, Michelle. So I want to focus specifically on of course pregnant people.

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And we know so many professional health organizations like HHS, the WHO have really stressed that this is such a priority to address in order to address health inequalities, right? But I feel that a lot providers who are at the bedside like myself as a generalist, OB/GYN, still are unsure and don't really know how to tackle this issue in the day-to-day interactions with our patients and even within our health systems.

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We are trusted messengers!

- Public opinion shows that the majority of the public knows that global warming is happening and related to human activity.
- Health care providers are trusted messengers.
- We can overcome the barriers of lack of time and knowledge.
- Because planetary health is inseparable from human health, addressing the climate crisis is in our lane as health providers.




The good news is that we know that as health providers we're certainly trusted messengers and studies like the one from Yale knows that public opinion is definitely swaying. And that odds are that when you talk to somebody in the office, they're already going to be in agreement with you that climate change is happening, that it is caused by humans and that we can make a difference there in terms of having them see the connection between what's happening and their health. So I know and want to acknowledge that certainly as healthcare providers, we are busy, we worry that we don't have enough knowledge. And the good news is that there are a lot of different resources that I'll mention that can really help us jumpstart in order to get the knowledge that we need and really different shortcuts that we can use in order to have this be part of our regular interactions. And certainly I want to argue that we may think, oh, I signed up to take care of people, right? But I think with what we're seeing in this day and age, we can really be convinced that planetary health and human health are just one and the same and we cannot address human health without addressing this constant interaction with the planet.

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Environmental inequity in our backyard

- Heat is an example of how environmental factors can be a multiplier of health inequities.
- The 1995 Chicago heat wave led to 739 excess deaths.
 - Vulnerable: Elderly, comorbidities, lack of social connectivity
 - Urban heat islands
 - Many of same zip codes were most affected by COVID



As Michelle mentioned, the 1995 heat wave was such a concrete example of health inequity and environmental injustice, right? Social scientists who studied it saw that people who tended to die more often tended to be those who lacked social connectivity, right? And were in neighborhoods that had poor investment unfortunately, and those that lived in urban heat islands, right? The areas that we've turned from green with lots of tree canopy to black with lots

of asphalt. And we know that in urban heat islands temperatures can be as high as 14 degrees greater than in other places with more tree canopy.

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Climate crisis and women's health

- As seen during COVID, situations where individuals have to shelter in place can also lead to increased sexual violence and lack of reproductive control.
- ACOG: "The effects of climate change—such as food and water insecurity, civil conflicts, extreme weather events, spread of disease, and more—put women in affected regions at elevated risk of disease, malnutrition, sexual violence, poor mental health, lack of reproductive control, negative obstetric outcomes, and death."

Therefore, you know, that being a great opportunity for addressing those health inequities. So unfortunately we've seen that we haven't made much headway. And when we looked at the zip codes that were most affected by COVID right here in Chicago, where that heat wave happened in 1995, we saw that still unfortunately a lot of the same communities were most affected as well. So, you know, we know that ACOG has made a public stance talking about the importance of addressing the climate crisis as part of a big determinant in the health of women and pregnant people, right? And I just want to stress this, that COVID also really stressed how when somebody needs to shelter in place, like in a natural disaster, there is increased risk for sexual violence and lack of reproductive control. So we'll have those people who unfortunately are not able to go get their birth control, get their abortion, et cetera, et cetera. So addressing the climate crisis is certainly health action.

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Heat exposure and maternal health in the face of climate change

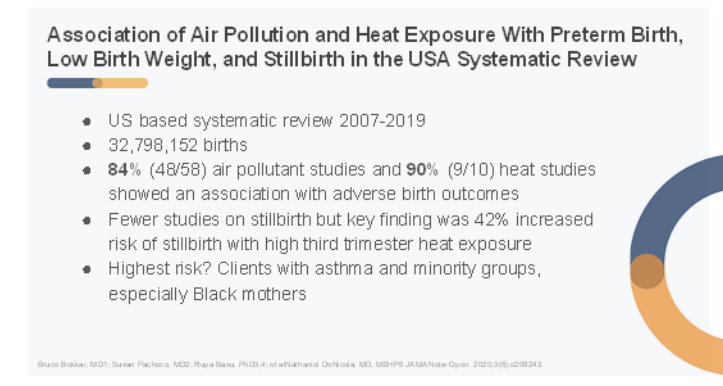
- Systemic review, global
- 28 studies
- Heat and preterm birth correlated in 15/17 studies
- Heat and low birth weight correlated 3/5 studies
- Heat and stillbirth correlated in 2/3 studies

Kuehn, L and McCormick, G. Int J Environ Res Public Health 2017 Jul 29;14(8):853.

So in the interest of time, I just want to highlight two large systematic reviews. The first one is a global systematic review that included 28 studies. And you can see that in 15 out of the 17 studies that looked for heat and an association between heat and preterm birth found that there was indeed an association. There was an association found in three out of five studies studying

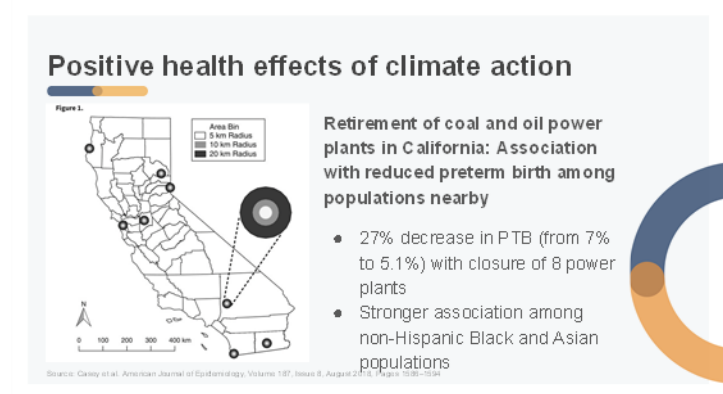
heat and low birth weight. And there were fewer studies of course, because stillbirth is fortunately a more rare event, but there was still an association in two out of three studies. And the authors of the study really posed the fact that one of the takeaways was that urban planning is really an important tool in order to address this issue because it can help with decreasing both the temperature as well as the air pollution.

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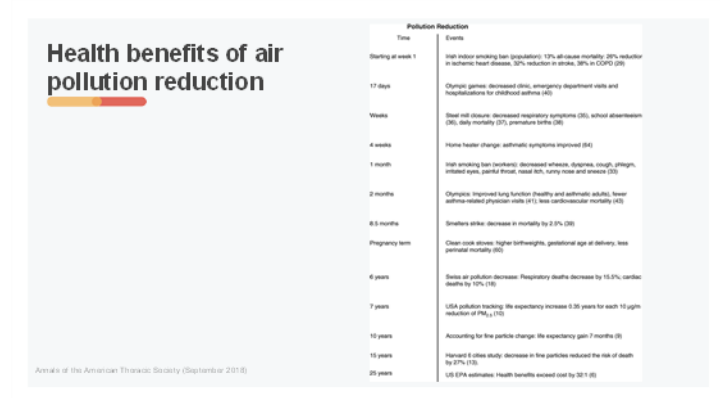
The second systematic review is a national systematic review that included over 32 million births. And we can see that 84% of studies found an association between air pollution and adverse pregnancy outcomes and 90% of studies found an association between heat and adverse pregnancy outcomes and the adverse pregnancy outcomes that were being targeted were specifically preterm birth, low birth weight and stillbirth. One of the takeaways, which I think really should be so shocking is that even though there's less data on stillbirth, one of the key findings was that there was a 42% increased risk with high third trimester air pollution exposure. So it's something that I'm really, really thinking about as we face this very acute problem with air pollution in the East Coast and traveling westward. Of course, highest risk always patients with comorbidities such as asthma as well as minority groups, especially black mothers. So when we're talking about birth disparities, really tackling this is going to bring those people who have the most adverse outcomes up to, you know, closer to where we want them.

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So I never like to point out a problem without really finding the opportunity in it. And I really want us to get away from this with the idea that there's so many positive health effects in climate action. And then example of this was this California study that found that there was a 27% decrease in preterm birth in a specific area before and after the closure of coal power plants. So we don't need to wait for a long time to see the positive health effects. And again, this study once more highlighted that there was a stronger association still among non-Hispanic, black and Asian populations.

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So I know this is tiny print, but I really love this infographic from the American Heart Association. And what it does is it lists the how soon you can see health benefits when you implement certain climate action solutions. And one of the examples that I just want to highlight is what happened in Atlanta in 1996 when they actually closed down the city center and really created what they called an alternate transportation plan for the Olympics that significantly decreased air pollution. And they found that in only 17 days there was a 42% decrease in Medicaid asthma attacks in kids. So that's just one of many, many examples that really show that in the short run, decreasing air pollution can have significant health benefits.

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Climate action is health action

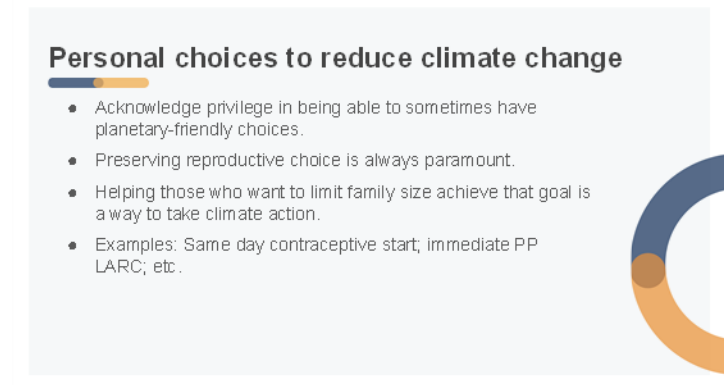
- Planetary health and human health are interconnected.
- Anything good for you is good for the environment.
 - Low carbon transportation
 - Plant-based
 - Decreased air pollution (less COPD, MI)

Howard et al. (2022) Learning to lead the climate emergency together: social tipping mechanisms by the health community. The Lancet

So because planetary and human health are just one and the same really with very, very few exceptions, whatever's good for the planet is good for us. And there's so many examples of this

that we can discuss with patients, anything from low carbon transportation, so active transportation like biking, like walking will decrease our carbon footprint while at the same time reaping the benefits of improved cardiovascular fitness, improved bone density, a plant-based diet of course has a lesser carbon footprint while also increasing our cardiovascular fitness, potentially risk for cancer and decreased air pollution, same thing. You know, as I just discussed, it has very significant health benefits in the short term even.

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Personal choices to reduce climate change

- Acknowledge privilege in being able to sometimes have planetary-friendly choices.
- Preserving reproductive choice is always paramount.
- Helping those who want to limit family size achieve that goal is a way to take climate action.
- Examples: Same day contraceptive start; immediate PP LARC; etc.

Personal choices of course have limited impact, but I think they can certainly be important when they change other people's behavior, right? And we know that health providers can and do take action more than other populations in general. And I definitely want to acknowledge that there's significant, there can be significant privilege in being able to take health action because for certain things, not everybody can drive an electric car, et cetera, et cetera. There's certain actions that are just behavioral, but even in terms of bandwidth, not everybody's able to to implement this. One of the most powerful choices that can decrease carbon footprint can be just having one fewer child. Now I want to say I would never ever, ever, ever, ever tell anybody less so even a patient to have one fewer child. Not at all. And I'm not recommending this. However, when somebody does want to limit their family size and we help them limit their family size, we're also asserting climate action. And there's so much that is reproductive health providers we can do to practice evidence-based medicine and decrease barriers to reproductive access. And that can look like giving somebody a full 12 months of their birth control at a time and having them do three months at a time instead of having to come in every month, that can be, you know, we know that 50% of people who want to come back for a LARC device never are able to come back. So that can be providing same day LARC insertion, that can be starting a program to have immediate postpartum LARC delivery at your institution. So we can give the patients that choice as well. So again, as being a reproductive health provider can really be powerful in terms of, really as helping somebody empower them themselves with their reproductive decisions.

Slide 32

At work: Where do I start?!

- There are many organizations with ready-made resources that can help a health professional get educated and synthesize information.
 - University of New Hampshire: Project Echo
 - The Medical Society Consortium on Climate and Health
 - Columbia University: Climate Health and Advocacy Boot Camp
 - Climate Health for Ambassadors: Ambassador Training
- These organizations can provide slides and talking points to help amplify the message and to create a supportive community.




The slide features three logos on the right side. At the top is the Project ECHO logo, which includes the text 'Project ECHO' and 'University of New Hampshire'. Below it is the 'CLIMATE & HEALTH ADVOCACY BOOT CAMP' logo, which is a blue square with white text. At the bottom is the 'CLIMATE for HEALTH Ambassadors' logo, which includes a stylized globe icon and the text 'CLIMATE for HEALTH Ambassadors'. A decorative graphic of a blue and orange arc is on the right side of the slide.

So where do I start? So if you're like me a while ago, you think, oh my god, I have the interest but I don't have the time, I don't have the knowledge, where do I start? And there's so many different organizations that can really help you jumpstart in terms of acquiring the knowledge that you need and also having the actual resources. So some of these you can do their trainings and you can even use their slides and they include Project Echo, they include the Columbia Program, they include the Climate for Health Ambassadors. And certainly I want to give a shout out to Healthcare Without Harm, which is an organization that focuses on healthcare sustainability. So really decreasing the footprint, the carbon footprint of the healthcare industry itself. And I think that they really show what it is to lead by example. 'Cause we can't be talking saying, oh, you know, have others decarbonized when we know that in the United States, 10% of emissions actually come from the healthcare industry. For anybody who's interested, they actually have an offshoot called OB/GYNs for a Sustainable Future. And so if you're interested, that's another great resource. Next slide, please.

Slide 33

At work: Client discussions

- Examples of client discussion topics:
 - Extreme heat (warning signs, mitigation: avoid extreme heat, seek shade, hydrate before you're thirsty, natural fibers)
 - Air pollution (sensitive groups, air quality index, indoor air quality)
 - Plant intake (review daily intake and benefits of plant strong diet)



A decorative graphic of a blue and orange arc is positioned on the right side of the slide.


So at work, I just wanted to give some very specific examples of how discussions might go with patients. And I want to acknowledge that we all, you know, we need to work with our reality and certainly these discussions are not part of every single patient interaction that I have. But examples of how it can be integrated might be, you know, for a pregnant person, what have you heard about extreme heat and pregnancy? Is it okay if we discuss what risks are associated

with extreme heat and how you can keep yourself safe from those? And then talk about things like making sure that they're planning appropriately by pre-hydrating, if they're going to be outside, trying to avoid being outside and exercising, when it's going to be the warmest, making sure that they're hydrating before they're thirsty, et cetera, et cetera. Air pollution of course, being so acutely pertinent, we want to target particularly patients who are sensitive, right? So I would address this in the same way. Have you heard about air pollution and its effects on whatever, whether that may be asthma, whether that may be pregnancy. And then talk to patients about, do you know about checking the air quality index, referring them to Air now.gov, for example, talking about indoor air quality and understanding that when air quality is for, we need to be trying to stay inside, not exercising vigorously outside, wearing an N95 outside and trying to address indoor air quality by keeping the windows closed, using air filters, et cetera. And then lastly, one last example of how I might address these discussions in the office would be things like plant intakes. So for patients for annual exams, I might ask, how many times a day are you eating plants? And then that can be a good way of kind of assessing where the patient is at, and making sure that they have the takeaway that a plant strong diet is something that's good for the planet and good for them as well.

Slide 34

At work: Client discussions (cont.)

- Examples of available resources that can serve as shortcuts:
 - Handouts
 - Physician info badge
 - Urine charts



The image displays three examples of resources: 1) A 'CLIMATE RX' badge with a QR code and the text 'All of us can care for our health and our climate.' 2) A handout titled 'Climate Change and Pregnancy' from the Western State Pediatric Environmental Health Specialty Unit. 3) A urine chart with a color-coded scale from light yellow to dark brown, used for assessing hydration status.

These are just examples of different available shortcuts that we can use. And one of them is the Climate RX program that has a badge with a QR code for patients to scan it if they want to learn more about how climate affects health. This is another, a urine chart for patients to assess their hydration status, and then last, but not certainly, the Western State Pediatric Environmental Health Specialty Unit has some good resources on climate change and pregnancy that talks more about how providers can address the issue.

Slide 35

At work: Policies and procedures

- Almost 10% of greenhouse gas emissions come from healthcare in the US.
- Wise choices can help avoid unnecessary harm while reducing emissions.
 - Examples: PAP frequency, blood transfusions, inductions




At work we want to consider procedures, right? There's so many different ways that we can address the carbon footprint at work, but I think one of the easiest is actually just to be aware of the principle of reduction, right? And we know that there's certain programs that tackle how we should really be thinking carefully about the fact that each test that we order has a carbon footprint behind it and having the patient come in to get the test and interpreting the test in the materials that it takes to run the test as well as, and of course, anxiety and unnecessary procedure and an unnecessary cost for the patient. And so, we should really be following evidence-based guidelines for things like PAP smear frequency, limiting blood transfusions to patients who are under seven, or of course, you know, clinically needed, avoiding unnecessary inductions of labor before 39 weeks, et cetera, are just examples within our world.

Slide 36

Join forces!

- Organizations that focus on decreasing emissions from within the health care industry can lead by example.
 - Practice Greenhealth
 - CleanMed Pittsburgh 2023
 - Healthcare without Harm
- It can be energizing to find other enthusiastic individuals within your organization or a broader group.



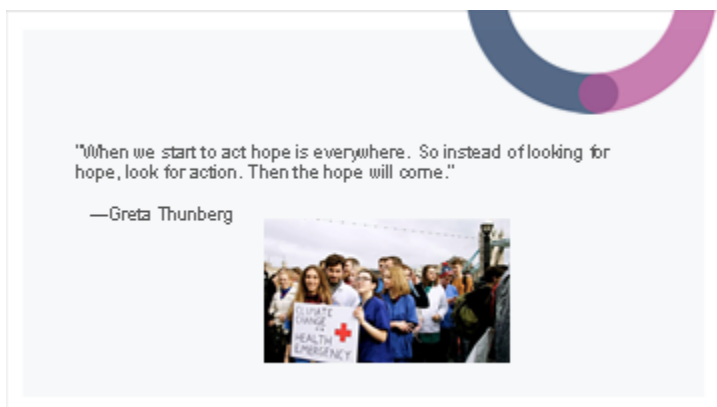
These are just examples of organizations that specifically tackle healthcare sustainability. And I encourage everybody to take a look at the CleanMed Conference. This one just passed, but of course they'll be the one for next year. And I think that, you know, selfishly making, joining forces in these organizations can be really energizing because you find like-minded people that can help you, you know, continue to be inspired and really amplify the message and not have to reinvent the wheel every time.

Slide 37



And I want to leave you with the words of a woman who I really, really admire. Her name is Dr. Arianna Elizabeth Johnson. She's a marine biologist and she has a great book, she has a podcast, and she has a great podcast on, I'm sorry, TED Talk, on how to find joy in climate action. And she talks about the fact that what you should do should be at the center of what brings you joy, what you're good at, and what is the work that needs to be done. So that's going to look a little bit differently for everybody. I think one of the other things that she stresses is that not everybody can be an educator. There's a lot of value in being the person who's implementing these programs. And that can be the person who, you know, finds the handout for clinic and makes sure that everybody is aware that can be the person that maybe promotes, you know, having a native plant planting in order to use your medical campus as a way to promote biodiversity. There's so many different options for what you can do and I really do think that what's important is for you to find joy in it. Because if you don't, then you're going to get burnt out in something that's not going to be, you know, sustainable, a sustainable effort.

Slide 38



- [Michelle] Thank you so much Dr. Cabiya. I want to pause on this slide for just a minute so we can all take that in just a second longer.

Slide 39

OASH

White House/HHS Health Sector Climate Pledge

- Reduce organizational emissions by 50% by 2030 and achieve net-zero by 2050, publicly accounting for progress on this goal.
- Designate an executive-level lead for work on reducing emissions and conduct an inventory of Scope 3 (supply chain) emissions by the end of 2024.
- Develop and release a climate resilience plan for continuous operations by the end of 2023, unpacking the needs of groups at disproportionate risk of climate-related harm.



The White House/HHS Health Sector Climate Pledge has inspired. Health sector organizations can commit to emissions reduction and climate resilience goals by filling out [this form](#) and sending it to OCCO@hhs.gov.


Please also check out [OCCO's Health Sector Resource Hub](#) for information on programs and supports for health sector leaders investing in emissions reduction and resilience, including those created by the landmark Inflation Reduction Act.

I just wanted to point out a few of the very, the many and this list is growing daily, different HHS and federal resources related to climate change. There is the White House HHS Private Health Sector Climate Change Pledge and, or Climate Pledge, not climate change. And so you can access that on the website and work with your organization to see if you can't create and commit to the climate pledge.

Slide 40

OASH

Office of Regional Health Operations




- Develop strategic approaches to:
 - Address health disparities
 - Improve access to health care and human services
 - Increase the capacity of the public health infrastructure and workforce
- Connect people and convene diverse partners:
 - Health departments
 - Academic institutions
 - Community-based organizations
 - Professional and constituency organizations
 - HHS and other federal agencies

There are also different, are different regions. And I wanted to just point this out briefly. We have regional offices across the country. All of them have various resources related to climate change and they convene different, different groups to advance different issues. So just being aware of that is helpful.

Slide 41

OASH

Office of Climate Change and Health Equity (OCCHE)
Climate and Health Outlook



The Climate and Health Outlook is an effort to inform health professionals and the public on how our health may be affected in the coming months by climate events and provide resources to take proactive action.

This webpage includes additional resources and information extracted from the PDF summary, including regional prospective forecasts.

<https://www.oas.samhsa.gov/2k19/climate-and-health-outlook.pdf>
2019.pdf

Next, the OCCHE Climate Change Health Equity Health Outlook book, Health Outlook is also particularly useful and you can access that, and you'll get these slides after the presentation, they will be posted so you'll have access to these things. But these are just a few of the federal resources.

Slide 42

OASH

CDC Climate-Ready States & Cities Initiative Grant Recipients



https://www.cdc.gov/climateandhealth/crsd_grantees.htm

And also the CDC Climate Ready States and Cities Initiative, becoming familiar with some of the grant recipients that if you have them in your state would be useful.

Slide 43

OASH

Resources for emissions reduction and resilience

Federal Resources to Support Emissions Reduction and Climate Resilience for Healthcare Stakeholders

In 2016, the White House and HHS released the Healthcare Sector Climate Change Action Plan, creating an opportunity for healthcare stakeholders across the country to take concrete steps to reduce emissions and increase resilience to the growing threat of climate change.

Financial Resources, Funding Opportunities, and In-Kind Supports

Broad Applicability

Water Savings Planning Strategy: Healthcare Energy Planning Primer

Development of energy efficiency and water savings projects can result in:

- Lower energy and water costs and greater water availability for drinking water and energy efficiency
- Lower greenhouse gas emissions and improved air quality
- Improved patient and staff health and safety

<https://www.hhs.gov/healthcare/energy/water-savings-planning-strategy/>



Also, the Agency for Healthcare Research and Quality has a guide, the Primary Protection Enhancing Healthcare Resilience for a Changing Climate. Also an excellent read.

Slide 44

OASH

Disaster response toolkit

Medicaid, Children's Health Insurance Program, and Basic Health Program services provide critical health coverage for millions of vulnerable Americans.

Over the past several years, numerous states have been impacted by natural or man-made disasters, and these programs serve an important role as states respond to these disasters.




Center for Medicaid and CHIP Services (CMCS), Medicaid and CHIP Challenge Learning Collaborative
June 2015

<https://www.medicaid.gov/resources/toolkit-for-response-toolkit-toolkit.html>

Medicaid.gov
Keeping America Healthy

And medicaid.gov has a disaster response toolkit. And while we're looking at response, this presentation is really looking at how we can move forward in creating resilience and adaptability. So we don't always have to just be in response mode.


Slide 45



Environmental health resources for health care providers

- Understanding and addressing climate change is critical to EPA's mission of protecting human health and the environment.
- EPA tracks and reports greenhouse gas emissions, leverages sound science, and works to reduce emissions to combat climate change.
- EPA is committed to advancing the goals of environmental justice for all Americans, including those historically marginalized, overburdened, underserved, and living with the legacy of structural racism.
- Additional web content about climate change and environmental justice is currently under development.

www.epa.gov/climate-change



Also EPA has wonderful resources. Next slide.

Slide 46



Endocrine Disrupting Chemicals and Women's Health Symposium

A Virtual Symposium
July 18–19, 2023 | 9:00 am – 4:00 pm ET

OASH | Office on Women's Health

Focusing on solutions to address the impact of endocrine disrupting chemicals on women's health

Visit the event website to learn more!
<https://event.rosellassociates.com/owh-edc-womens-health/>

[Register Here!](#)



And I would be remiss if I didn't refer to the upcoming Endocrine Disruptors Chemical and Women's Health Symposium that's going to take place hosted by the Office on Women's Health. It'll be on July 18th and 19th and it is entirely virtual and we welcome everyone on this webinar to participate in that conference.

[Register for the symposium at this website](https://event.rosellassociates.com/owh-edc-womens-health/)

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[Womenshealth.gov](https://www.womenshealth.gov)
[girlshealth.gov](https://www.girlshealth.gov)

And with that, there is also the Office on Women's Health has excellent resources at [womenshealth.gov](https://www.womenshealth.gov) and [girlshealth.gov](https://www.girlshealth.gov).

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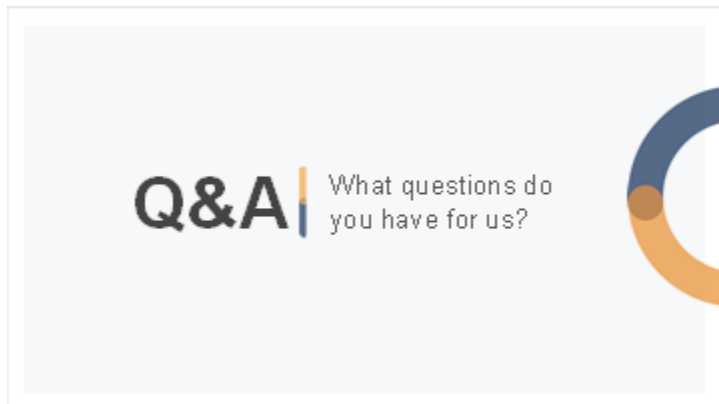
Understanding Endocrine Disruptors and Fertility video



Understanding Endocrine Disruptors and Fertility

And I will hand this over, let's see, I want to hand this over to Chris Slayer, my colleague in region three who will handle the the Q&A. And I'm sorry, I should have mentioned, "[Understanding Endocrine Disruptors and Fertility](#)" is a very helpful video that is being promoted by the Reproductive Health National Training Center, and that's outstanding.

Slide 49



So Q&A, Chris, it's all yours.

- [Chris] Hi, everyone. Thank you so much for being here today. This is something that's really near and dear to my heart. I'm currently sitting in Philadelphia where we've had hazardous air for the past few days, which is something that, you know, typical for our area. So, you know, it really made a big impact on me as an asthmatic. So this is, I'm really feeling this presentation. I am Michelle's counterpart in region three. I cover the mid-Atlantic states and so I'm now looking for questions. If you have any, please put them in the chat. I don't see any currently.

- [Aparna] Chris, is it okay if I jump in really quickly? I wanted to just tack onto something that Michelle said. She had a slide with the ARHQ, Permian Decarbonization, and the other visual on there was the Sustainable and Climate Resilient Healthcare Facilities Toolkit. That was one of the two graphics on there. I will pop a link to both of those in the chat, but I just wanted to lift up that the Climate Resilience Toolkit is a really helpful kind of how-to guide for healthcare facilities on planning for climate resilience, which again, kind of feels more and more relevant today. It's also something that we're actively updating and are hoping to have an updated and even more kind of user-friendly navigable version up within the coming year. So I just wanted to call that out and I'll share a link in the chat.

- [Michelle] Wonderful, thank you so much, Aparna. That's terrific. 'Cause I know I come, actually, prior to my time at HHS I worked for the Title X grantee in Southeastern Pennsylvania, Access Matters, for about 10 years. So, you know, reproductive health, sexual health has been something near and dear to my heart for a long time. So I know a lot of you come from that space. I'm always so happy to have you here. I do have a question and it's, can you share any strategies on how to work with patients and communities that do not acknowledge the impact of, oh, I just lost it. The impact of humans on climate change?

- [Aparna] That's a challenge. I really think in the office, because our primary responsibility in the office is to take care of the patient that it's best to avoid, you know, really something that will cause friction and worsen the physician patient relationship. So I wouldn't get into it with a patient who is not a believer, but I think that on a public health level, we need to continue to be making these efforts. And you know, fortunately, well, fortunately and and terribly unfortunately, right, I think that a mother nature right now is doing a much better job of hitting people over the

head with this than we ever could. But on an individual level, I would really make sure that the patient understands my priority's to take care of them. And so I wouldn't be having this conversation in the office and creating, you know, any friction between the patient and the health provider.

- [Michelle] I might just tack onto that, you know, I think the broader question is like, there, there are obviously some regional and sort of demographic differences and how people perceive the issue of climate change. And it's unfortunately become rather a politically sensitive topic or kind of politically charged topic, which is unfortunate 'cause I think you know, that the evidence is pretty clear about its trajectory and the impacts on health. One thing I'll say is that the kind of the communication science around climate change is actually pretty well studied. And what we know is across the spectrum of the American population, whether people are alarmed about climate change, dismissive or unbelieving about climate change being an issue and everything in between. We know that health voices are really uniquely credible across all of those segments. And so if we can just really focus on the truly evidence-based, health-related impacts that we are seeing in our practice and that we are seeing measured in the literature, I think that we have this kind of like unique platform and lane in order to communicate with all segments of the population. Even those who may perceive this as sort of politically like not a topic that they believe in or want to engage in or whatever the case may be. I think really staying in our health lane and focusing on issues that we're seeing in our practice is really powerful.

- [Aparna] I do agree that I think it depends on what relationship you have with a patient because there's certain patients where, you know, you've been with them for a while and you know they trust you. So, you know, I kind of pick and choose too, but I'm certainly not the best person to ask only because I'm in a place where I would say the consensus is very, very, you know, strong that that this is real. So I really rarely encounter that kind of skepticism, but it certainly is out there.

- [Chris] That's great. I'm just thinking about my own personal experience. When I was pregnant with my son, he was a early September baby, so I was the most pregnant in the hot summer months here in Philadelphia. And I remember standing on the train platform waiting for the train to go into the office and just with the sun beating down on me and never once did my OB/GYN mention how he could impact me and the pregnancy and the baby. So I think just raising awareness about that and, you know, the error issues as well. I think it's just that one little step. I know I remember the doctor telling me not to eat lunch meat, but nothing about, you know, being out in the hot weather. So I'm hoping this is something that can, you know, just be kind of plugged into some of the conversations. We do have a comment, one other thing to discuss with patients is reusable menstrual products much cheaper and better for the environment. And I show them to the patients at their annual. That's actually a terrific comment. I'm really glad you brought that up. We did have a question. How much for Dr. Cabiya, how much time does it add to your time with your patient to address these issues around climate?

- [Dr. Cabiya] Yeah, like you said, you know, I want to be realistic. It's something that I don't do at every single visit, but I do make sure that within a pregnancy, I discuss this at some point and particularly as of late, because it's just so relevant. Everybody's so open and welcoming and very, very grateful. So, you know, you know, like you mentioned, I think people welcome it with open arms. It does not take a long, a long time to really get these messages across and inevitably patients are curious. I do have my Climate RX batch as well, so if somebody wants to

learn more, they can go there. And I also have different handouts, like the CDC handout on heat and pregnancy to direct them to as well. So I try and take those shortcuts as well because we do need to acknowledge that we're working, you know, with limited time and resources.

- [Michelle] I also really liked what you said, Dr. Cabiya, in your presentation about working this information into counseling that you do already. So it's not like a tacked on, you know, extra few minutes necessarily, but you know, you're going to talk about nutrition anyway with your patient and I get that question a lot myself as a primary care doctor, you know, we see patient every 15 minutes. How long does it take? Well I'm going to talk about nutrition and exercise at pretty much every preventive visit. Those are opportunities right there. And then you're going to provide, you know, targeted anticipatory guidance for people with particular medical conditions and that might include things like issues related to heat or air quality. So I just really liked how you commented that you can infuse this kind of knowledge and information into counseling that you're going to do anyway.

- [Dr. Cabiya] Thank you. And I know that the American Academy of Pediatrics has been very good in being directive to tell their providers that this, you know, speaking about climate change should happen as part of anticipatory guidance, which I think pediatricians are very good at understanding. I think that we're still missing some stronger wording perhaps from our own American College of OB/GYNs, more of a mandate. And so something that I would encourage perhaps people who are listening is that the American Board of OB/GYNs should hear from us that this is something that needs to be taught as part of the maintenance of certification process. Because if OB/GYNs are not really aware that this is really happening, then this is a conversation that's never going to get started in the office.

- [Michelle] I'll just flag that we did in pediatrics there is now an MOC part two and MOC part four on climate and health, that part four was just launched. Happy to put those links in the chat as well. So it's nice to see there's some momentum in continuing medical education.

- [Chris] Awesome, that's really great information. The next question is actually, can anyone talk about the impact of nearby polluting industries on the reproductive health of communities? Do you know of any policies or efforts that are being pushed on how to reduce their emissions release of toxic chemicals? I just want to quickly put in a plug. There is the Endocrine Disrupting Chemicals in Women's Health Symposium coming up in July that Michelle had mentioned and had a link on the slide. We'll make sure there's slides that you get them all in case that's something you're interested in. But do any of the speakers have any response?

- [Dr. Cabiya] I just think it's such an individual right, depending on the community and the geography. But to me this whole, this the California study that talks about the fact that there was a 27% reduction in preterm birth after closure of a coal power plant it just speaks volumes. And I recently attended the Society for Maternal Fetal Medicine Conference, last year maybe, and they were talking about how as providers we need to be marching for clean air as part of our, you know, our prescription for health, if you will. For a long time we've been prescribing stuff like progesterone that hasn't really been proven to help much with birth outcomes and yet here's this chance of something that's so actionable. And so I think that, you know, as providers, we really have this platform that we can't afford to waste and we need to be advocating for our communities.

- [Michelle] Might be worth also just lifting up the establishment of the Office of Environmental Justice at HHS. And that understanding that like, that exposure to chemicals of concern and toxins and exposure to climate related hazards, they're very related. So the Office of Environmental Justice is part of our Office of Climate Change and Health Equity. There was a recent executive order that President Biden signed on on environmental justice and health. So I guess just to say that, you know, that attention to environmental justice as a important health concern is really a high priority for the administration and for HHS, and it's a great question, and an important one.

- [Chris] That's great. The next question there is a saying, if you want to know an organization's priorities, look at their budget, can you say what percentage of the public health budget is going to address this? I think that might be a question for Aparna.

- [Aparna] Yeah, I can't really speak the public health budget, right? That's the entire Department of Health. And is, you know, I think it's a tough question to answer possibly because defining what we mean by the entire public health budget is maybe a little bit difficult. It's not something that I'm totally qualified to speak about. But I think one thing to point out is that, you know, there there has been, you know, I think some really like game changing legislation, right? Like the IRA is a game changing piece of legislation when it comes to investing in climate action. You know, frankly, health funding is not part of that, but it's still a game changer for the health sector. So I guess like to me really even understanding sort of the boundaries of what we mean by the public health budget, it's challenging, but I would call that a public health win even though there are no dollars in that piece of legislation specifically for HHS. But to your point, I think that we, you know, it has taken a long time for public health and healthcare to acknowledge and embrace the fact that this issue is really in our lane. So I mean, the answer to the question, the spirit of the question is that its not as much as it should be and it's taken far too long, but kind of now is our moment. So I think it's a good point.

- [Chris] Thank you so much. Here's a comment. Traditionally environmental history has not been given much attention in medicine. OB/GYNs focused on the cues on the traditional PNCHX record. Increasingly we need to ask more questions. So I think that's in response to giving time and asking those questions during a visit.

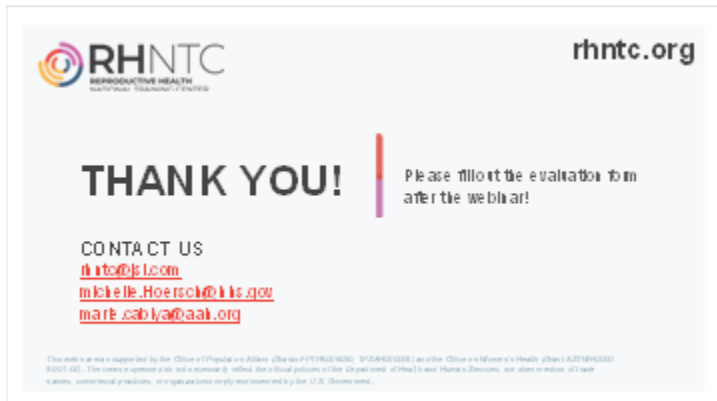
- [Dr. Cabiya] Yeah, agreed. And there, you know, certainly there is so much more that we could be doing and I think, you know, we really need a more concerted effort to make sure that environmental health exposure is a standard part of the electronic medical record that we're using so much these days. I personally use a little handout that is a questionnaire on environmental health exposures, but yes, this is something that again is reproductive healthcare providers. We can lobby within our organization that this needs to be a standard part of counseling for non-pregnant people, but particularly also for preconceptual visits and for first OB visits as well. And this relates to, you know, yes chemicals, which ACOG has of course spoken out about. And then the environmental exposures that we've talked about. Something that I didn't mention is extreme heat in the first trimester, right, that we have seen is related to congenital anomalies. And so certainly I think that's one of the big things to touch upon very early, ideally when planning for a pregnancy because oftentimes by the time you see somebody for the first OB visit, they have already whatever, gone through the hot tub or done the hot yoga or whatever else.

- [Chris] Thank you. I know we're coming up to to the hour point and there's some really great comments in the chat. I can't read them all 'cause there's so many. I'm so glad people were so responsive. There was one question, will there be something after the HHS pledge deadline passes, something to hold and encourage the signatories to continue efforts?

- [Michelle] Thank you for highlighting that question, Chris, 'cause I did want to answer it. There's no deadline now. So the pledge is open indefinitely and that's partly due to popular demand last year, which is great. Like the sector was asking for the pledge to remain open. It is now open indefinitely and what we'll likely do is sort of announce new signatories a couple times a year, maybe around Earth Day. Another cohort around the fall around the COP conference, and there are some additional resources related to the pledge that have been published. A compendium of resources that we continue to update, including now a quick finder for IRA resources and some additional supports on tracking and opportunities to create communities of practice. So please check that out. And one more thing I'll say on the public health funding question, I would be remiss if I didn't shout out the CDC's climate and health program, which has been doing great work in this space for a long time. So in asking about public health investments, that's an important one. Thank you.

- [Chris] Thank you so much. And again, please look at the comments. Bruce Becker has been on fire putting some great information out there and I'm going to hand it back over to Bem. But thank you all for participating, it was really terrific.

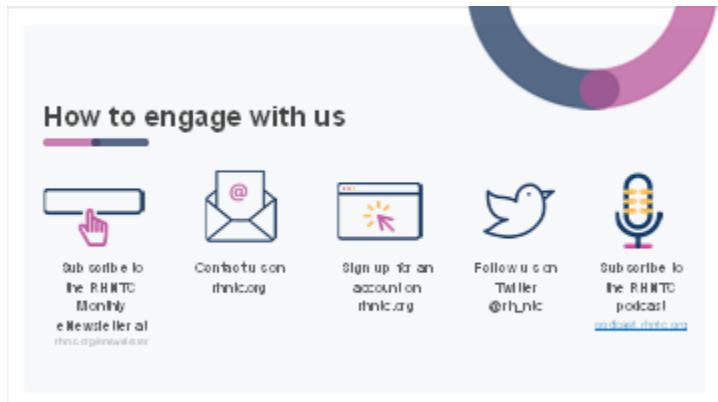
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The slide features the RHNTC logo in the top left corner, which includes a circular icon with a rainbow gradient and the text "RHNTC" above "REPRODUCTIVE HEALTH" and "NATIONAL TECHNICAL TRAINING CENTER". The website "rhntc.org" is in the top right. The main text reads "THANK YOU!" in large, bold, black letters. To the right of this, a vertical pink line is followed by the text "Please fill out the evaluation form after the webinar!". Below the "THANK YOU!" text, the heading "CONTACT US" is followed by three email addresses: "rhntc@jsi.com", "michelle.Hoersch@hhs.gov", and "mark.cabiva@aak.org". At the bottom, there is a small, faint disclaimer: "This website is supported by the Office of Population Affairs (OPA) at the U.S. Department of Health and Human Services (HHS). The content on this site is for informational purposes only and does not constitute an offer of any product or service. It is not intended to be used as a substitute for professional advice. All rights reserved. © 2018." The slide has a light blue background with a white central area.

- [Bemi] Thank you all so much for joining us today. We do have a poll question that will be popping up on your screen momentarily. Please take some time to fill out that poll. As a reminder, we will have the materials from today's session available within the next few days. If you have any additional questions for the RHNTC on this topic, please do not hesitate to email us at rhntc@jsi.com. A final ask is that you please complete the evaluation today. The link to the evaluation was just put in the chat. The evaluation link will also be emailed to you after the webinar. We do really love getting your feedback and we use it to inform future sessions. Also, in order to obtain the certificate of Completion for attendance webinar, you do need to be logged in into RHNTC when you complete the evaluation.

Slide 51



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References

- USGCRP, 2016: [The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment](#). Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. U.S. Global Change Research Program, Washington, DC, 312 pp. <http://dx.doi.org/10.7930/J0R49NQX>
- [WHO Health and Climate Change Survey Report](#)
- [ACOG Position Statement on Climate Change and Women's Health](#)
- [CDC Climate Effects on Health](#)
- [Climate Change and Pregnant Women \(Center for Climate Change and Health\)](#)
- Rylander, C. et al. Climate change and the potential effects on maternal and pregnancy outcomes: an assessment of the most vulnerable – the mother, fetus, and newborn child. *Glob Health Action*. 2013; 6: 10.3402/gha.v6i0.19538. Published online 2013 Mar 11. DOI: 10.3402/gha.v6i0.19538
- Yale Climate Connections: Climate Change and Heat Waves
- Ebi, K et al (2021). [Hot Weather and heat extremes: health risks](#). *The Lancet*, 398(10301),698-708. DOI: [https://doi.org/10.1016/S0140-6736\(21\)01208-3](https://doi.org/10.1016/S0140-6736(21)01208-3).
- Bekkar, B et al (2020). Association of air pollution and heat Exposure with preterm birth, low birth weight, and stillbirth in the US: A systematic review. *JAMA Netw Open*. 3(6):e208243. doi 10.1001/jamanetworkopen.2020.8243
- Kuehn, L et al. [Heat exposure and maternal health in the face of climate change](#). *Int J Environ Res Public Health*. 2017; 14(8), 853; <https://doi.org/10.3390/ijerph14080853>
- Cushing, L et al. Extreme heat and its association with social disparities in the risk of spontaneous preterm birth. *Paediatr Perinat Epidemiol*. 2022;36:13-22. DOI: 10.1111/ppe.12834
- Jegasothy E et al. Maternal factors and risk of spontaneous preterm birth due to high ambient temperatures in New South Wales, Australia. *Peediatr Perinat Epidemiol*. 2022;36:4-12. DOI: 10.1111/ppe.12822
- [Guidance from the Western States Pediatric Environmental Health Specialty Unit - Climate Change and Pregnancy](#)
- Basu R, Sarovar V, Malig BJ. Association Between High Ambient Temperature and Risk of Stillbirth in California. *Am J Epidemiol*. 2016 May 15;183(10):894-901. doi: 10.1093/aje/kwv295. Epub 2016 Mar 31. PMID: 27037268.
- Joan A Casey, Deborah Karasek, Elizabeth L Ogburn, Dana E Goin, Kristina Dang, Paula A Braveman, Rachel Morello-Frosch, [Retirements of Coal and Oil Power Plants in California: Association With Reduced Preterm Birth Among Populations Nearby](#), *American Journal of Epidemiology*, Volume 187, Issue 8, August 2018, Pages 1586–1594, <https://doi.org/10.1093/aje/kwy110>
- Schraufnagel D et al. [Health Benefits of Air Pollution Reduction](#), *Annals of the American Thoracic Society*, Volume 16, Issue 12, September 2018, <https://doi.org/10.1513/AnnalsATS.201907-538CME>.
- Pedersen M et al. [Ambient Air Pollution and Pregnancy-Induced Hypertensive Disorders](#), *Hypertension*, Volume 64, No 3, June 2014, Pages 464-500, <https://doi.org/10.1161/HYPERTENSIONAHA.114.03545>.
- ACOG Committee Opinion Num 832. Reducing Exposure to Toxic Environmental Agents, July 2021.

- DeFranco, E., Hall, E., Hossain, M., Chen, A., Haynes, E. N., Jones, D., Ren, S., Lu, L., & Muglia, L. (2015). [Air pollution and stillbirth risk: Exposure to airborne particulate matter during pregnancy is associated with fetal death](#). PLOS ONE, 10(3). <https://doi.org/10.1371/journal.pone.0120594>
- K. Agay-Shay, M. Friger, S. Linn, A. Peled, Y. Amitai, C. Peretz, [Ambient temperature and congenital heart defects](#), Human Reproduction, Volume 28, Issue 8, August 2013, Pages 2289–2297, <https://doi.org/10.1093/humrep/det244>
- Zhang, W., Spero, T. L., Nolte, C. G., Garcia, V. C., Lin, Z., Romitti, P. A., Shaw, G. M., Sheridan, S. C., Feldkamp, M. L., Woomert, A., Hwang, S. A., Fisher, S. C., Browne, M. L., Hao, Y., Lin, S., Hobbs, C., Carmichael, S., Reefhuis, J., Tinker, S., Botto, L. (2019). [Projected changes in maternal heat exposure during early pregnancy and the associated congenital heart defect burden in the United States](#). Journal of the American Heart Association, 8(3). <https://doi.org/10.1161/jaha.118.010995>
- Lin S, Lin Z, Ou Y, Soim A, Shrestha S, Lu Y, Sheridan S, Luben TJ, Fitzgerald E, Bell E, Shaw GM, Reefhuis J, Langlois PH, Romitti P, Feldkamp ML, Malik S, Pantea C, Nayak S, Hwang SA, Browne M; National Birth Defects Prevention Study. Maternal ambient heat exposure during early pregnancy in summer and spring and congenital heart defects - A large US population-based, case-control study. Environ Int. 2018 Sep;118:211-221. doi: 10.1016/j.envint.2018.04.043. Epub 2018 Jun 8. PMID: 29886237; PMCID: PMC6045445.
- Howard C., MacNeill A., Hughes F., Alqodmani L., Charlesworth K., de Almeida R., et al. Learning to treat the climate emergency together: social tipping interventions by the health community. The Lancet. 2023;7(3), 251-264.
- [OBGYNs for Sustainable Future](#)
- [Consensus statement - The Lancet “Call for emergency action to limit global temperature increases, restore biodiversity, and protect health”](#)
- [Climate & Health Outlook, a seasonal forecast of potential health impacts of climate-related events, with links to information about protecting at-risk populations](#)
- [White House/ HHS Health Sector Climate Pledge](#)
- [OCCHE resource on protecting vulnerable patients from climate-related hazards in clinical settings](#)
- [ClimateRx: Way to start the climate/health conversation with patients- non interruptive and web-based](#)
- [RHNTC Understanding Endocrine Disruptors and Fertility Video](#)
- [ARHQ Reducing Healthcare Carbon Emissions: A Primer on Measures and Actions for Healthcare Organizations to Mitigate Climate Change](#)
- [Sustainable and Climate-Resilient Health Care Facilities Toolkit](#)