



5 Ways To Improve Maternal Health by Addressing the Climate Crisis

By Osub Ahmed April 22, 2021

The global climate crisis is anticipated to have far-reaching effects—from rising sea levels to hotter temperatures to more frequent extreme weather events—all of which are expected to negatively affect human health. New research is also helping the public to better understand how climate change will negatively affect maternal health outcomes, such as by increasing the risk of preterm birth, pregnancy-related complications, and poor maternal mental health. The United States' maternal health crisis makes the threat climate change poses to pregnant and postpartum people all the more alarming. Among developed countries, the United States has one of the highest maternal mortality rates in the world, and Black pregnant and postpartum people are three times more likely to die from pregnancy-related complications compared with their white counterparts.¹ Thankfully, as part of the Black Maternal Health Momnibus Act of 2021, Rep. Lauren Underwood (D-IL) has taken on these intersecting crises by introducing the Protecting Moms and Babies Against Climate Change Act earlier this year.² Federal and state policymakers must continue to build on this bill, as well as other federal and state efforts, to mitigate and protect pregnant people and new parents from the worst impacts of a changing climate.

In recognition of Earth Day, this issue brief presents five policy recommendations that would improve maternal health by addressing the effects and impacts of climate change, including:

- Targeting resources to pregnant and postpartum people living in climate-affected areas
- Improving the quality and resiliency of housing and local infrastructure
- Developing a national heat vulnerability index to protect pregnant and postpartum people against extreme heat
- Expanding access to maternal telehealth services
- Improving access to family planning services

By advancing these recommendations, federal and state policymakers can preemptively address the looming crisis posed by climate change and ensure that pregnant and postpartum people—in particular, women of color—are equipped with the resources and protections they need to experience healthy pregnancies.

Direct effects of climate change on maternal health

There are a range of climate risk factors that directly affect maternal health, including extreme heat, air pollution, flooding, and hurricanes. It is also important to note that experiences with climate change vary by race, income, geography, and a host of other factors. People of color—including Black, Hispanic, and Indigenous people—are more likely to be negatively affected by climate risk factors than their white counterparts.³ The same holds true for people with disabilities and LGBT people.⁴

Research has demonstrated the negative effects of extreme heat on maternal health outcomes. For example, exposure to extreme heat has been linked to preterm birth—which itself can lead to long-term infant morbidity and mortality—due to maternal dehydration, the inability to efficiently thermoregulate during pregnancy, and issues related to nutrient and gas exchange across the placenta.⁵ A research study found that a 10-degree Fahrenheit increase in weekly average temperatures was associated with an 8.6 percent increase in rates of preterm delivery.⁶ Relatedly, a *Nature Climate Change* article concluded that without climate intervention, 42,000 more infants will be born preterm annually by the end of the century due to higher ambient temperatures.⁷ Extreme heat can also lead to congenital heart defects and stillbirth.⁸ Exposure to extreme heat will vary according to race and geography, among other factors. For instance, Black and Hispanic people in the United States predominantly live in the South, Southwest, and West,⁹ regions that are projected to experience more extreme heat.¹⁰

Similarly, air pollution can have deleterious effects on maternal health, leading to preterm birth, low birth weight, and stillbirth due to changes in the maternal cardiopulmonary system, systemic inflammation, and placental injury.¹¹ A study examining the association between air pollution and poor maternal health outcomes found that in the 10 years after a California coal power plant closed, there was a 27 percent reduction in the rate of preterm births in the surrounding region.¹² The effects of air pollution on maternal health are more pronounced for women of color, including Black mothers.¹³ Indeed, communities of color and low-income communities are more likely to live near polluting power plants and other hazardous facilities and experience cumulative negative health effects due to this exposure.¹⁴

Natural disasters such as hurricanes and flooding—which are predicted to become more intense and frequent in coming years¹⁵—also affect maternal health. Women exposed to hurricanes are at increased risk of having low birth weight infants: A study found that exposure to wind speeds at or above 74 miles per hour was associated with a 21 percent increase in the risk of extremely preterm delivery.¹⁶ Flooding also poses risks to maternal health. Following a flood in North Dakota, researchers determined that rates of maternal medical risks, including eclampsia and uterine bleeding; low birth weight; and preterm birth increased.¹⁷ There are also maternal mental health implications of experiencing a climate event, including post-traumatic stress disorder.¹⁸ Researchers continue to work to understand the causal pathways and associated risks that influence how natural disasters can lead to these poor maternal health outcomes.

Policy solutions to safeguard and improve maternal health

Climate change will undoubtedly exacerbate the existing maternal health crisis and pose serious health risks to pregnant and postpartum people and their infants. For that reason, federal and state policymakers must take urgent action by targeting resources to where they are needed most, developing more robust data standards related to climate and maternal health, and expanding access to maternal health services through telehealth as well as reproductive health care services, including contraceptives.

Targeting resources to pregnant and postpartum people living in climate-affected areas

Federal and state policymakers must ensure that relevant agencies, including the U.S. Department of Health and Human Services (HHS) and state departments of health, are taking action to arm pregnant and postpartum people living in climate-affected areas with the critical supports they need. The Protecting Moms and Babies Against Climate Change Act, a landmark bill introduced in Congress this past February by Rep. Underwood, would help do just that by authorizing HHS to designate “climate change risk zones”—areas where pregnant and postpartum people are more likely to have poor maternal and infant health outcomes due to climate change. This designation process would be similar to how the Health Resources and Service Administration designates Health Professional Shortage Areas and how the Centers for Disease Control and Prevention uses its Social Vulnerability Index.¹⁹

As part of this designation process, HHS would issue a notice of proposed rulemaking to collect public feedback on the criteria needed to select these zones. In addition to race and ethnicity, the potential criteria cover many of the social determinants of health, including health insurance status, access to maternal health providers, income levels, and access to quality housing, transportation,

and nutrition. Once HHS selects these criteria and designates climate change risk zones, the agency would fund a range of entities, including community-based organizations and local and state health departments, to provide supports to pregnant and postpartum people living within these zones. This funding can be used to train maternal health care providers and doulas on the health risks associated with climate change; provide pregnant and postpartum people with direct financial assistance and help accessing high-quality housing, transportation services, and items such as effective cooling systems and air filtration units; and develop other initiatives to mitigate the impact of climate change on pregnant and postpartum people in these zones.

Improving the quality and resiliency of housing and local infrastructure

In addition to designating climate change risk zones, it is critical that the U.S. Environmental Protection Agency (EPA) issue updated weatherization protocols to encourage federal and state weatherization assistance programs, federal housing programs, home performance organizations, and general contractors to prioritize energy efficiency improvements and other weatherization updates for vulnerable individuals.²⁰ Indeed, as more people move indoors to escape extreme weather conditions, protecting indoor air quality for pregnant and postpartum people, particularly those living in poor-quality housing, will become even more important. Weatherization can protect the indoor home environment by reducing the health and safety risks of extreme heat, cold snaps, flooding, and other extreme weather events made worse by climate change.

Preventing and mitigating the effects of climate change also requires federal policymakers to tackle the issue of extreme heat, its disproportionate impact on pregnant and postpartum people, and the racial disparities that underlie health-related morbidity and mortality. That is why a provision in the Protecting Moms and Babies Against Climate Change Act—which would allow stakeholders to develop initiatives to improve local infrastructure—is crucial.²¹ This provision would help address the “heat island” effect, wherein cities—due to an abundance of roads, buildings, and other infrastructure that more readily absorb and retain heat compared with vegetation and water—can be up to 22 degrees Fahrenheit hotter than outlying rural or nonurban areas.²² The heat island effect is even more pronounced in cities and neighborhoods with majority nonwhite populations, a product of the United States’ shameful legacy of redlining. Based on analyses of Home Owners’ Loan Corporation maps from the 1930s, researchers have determined that historically redlined neighborhoods are currently hotter than nonredlined neighborhoods—in some cases, even 7 degrees Fahrenheit hotter—due to these neighborhoods’ built environments.²³ As a result of decades of disinvestment, these neighborhoods have comparatively fewer green spaces and tree canopies and more heat-retaining roadways and large buildings.

Increasing tree canopies and installing infrastructure such as cool roofs and cool pavement—with priority given to low-income, minority, and historically redlined neighborhoods—would help reduce ambient temperatures, provide relief from direct sun exposure, and reduce air pollution levels.²⁴ These are all necessary steps to ensure that the health of pregnant and postpartum people, particularly in communities of color, is protected.

Developing a national heat vulnerability index that better protects pregnant and postpartum people

In order to prevent heat-related maternal morbidity or mortality, federal policymakers must also develop and disseminate standards, such as a national heat vulnerability index, that states and local governments can use as a model to ensure better uniformity in assessing exposure to extreme heat. This index must consider the risks posed to vulnerable groups, including pregnant and postpartum people.

Since the Clean Air Act was passed in 1963, the federal government has developed clear data collection and enforcement standards related to air quality. For example, state and local agencies are required to provide the public with daily air quality reports using the EPA's Air Quality Index. Based on measurements of key air pollutants, this index assigns an overall air quality grade organized into six categories, ranging from “good” to “hazardous,” with special alerts for sensitive groups, including pregnant people.²⁵ While no federal legislation exists to compel the federal government to develop similar measures for extreme heat, the need for these standards to safeguard maternal health is no less urgent.

Some states, including New York, Wisconsin, and Vermont, have proactively created their own heat vulnerability indices²⁶ to help residents and state and local officials better anticipate and plan for extreme heat. In some cases, they have even developed interactive databases to determine county- and neighborhood-specific risk. However, each state appears to use different data to assess vulnerability to extreme heat, and none of these data relate to pregnant women or women of reproductive age. A national heat vulnerability index would help to address this issue.

Expanding access to maternal telehealth services

In the face of climate change, states must continue to expand access to telehealth services, particularly maternal telehealth services, and the federal government must make long-needed investments to improve telehealth infrastructure. Telehealth would allow women to reduce their exposure to hazardous environmental conditions by accessing health care services remotely, from the comfort of their homes, as well as to overcome transportation and other logistical barriers.

In order to expand access to maternal telehealth services, more states should permit patients' homes to serve as eligible originating sites, or the location where a patient is allowed to receive remote health services.²⁷ This will ensure that

the services a pregnant or postpartum person receives at home are covered by their insurance. States can also expand the list of providers allowed to provide telehealth services to include advanced practice clinicians and midwives, which not all states currently permit.²⁸ Finally, given the issue of maternity care deserts and lack of available and qualified maternal health providers, states should also adopt multistate licensure compacts, such as the Interstate Medical Licensure Compact,²⁹ to allow providers who would otherwise be unable to provide care across state lines to render care to women living in maternity care deserts, including in areas affected by climate change.

Improving access to family planning services

Federal and state policymakers must also improve access to family planning services to ensure that people can make pregnancy and family planning decisions that work for them in the context of a changing climate. Studies have shown that, in the wake of climate disasters, women—particularly Black women—have greater difficulty in obtaining contraceptives.³⁰ Policymakers can help improve access to family planning services by making contraceptives more accessible and strengthening the Title X family planning program. In addition to helping people avoid unintended pregnancies and better space out their pregnancies, contraceptives are also critical to women’s social and economic advancement, including their educational pursuits and workforce participation.³¹

While access to contraceptives is a cornerstone of reproductive health, it should not be used in pursuit of population control, whereby countries fearful of so-called overpopulation attempt to dictate women’s reproductive choices.³² Population control has been used throughout history, from forced sterilization campaigns to requirements that recipients of public assistance receive long-acting reversible contraceptives, and each time has only served to advance systemic racism and undermine reproductive autonomy. Instead, contraceptive services must be patient-centered, and all methods—including the decision not to use contraceptives—must be respected and made accessible.

The government can improve access to family planning by expanding the availability of contraceptives at the federal and state level. For example, the Biden administration and Congress should rescind rules issued by the Trump administration that expanded religious and moral exemptions for employers, universities, and entities otherwise required to cover contraceptives without cost sharing under the Affordable Care Act’s birth control benefit, which the Supreme Court upheld in a legal challenge last year.³³ In addition, the Biden administration must require health plans to cover a 12-month supply of contraceptives without cost sharing; allow for over-the-counter access to contraceptives without a prescription; and eliminate medical management techniques such as quantity limits and prior authorization requirements. States, which can and should take similar administrative actions, can also submit a family planning waiver or state

plan amendment to the Centers for Medicare and Medicaid Services to create limited-benefit family planning programs that improve contraceptive access for low-income women in the state.

The federal government must also strengthen Title X—the nation’s only domestic program that helps meet the family planning and preventive health needs of millions of people in the United States—by increasing the program’s funding and allowing past grantees that were forced out of the program due to the domestic gag rule to reenter. Since the Trump administration finalized its domestic gag rule last year, 19 grantees—including Planned Parenthood and almost a dozen state departments of health and nonprofits—have left the Title X program, reducing the network’s capacity by almost half and leading to 1.6 million women losing access to services.³⁴ While the Biden administration took an important step in mid-April by issuing a proposed rule to rescind the domestic gag rule, it can take further action by creating a reentry pathway for providers forced out of the program.³⁵ The Title X program is in need of a funding boost as well: From 2010 to 2019, funding for the program shrunk from \$317 million to \$286 million, and the number of patients served by Title X clinics similarly decreased, from 5.22 million in 2010 to 3.1 million in 2019.³⁶ A study in the *American Journal of Public Health* found that funding for Title X was less than 39 percent of what was required to adequately meet the public’s family planning needs.³⁷ In order to meet current patient need, undo the damage done by the domestic gag rule, and address systemic program underfunding that predated the rule, Congress must fund the Title X program at \$954 million as it pursues appropriations legislation later this year.³⁸

Conclusion

The United States' response to climate change can create opportunities to promote equity and improve maternal health outcomes, here and around the world. However, as climate change affects more of the general public's daily life and its impacts on the national and global economy increasingly take center stage, the room to embed maternal health and equity in larger climate responses diminishes. The maternal health crisis has demonstrated that when policies and legislation are not put in place and the public is not aware of or invested in addressing the issue, pregnant and postpartum people as well as their families and communities are deeply affected. In addition, addressing maternal health—particularly among Black women and other women of color—should be part of broader efforts to develop a comprehensive climate response that invests in resilient and sustainable infrastructure, creates more green jobs, and prioritizes public health and environmental justice. Federal and state policymakers, as well as the public, must leverage the urgency of this moment to build off these recommendations and ensure that pregnant and postpartum people are prepared for a new climate future.

Osub Ahmed is a senior policy analyst for women's health and rights with the Women's Initiative at the Center for American Progress.

The author would like to thank Sally Hardin, Hannah Malus, Cathleen Kelly, and Mikyla Reta for their assistance.

Endnotes

- 1 Roosa Tikkanen and others, "Maternal Mortality and Maternity Care in the United States Compared to 10 Other Developed Countries" (New York: Commonwealth Fund, 2020), available at <https://www.commonwealthfund.org/publications/issue-briefs/2020/nov/maternal-mortality-maternity-care-us-compared-10-countries#:~:text=In%202018%2C%20there%20were%2017,%2C%20Norway%2C%20and%20New%20Zealand>.
- 2 Black Maternal Health Momnibus Act of 2021, H.R. 959, 117th Cong., 1st sess. (February 8, 2021), available at <https://www.congress.gov/117/bills/hr959/BILLS-117hr959ih.pdf>; Protecting Moms and Babies Against Climate Change Act, H.R. 957, 117th Cong., 1st sess. (February 8, 2021), available at <https://www.congress.gov/117/bills/hr957/BILLS-117hr957ih.pdf>.
- 3 Sarah Kaplan, "Climate change is also a racial justice problem," *The Washington Post*, June 29, 2020, available at <https://www.washingtonpost.com/climate-solutions/2020/06/29/climate-change-racism/>.
- 4 Patty Berne and Vanessa Raditz, "To Survive Climate Catastrophe, Look to Queer and Disabled Folks," *YES! Magazine*, July 31, 2019, available at <https://www.yesmagazine.org/opinion/2019/07/31/climate-change-queer-disabled-organizers>.
- 5 March of Dimes, "Long-Term Health Effects of Premature Birth," available at <https://www.marchofdimes.org/complications/long-term-health-effects-of-premature-birth.aspx> (last accessed April 2021); Bruce Bekkar and others, "Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review," *JAMA Network Open* 3 (6) (2020), available at <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2767260>.
- 6 Rupa Basu, Brian Malig, and Bart Ostro, "High ambient temperature and the risk of preterm delivery," *American Journal of Epidemiology* 172 (10) (2010): 1108–1117, available at <https://pubmed.ncbi.nlm.nih.gov/20889619/>.
- 7 Alan Barreca and Jessamyn Schaller, "The impact of high ambient temperatures on delivery timing and gestational lengths," *Nature Climate Change* 10 (2020): 77–82, available at <https://www.nature.com/articles/s41558-019-0632-4>.
- 8 Wangjian Zhang and others, "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) (2019), available at <https://www.ahajournals.org/doi/10.1161/JAHA.118.010995>; Bekkar and others, "Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US."
- 9 Katherine Schaeffer, "In a rising number of U.S. counties, Hispanics and black Americans are the majority," *Pew Research Center*, November 20, 2019, available at <https://www.pewresearch.org/fact-tank/2019/11/20/in-a-rising-number-of-u-s-counties-hispanic-and-black-americans-are-the-majority/>.
- 10 For example, see Rebecca Lindsey, "What will average U.S. temperatures look like in future Octobers?," *Climate.gov*, October 31, 2018, available at <https://www.climate.gov/news-features/featured-images/what-will-average-us-temperatures-look-future-octobers>; Elise Gout and Cathleen Kelly, "Extreme Heat During the COVID-19 Pandemic Amplifies Racial and Economic Inequities," *Center for American Progress*, June 29, 2020, available at <https://www.americanprogress.org/issues/green/news/2020/06/29/486959/extreme-heat-covid-19-pandemic-amplifies-racial-economic-inequities/>.
- 11 Bekkar and others, "Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US."
- 12 This was done by calculating the percentage change from 7.0 percent to 5.1 percent following the plant's closure. See John A. Casey and others, "Retirements of Coal and Oil Power Plants in California: Association with Reduced Preterm Birth Among Populations Nearby," *American Journal of Epidemiology* 187 (8) (2018): 1586–1594, available at <https://pubmed.ncbi.nlm.nih.gov/29796613/>.
- 13 For example, see Michelle L. Bell, Keita Ebisu, and Kathleen Belanger, "Ambient air pollution and low birth weight in Connecticut and Massachusetts," *Environmental Health Perspectives* 115 (7) (2007): 1118–1124, available at <https://pubmed.ncbi.nlm.nih.gov/17637932/>.
- 14 Environmental Justice for All, "Life at the Fenceline: Understanding Cumulative Health Hazards in Environmental Justice Communities," available at <https://ej4all.org/life-at-the-fenceline> (last accessed April 2021).
- 15 William House, "Climate Change: Increasing the Frequency and Intensity of Flooding," *Medium EarthSphere*, August 7, 2020, available at <https://medium.com/earthsphere/climate-change-increasing-the-frequency-and-intensity-of-flooding-28b6f41c6810>.
- 16 Xu Xiong and others, "Exposure to Hurricane Katrina, Post-Traumatic Stress Disorder and Birth Outcomes," *American Journal of the Medical Sciences* 336 (2) (2008): 111–115, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2635112/>.
- 17 Van T. Tong, Marianne E. Zotti, and Jason Hsia, "Impact of the Red River Catastrophic Flood on Women Giving Birth in North Dakota, 1994–2000," *Maternal and Child Health Journal* 15 (3) (2011): 281–288, available at https://www.researchgate.net/publication/41761968_Impact_of_the_Red_River_Catastrophic_Flood_on_Women_Giving_Birth_in_North_Dakota_1994-2000.
- 18 Xiong and others, "Exposure to Hurricane Katrina, Post-Traumatic Stress Disorder and Birth Outcomes."
- 19 Health Resources and Services Administration, "Scoring Shortage Designations," available at <https://bhwh.hrsa.gov/workforce-shortage-areas/shortage-designation/scoring> (last accessed April 2021); Centers for Disease Control and Prevention Agency for Toxic Substances and Disease Registry, "CDC SVI Documentation 2018," available at https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html (last accessed April 2021).
- 20 Guillermo Ortiz and others, "A Perfect Storm: Extreme Weather as an Affordable Housing Crisis Multiplier" (Washington: Center for American Progress, 2019), available at <https://www.americanprogress.org/issues/green/reports/2019/08/01/473067/a-perfect-storm-2/>.
- 21 U.S. Environmental Protection Agency, "Reduce Urban Heat Island Effect," available at <https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect> (last accessed April 2021).
- 22 U.S. Environmental Protection Agency, "Heat Island Impacts," available at <https://www.epa.gov/heatislands/heat-island-impacts#:~:text=These%20surface%20urban%20heat%20islands,in%20neighboring%2C%20less%20developed%20regions> (last accessed April 2021).
- 23 Jeremy S. Hoffman, Vivek Shandas, and Nicholas Pendleton, "The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas," *Climate* 8 (1) (2020), available at <https://www.mdpi.com/2225-1154/8/1/12/htm>.
- 24 U.S. Environmental Protection Agency, "Heat Island Cooling Strategies," available at <https://www.epa.gov/heatislands/heat-island-cooling-strategies> (last accessed April 2021).
- 25 AirNow, "Air Quality Index (AQI) Basics," available at <https://www.airnow.gov/aqi/aqi-basics/> (last accessed April 2021).

- 26 New York State Department of Health, "Heat Vulnerability Index," available at https://www.health.ny.gov/environmental/weather/vulnerability_index/index.htm (last accessed April 2021); Wisconsin Department of Health Services, "Vulnerability Indices," available at <https://www.dhs.wisconsin.gov/climate/wihvi.htm> (last accessed April 2021); Vermont Department of Health, "Heat Vulnerability Index – Overview," available at <https://www.arcgis.com/apps/MapSeries/index.html?appid=5bfd71bdeff242d4a8f0d2780369807a> (last accessed April 2021).
- 27 Center for Connected Health Policy, "State Telehealth Laws and Reimbursement Policies" (Sacramento, CA: 2020), available at https://www.cchpca.org/sites/default/files/2020-05/CCHP_50_STATE_INFOGRAPH_SPRING_2020_FINAL.pdf.
- 28 Osuh Ahmed, "States Must Expand Telehealth To Improve Access to Sexual and Reproductive Health Care" (Washington: Center for American Progress, 2020), available at <https://www.americanprogress.org/issues/women/reports/2020/05/21/485297/states-must-expand-telehealth-improve-access-sexual-reproductive-health-care/>.
- 29 Center for Connected Health Policy, "State Telehealth Laws and Reimbursement Policies."
- 30 Ophra Leyser-Whalen, Mahbubur Rahman, and Abbey B. Berenson, "Natural and Social Disasters: Racial Inequality in Access to Contraceptives After Hurricane Ike," *Journal of Women's Health* 20 (12) (2011): 1861–1866, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3236984/>.
- 31 Adam Sonfield and others, "The Social and Economic Benefits of Women's Ability To Determine Whether and When to Have Children" (New York: Guttmacher Institute, 2013), available at https://www.guttmacher.org/sites/default/files/report_pdf/social-economic-benefits.pdf.
- 32 Osuh Ahmed, "Women's Empowerment—Not Population Control—Is Key to Combating Climate Change," *Rewire News Group*, September 23, 2019, available at <https://rewirenewsgroup.com/article/2019/09/23/womens-empowerment-not-population-control-is-key-to-combating-climate-change/>.
- 33 *Little Sisters of the Poor Saints Peter and Paul Home v. Pennsylvania et al.*, 581 U.S. ____ (July 8, 2020), available at https://www.supremecourt.gov/opinions/19pdf/19-431_si36.pdf.
- 34 Ruth Dawson, "Trump Administration's Domestic Gag Rules Has Slashed the Title X Network's Capacity by Half," *Guttmacher Institute*, February 2020, available at <https://www.guttmacher.org/article/2020/02/trump-administrations-domestic-gag-rule-has-slashed-title-x-networks-capacity-half>.
- 35 U.S. Department of Health and Human Services Office of the Secretary, "Ensuring Access to Equitable, Affordable, Client-Centered, Quality Family Planning Services," *Federal Register* 86 (71) (2021): 19812–19833, available at <https://www.federalregister.gov/documents/2021/04/15/2021-07762/ensuring-access-to-equitable-affordable-client-centered-quality-family-planning-services>.
- 36 U.S. Department of Health and Human Services Office of Population Affairs, "Title X Program Funding History," available at <https://opa.hhs.gov/grant-programs/archive/title-x-program-funding-history> (last accessed April 2021); Association of Maternal and Child Health Programs, "AMCHP Case Study: Coordinating Efforts across the Title V MCH Services Block Grant and the Title X Family Planning Program" (Washington: 2014), available at <http://www.amchp.org/programsandtopics/womens-health/resources/Documents/Case%20Study%20-%20Coordinating%20Efforts%20Across%20Title%20V%20and%20Title%20X.pdf>; National Family Planning and Reproductive Health Association, "Title X," available at https://www.nationalfamilyplanning.org/title_x (last accessed April 2021).
- 37 Euna M. August and others, "Protecting the Unmet Need and Costs for Contraception Services After the Affordable Care Act," *American Journal of Public Health* 106 (2) (2016): 334–341, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985850/>.
- 38 Blueprint for Sexual and Reproductive Health, Rights, and Justice, "First Priorities: Executive and Agency Actions," available at <http://reproblueprint.org/wp-content/uploads/2020/09/First-Priorities-Executive-Agency-Actions-Incoming-Administration-Blueprint.pdf> (last accessed April 2021).