OVERALL POPULATION

WHITE HOUSE BLUEPRINT EVIDENCE TO ACTION BRIEFS

Addressing the Maternal Health Crisis will take a long-term, multi-sector, systematic approach

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THE WHITE HOUSE BLUEPRINT FOR ADDRESSING THE MATERNAL HEALTH CRISIS

The health of all individuals and communities depends on the health of women, birthing people, children, and families. The maternal mortality rate in the United States (US) is the highest of any high-income nation in the world and more than double the rate of peer countries, such as the United Kingdom, Australia, Spain, and Germany.[1] In the US, more than 80% of pregnancy-related deaths are considered preventable.[2,3]

Every year, in the US, more than 750 individuals lose their lives during pregnancy, at delivery, or in the year following the birth of the baby as a result of pregnancy-related or pregnancy-associated causes. An additional 50,000 people experience severe maternal morbidity.[4]

The maternal health crisis in the US places anyone capable of becoming pregnant and giving birth at risk. However, not every birthing person encounters the same level of risk. Inequities based on race, ethnicity, income, education, geography, ability, and other socioeconomic factors disproportionately affect certain groups. Black women, from all socioeconomic backgrounds, die from preventable pregnancy-related complications at three to four times the rate of non-Hispanic White women. What's more, they have the highest infant mortality rate of any racial or ethnic group in the US.[4,5,6]

Implicit and explicit racial bias: Racial bias, whether implicit or explicit, can result in health care providers treating patients of color differently compared with White patients.[7] This bias can manifest in various ways, such as health care providers dismissing or downplaying the concerns expressed by patients of color, making assumptions based on stereotypes, or providing lower-quality care. This bias can contribute to delays in diagnosis, inadequate treatment, and a lack of appropriate interventions, leading to poorer maternal and infant health outcomes for non-Hispanic Black and American Indian/Alaska Native people.

Systemic bias: Systemic biases within health care systems can perpetuate disparities in maternal and infant health outcomes.[7] These biases can be embedded in policies, protocols, and practices that disadvantage certain groups of people. For example, health care systems may allocate fewer resources to communities of color, leading to limited access to quality prenatal care, postpartum care, and other necessary health care services. Systemic biases can also manifest in the underrepresentation of diverse health care providers and a lack of culturally sensitive care, further exacerbating disparities.

Barriers for people with disabilities: Women and birthing people with disabilities face unique challenges in accessing adequate prenatal care, which can contribute to poorer maternal and infant health outcomes.[8] Barriers can include physical accessibility issues, lack of accommodations, inadequate provider training on disability-related care, and discriminatory attitudes. These barriers can lead to delays in receiving prenatal care, less frequent checkups, and a lack of appropriate support during pregnancy and childbirth, ultimately impacting the health outcomes of both the mother and the infant.

Limited access to health care facilities: In the US, more than 2.2 million birthing people and almost 150,000 infants live in an identified "maternity care desert."[9] Women and birthing people who live in rural or frontier areas of the US experience increased maternal mortality and severe maternal morbidity.[1] Those from rural or frontier communities often face challenges in accessing adequate health care services, including prenatal care and emergency obstetric care. Rural areas typically have a scarcity of health care facilities; those that do exist may lack necessary resources, skilled health care providers, and equipment to handle complicated pregnancies and childbirth complications. This limited access to health care increases the risk of maternal mortality and severe maternal morbidity for women in rural communities.

Lack of skilled health care providers: Rural areas often suffer from a shortage of skilled health care professionals, including obstetricians, midwives, nurses, and mental and behavioral support.[1] This shortage can result in delayed or inadequate care during pregnancy, labor, and postpartum

periods. Without timely and skilled medical interventions, complications arising during childbirth, such as hemorrhage, infections, or high blood pressure, can become life-threatening. The lack of access to skilled health care providers is a significant contributing factor to the high maternal mortality rates in rural communities.

Socioeconomic challenges: Women and birthing people often face socioeconomic challenges that exacerbate the risk of maternal mortality. Poverty, limited education, and inadequate infrastructure make it difficult for women to access health care, afford transportation to reach health care facilities, and receive proper nutrition and prenatal care. These factors can increase the likelihood of pregnancy complications, maternal health issues, and poor birth outcomes. The combination of socioeconomic challenges and limited resources amplifies rural women's vulnerability to maternal mortality and severe maternal morbidity. Furthermore, the lack of policies to support financial investment in programs such as Medicaid, Temporary Assistance for Needy Families, and nutrition assistance add to the dramatic increases in maternal mortality and severe maternal morbidity among birthing persons in the US.[10]

Domestic and personal safety: Crime, violence, and discrimination all have been shown to have negative, even fatal consequences for people during the perinatal period. Research has found that pregnant and postpartum persons are at a greater risk of intimate partner violence (IPV), sexual assault, and other forms of gender-based violence during this period. Policies that make firearms more accessible, combined with IPV, have led to homicide becoming the leading cause of death during pregnancy and the postpartum period for women in this country.[10,11]

The White House Blueprint for Addressing the Maternal Health Crisis (White House Blueprint) has identified five goals and more than 50 action steps to improve maternal health.[12] The identified goals and actions have leverage to decrease the inequities associated with maternal mortality and severe maternal morbidity; align with the values of the communities that are most impacted by maternal health inequities; and have the ability to reach targeted populations while being feasible.

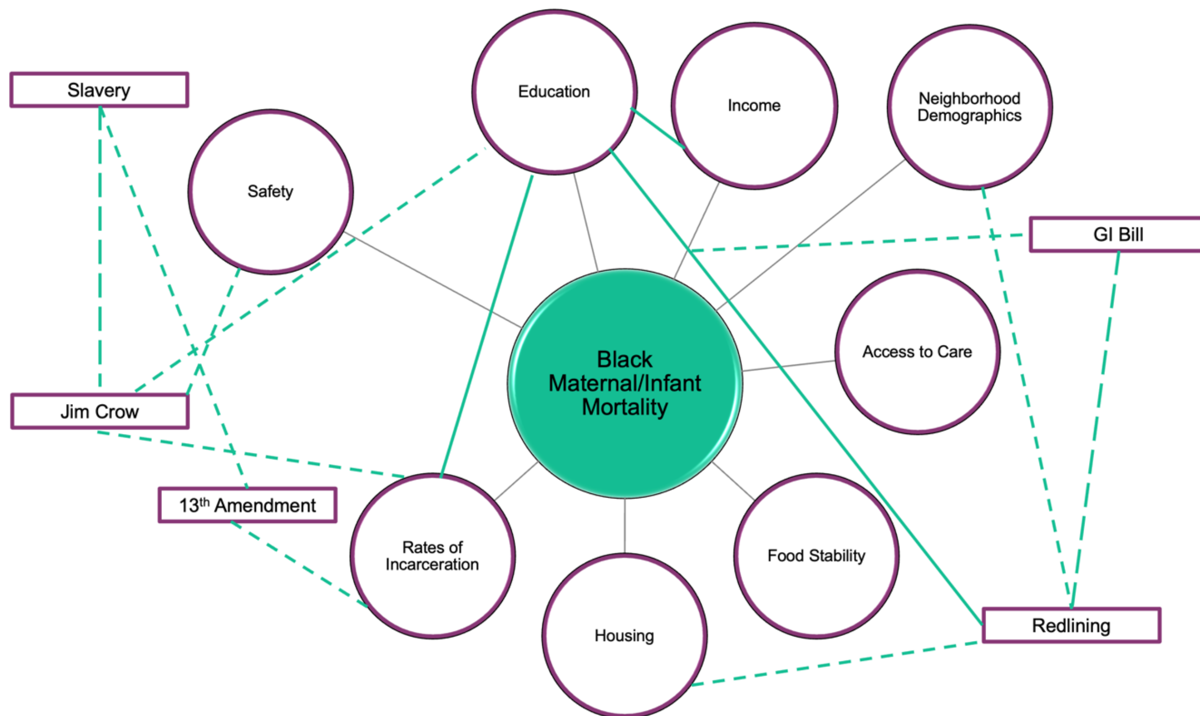
Goal 1: Increase Access to and Coverage of Comprehensive High-Quality Maternal Health Services, Including Behavioral Health Services
Goal 2: Ensure Those Giving Birth are Heard and are Decisionmakers in Accountable Systems of Care
Goal 3: Advance Data Collection, Standardization, Transparency, Research, and Analysis
Goal 4: Expand and Diversify the Perinatal Workforce
Goal 5: Strengthen Economic and Social Supports for People Before, During, and After Pregnancy

In an effort to disseminate the White House Blueprint and facilitate implementation of the recommended goals and action steps, the Maternal Health Learning & Innovation Center (MHLIC) has developed Evidence to Action Briefs for each goal and selected action steps. MHLIC is a national training center that seeks to foster collaboration and learning among diverse stakeholders to accelerate evidence-informed interventions advancing equitable maternal health outcomes through engagement, innovation, and policy. Each Evidence to Action Brief provides: (1) the latest data, evidence, and information related to the selected action from the White House Blueprint, (2) the factors affecting progress toward the full realization of each action, and (3) evidence-based/informed innovations that can be implemented at the local and/or state levels to accelerate improvements.

How are we doing?

Below we highlight some of the data related to the maternal health crisis. Data is aggregated by racial, ethnic, geographic, and socioeconomic disparities where possible.

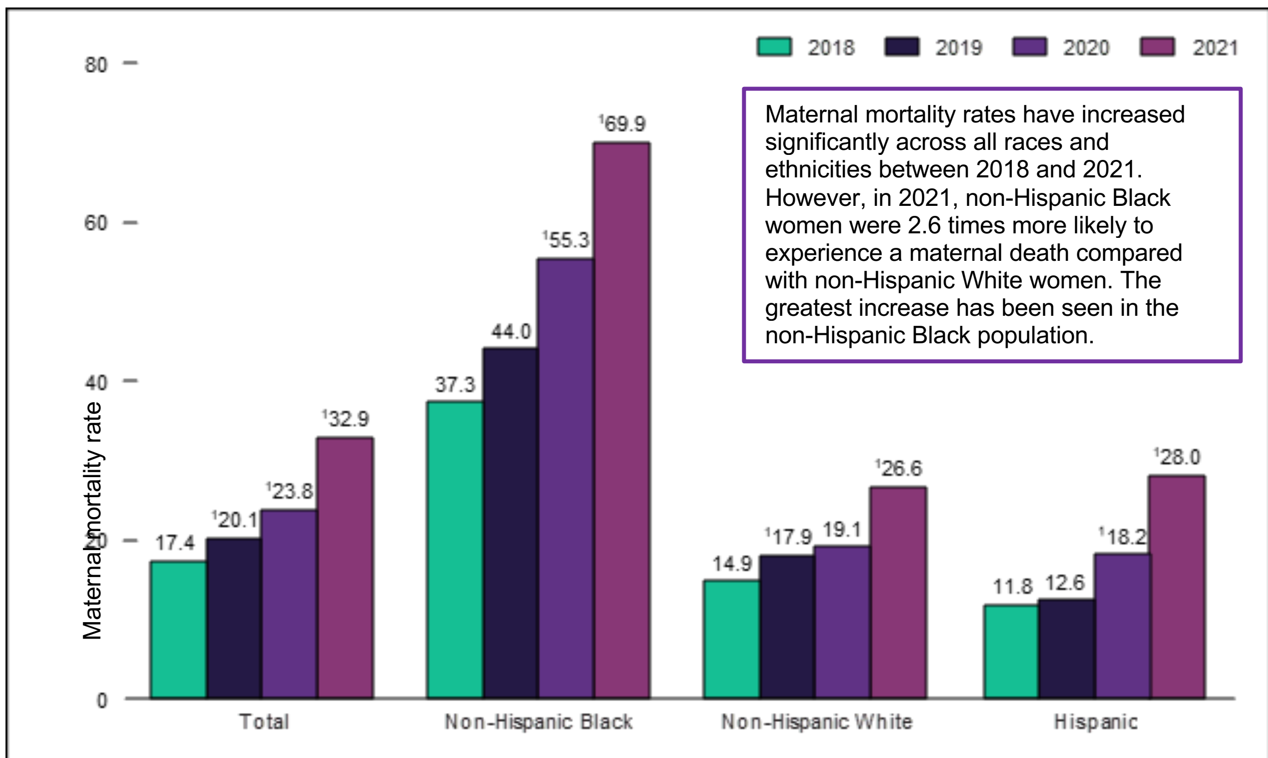
Figure 1: The Restoring Our Own Through Transformation (ROOTT) Framework: How We Can Address the Maternal Health Crisis in the US



The Restoring Our Own Through Transformation (ROOTT) Framework was adapted from previous work by Francis et al. (2016) and the Kreiger Framework. The ROOTT Framework "identifies the structural [boxes connected with dashed lines] and social determinants of maternal and infant health [circles and connected by solid lines] in the US." To reduce the inequities in maternal mortality and severe maternal morbidity, we need to move beyond clinical and behavioral risk factors; it is critical to address systemic and structural racism.

Sources: Crear-Perry J, et al. Social and Structural Determinants of Health Inequities in Maternal Health. *Journal of Women's Health*. 2021;30(2):230-235; ROOTT. ROOTT's Theoretical Framework of the Web of Causation Between Structural and Social Determinants of Health and Wellness–2016.

Figure 2: US Maternal Mortality Rates by Race and Ethnicity, 2018–2021



[1]Statistically significant increase from previous year ($p < 0.05$).

Note: Race groups are single race.
Source: Hoyert DL. Maternal Mortality Rates in the United States, 2021. National Center for Health Statistics. 16 March 2023. Accessed: September 5, 2023.

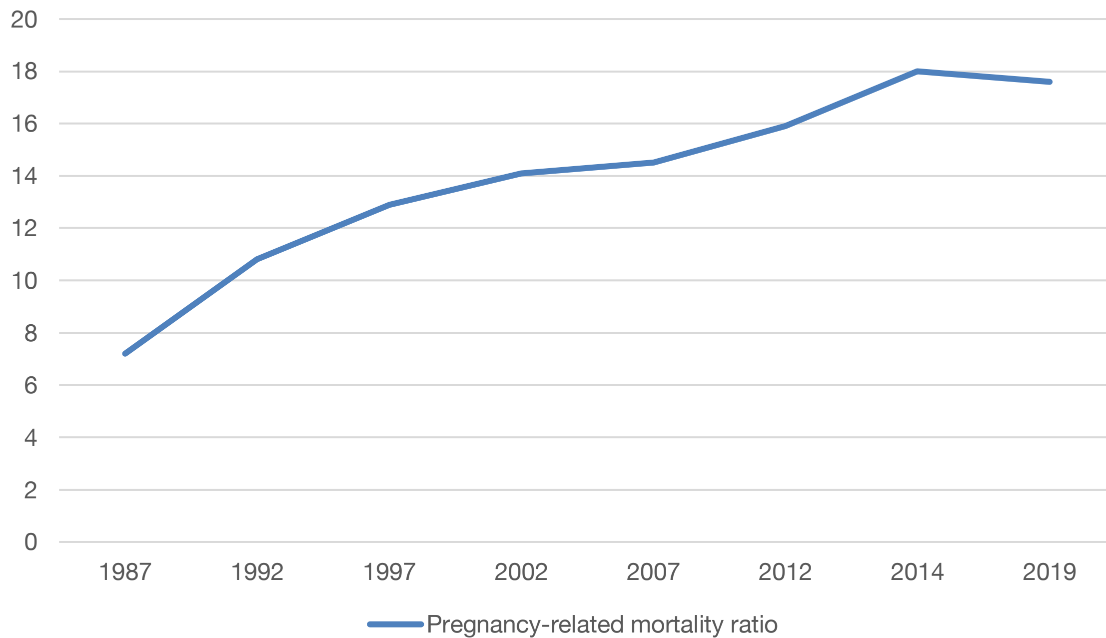
Figure 3: Approximately 1.4% of People Giving Birth in 2016–2017 Had at Least 1 of the Conditions or Procedures that Indicate Severe Maternal Morbidity

Indicators of severe maternal morbidity	
DIAGNOSES	**PROCEDURES**
Heart	Blood products transfusion
Acute myocardial infarction (heart attack)	Conversion of cardiac rhythm
Cardiac arrest/ventricular fibrillation	Hysterectomy
Heart failure/arrest during surgery or procedure	Temporal tracheostomy
Pulmonary edema/acute heart failure	Ventilation
Lung	
Adult respiratory distress syndrome	
Blood or blood vessel	
Air and thrombotic embolism	
Disseminated intravascular coagulation	
Amniotic fluid embolism	
Aneurysm	
Puerperal cerebrovascular disorders	
Eclampsia	
Sickle cell disease with crisis	
Infection	
Sepsis	
Kidney	
Acute renal failure	
Other	
Shock	
Severe anesthesia complications	

"The CDC has identified 21 indicators (16 diagnoses and 5 procedures) drawn from hospital records at the time of childbirth that make up the most widely used measure of severe maternal morbidity. Approximately 140 of 10,000 women (1.4%) giving birth in 2016–17 had at least one of those conditions or procedures. If that rate were applied to the 3.6 million US births in 2020, the result would be approximately 50,500 women experiencing severe maternal morbidity every year."

Source: Declercq E, Zephyrin L. Severe Maternal Morbidity in the United States: A Primer.

Figure 4: Trends in Pregnancy-Related Mortality Ratios in the United States, 1987–2019 (per 100,000 live births)

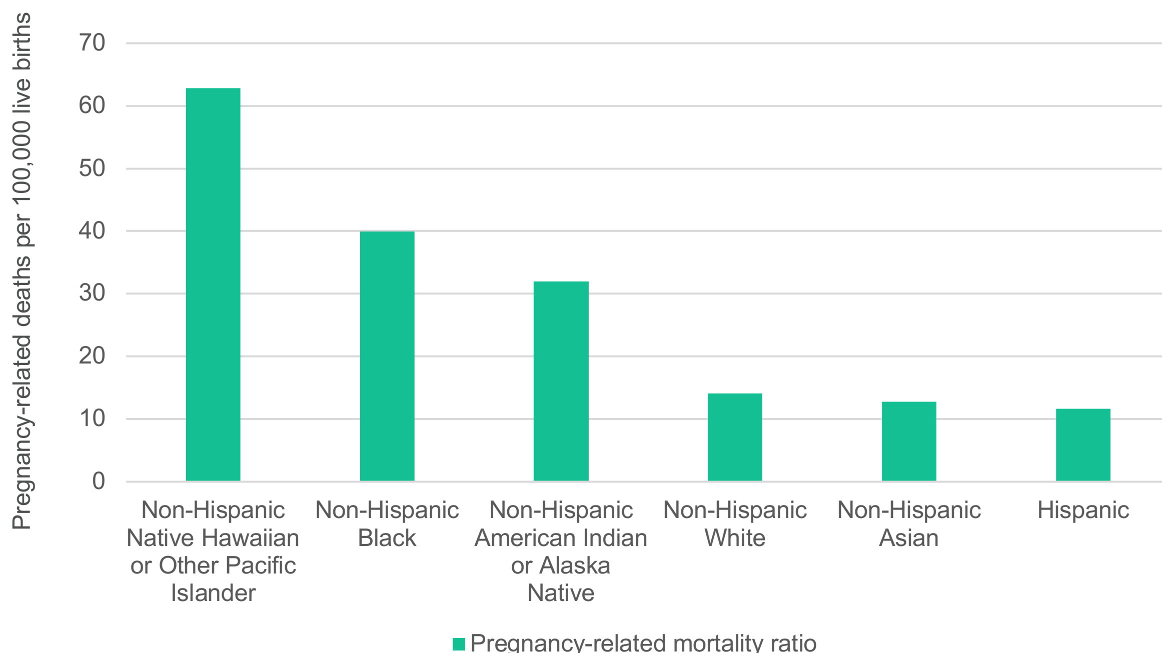


The US pregnancy-related mortality ratio has increased from 7.2 per 100,000 live births in 1987 to 17.6 per 100,000 live births in 2019.

Source: Centers for Disease Control and Prevention. Pregnancy Mortality Surveillance System. Accessed May 8, 2023.

Note: For more information on how a pregnancy-related death is defined, visit https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm

Figure 5: Pregnancy-Related Deaths by Race/Ethnicity, 2017–2019



Non-Hispanic Native Hawaiian or Other Pacific Islanders (NH/OPI) have the highest ratios of pregnancy-related death (62.8 per 100,000 live births) compared with non-Hispanic Blacks (39.9 per 100,000 live births). However, the data is misleading without examining the numerical count. The NH/OPI ratio of 62.8 represents 18 deaths compared with the non-Hispanic Black ratio of 39.9, which represents 663 deaths.

Source: Centers for Disease Control and Prevention. Pregnancy Mortality Surveillance System. Accessed May 8, 2023.

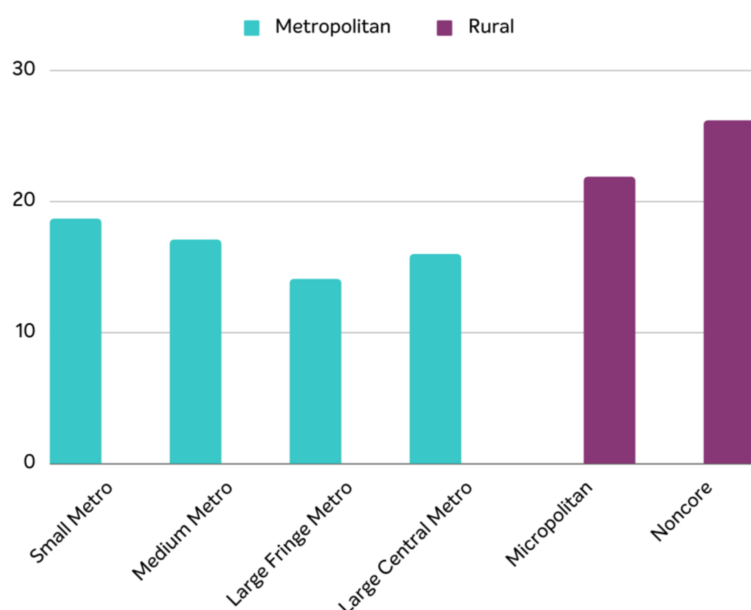
Figure 6: Underlying Causes of Pregnancy-Related Deaths in the United States by Race and Ethnicity, 2017–2019

					Non-Hispanic									
	Total		Hispanic		AI/AN		Asian		Black		OPI		White	
Condition	**N**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Mental health conditions	224	22.7	34	24.1	2	–	1	3.1	21	7	0	–	159	34.8
Hemorrhage	135	13.7	30	21.3	2	–	10	31.3	33	10.9	1	–	53	11.6
Cardiac and coronary conditions	126	12.8	15	10.6	1	–	7	21.9	48	15.9	0	–	49	10.7
Infection	91	9.2	15	10.6	1	–	0	0	23	7.6	0	–	49	10.7
Embolism-thrombotic	86	8.7	9	6.4	0	–	2	6.3	36	11.9	0	–	34	7.4
Cardiomyopathy	84	8.5	5	3.6	0	–	2	6.3	42	13.9	0	–	33	7.2
Hypertensive disorders of pregnancy	64	6.5	7	5	0	–	1	3.1	30	9.9	1	–	22	4.8
Amniotic fluid embolism	37	3.8	6	4.3	1	–	7	21.9	10	3.3	2	–	9	2
Injury	35	3.6	5	3.6	1	–	1	3.1	15	5	0	–	10	2.2
Others	68	6.8	8	5.6	0	-	1	3.1	27	8.9	1	-	28	6.1

Causes of pregnancy-related deaths in the US vary from 23% for mental health conditions to 6.5% for hypertensive disorders of pregnancy (HDP). However, data vary by race and ethnicity. Among people that self-identify as non-Hispanic Black, 10% died from HDP compared with 5% of Hispanic, 5% of non-Hispanic Whites, and 3% of non-Hispanic Asians birthing persons.

Source: Trost S, et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017 – 2019. Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion. Division of Reproductive Health,. Last reviewed: September 19, 2022. Accessed September 5, 2023.

Figure 7: Pregnancy-Related Mortality Ratio by Urban-Rural Classifications, 2017–2019



Pregnancy-related mortality ratios vary by geographic location. According to the 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties, birthing people living in noncore counties had a death rate of 26.1 deaths per 100,000 live births compared with those living in large fringe metro counties (14.0 deaths per 100,000 live births).

Source: Trost S, et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017 – 2019. Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion. Division of Reproductive Health,. Last reviewed: September 19, 2022. Accessed September 5, 2023.

Highlighting the Evidence

Each Evidence to Action Brief developed by MHLIC highlights evidence-based/informed innovations that can be implemented at the local and state levels to advance equitable outcomes around maternal mortality and severe maternal morbidity. Maternal and child health (MCH) experts selected resources for action from the following databases:

- Strengthen the Evidence for Maternal and Child Health Programs
  - MCHbest Database is a database developed to aggregate evidence-based strategies (EBS) that can be used as is or adapted to fit local and state-level contexts.
  - The MCH Evidence Center is the host site for the evidence-based/informed strategies that all state Title V agencies have developed to measure and track their efforts around improving the health and well-being of women, children, and families. In addition, from the MCH Digital Library, seminal and historic resources including tool kits, briefs, and white papers are highlighted that can support the goals and actions in the White House Blueprint.
- The Association of Maternal and Child Health Program's Innovation Hub (AMCHP) is a searchable repository of local and state practices, policies, and community-based innovations considered to be "what's working" in the MCH field.
- The Robert Wood Johnson Foundation's What Works for Health is a searchable database that helps local communities to identify policies and programs that fit within their context and match their priorities.

Finally, the State Maternal Health Innovations initiative, funded by Health Resources and Services Administration's Maternal and Child Health Bureau, currently provides funding to 18 states to develop, implement, and evaluate state-level equity-centered innovations. Many of the Evidence to Action Briefs highlight innovations that address the goals and/or actions of the White House Blueprint.

Strategy Development Criteria to Consider for State and Local Implementation

To select impactful strategies for local implementation, an organization may consider using the following criteria, based on the Results-Based Accountability framework outlined in the book *Trying Hard Is Not Good Enough* by Mark Friedman.

- **Specificity:** Ensure strategies are clearly defined, including responsible parties and timelines.
- **Leverage:** Evaluate how strategies can improve data quality and reliability.
- **Values:** Assess alignment with community and organizational values.
- **Reach:** Consider feasibility and affordability at the required scale.

Using these criteria can aid in developing feasible and impactful strategies. Visit maternalhealthlearning.org/Blueprint for more details.

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The MHLIC is available for consultation, coaching, and technical assistance to support your implementation of any innovations to improve maternal mortality and morbidity. For more information, visit https://maternalhealthlearning.org/connect.

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