


AAMC
Tomorrow's Doctors, Tomorrow's Cures

AAMC Maternal Health Equity Series

Learn
Serve
Lead

Part One: Context Past & Present



Association of American Medical Colleges

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AAMC CHARGE

Collaborative for Health Equity: Act, Research, Generate Evidence

What is AAMC CHARGE?


AAMC CHARGE is a forum for investigators, clinicians, and community partners who design and implement research that eliminates health and health care inequities.

What does AAMC CHARGE do?

- Share accomplishments and crowdsource opportunities for professional achievement.
- Facilitate innovative multi-sector partnerships, collaborations, and research that contribute to the evidence base for solutions to health and health care inequities.
- Collaborate on policy work that impacts health equity at institutional, local, state, and federal levels.

How can I get involved?

Email healthequityresearch@aamc.org to join!



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Maternal Health Disparities Lecture: An Overview

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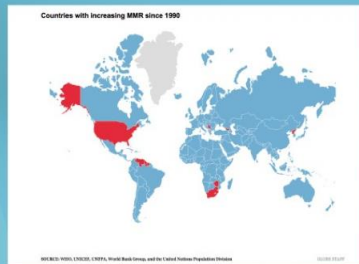


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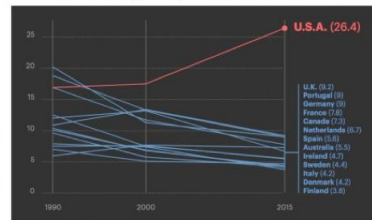
Maternal Mortality Rates in the US

Where does the US rank globally?

According to the Center for Reproductive Rights, the US is one of 13 countries whose Maternal Mortality Rate has increased from their MMR 15 years ago.



Maternal Mortality is Rising in the U.S. As it Declines Elsewhere



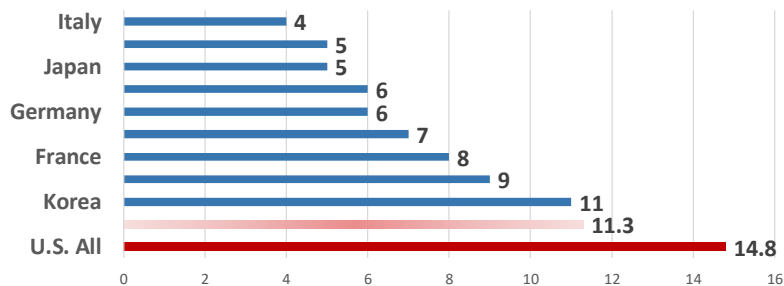
From 1990 to 2015, the global maternal mortality ratio declined by 44 per cent as reported by Unicef along with UN inter-agency estimates.



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U.S. MMR* Compared to Industrialized Countries with 300,000+ births, 2014, using WHO Estimates

U.S. ranks last among wealthy countries – even if you limit the U.S. to white mothers.



* Maternal Mortality Ratio per 100,000 births

Source: *Maternal Mortality: 1990 to 2015 Estimates* by WHO, UNICEF, UNFPA, World Bank Group & UN Population Division. Geneva: 2015. U.S. rates estimated based on adjustment to pregnancy-related mortality rates in Creanga et al. *Obstet Gynecol* 2017.



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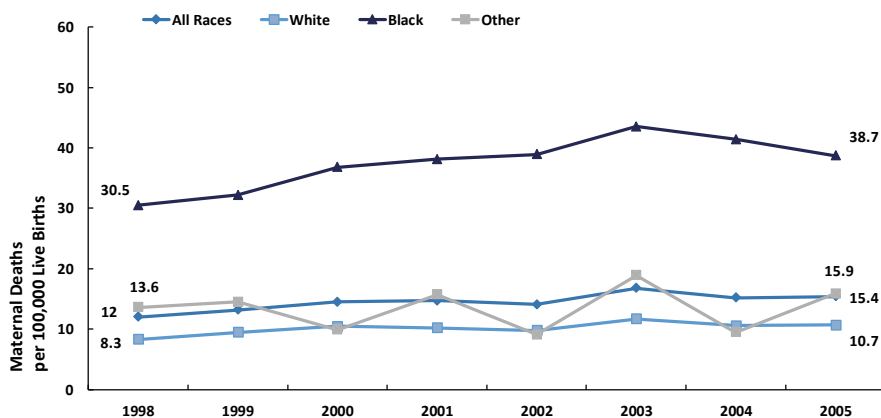
Maternal Mortality Rates in the US

According to the CDC, between 700 and 900 women die every year due to complications related to pregnancy and childbirth in the United States. An additional 50,000 women suffer from severe complications.



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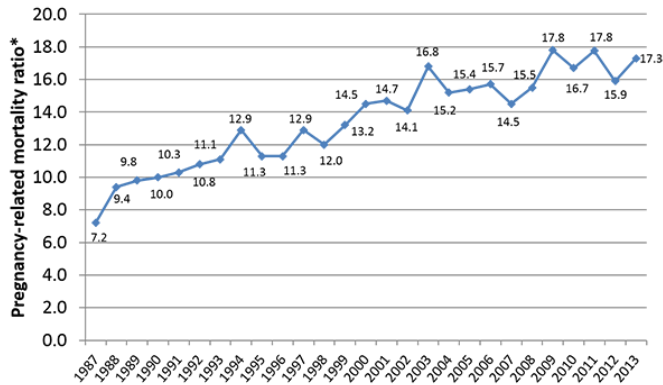
Maternal Mortality Rates in the U.S. by Race/Ethnicity; 1998-2005



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SOURCE: Berg CJ, Callaghan WM, Syverson C, Henderson Z. [Pregnancy-related mortality in the United States, 1998–2005](#). *Obstet/Gynecol.* 2010;116:1302–1309.

Pregnancy Related Mortality, U.S., 1987-2013



*Note: Number of pregnancy-related deaths per 100,000 live births per year.

**U.S. trending upward
since 1987 with wide
racial disparities**

Racial Disparities

Rates for 2011-13:

12.7 white women

43.5 black women

11.0 Hispanic

14.4 other races

Source: CDC.
Creanga. Pregnancy-
Related Mortality in the
United States. *Obstet
Gynecol* 2017.



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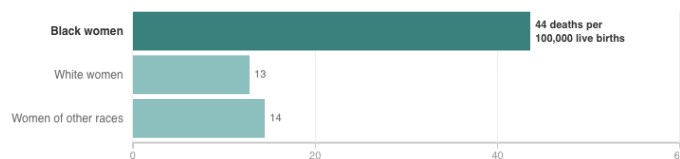
Maternal Mortality Rates in the US

By race

- According to the CDC's Pregnancy Mortality Surveillance system, during 2011- 2014 the pregnancy related ratios were:
 - 12.4 deaths per 100,000 live births for white women
 - 43.5 deaths per 100,000 live births for black women**
 - 17.8 deaths per 100,000 live births for women of other races

Black women face significantly higher maternal mortality risk

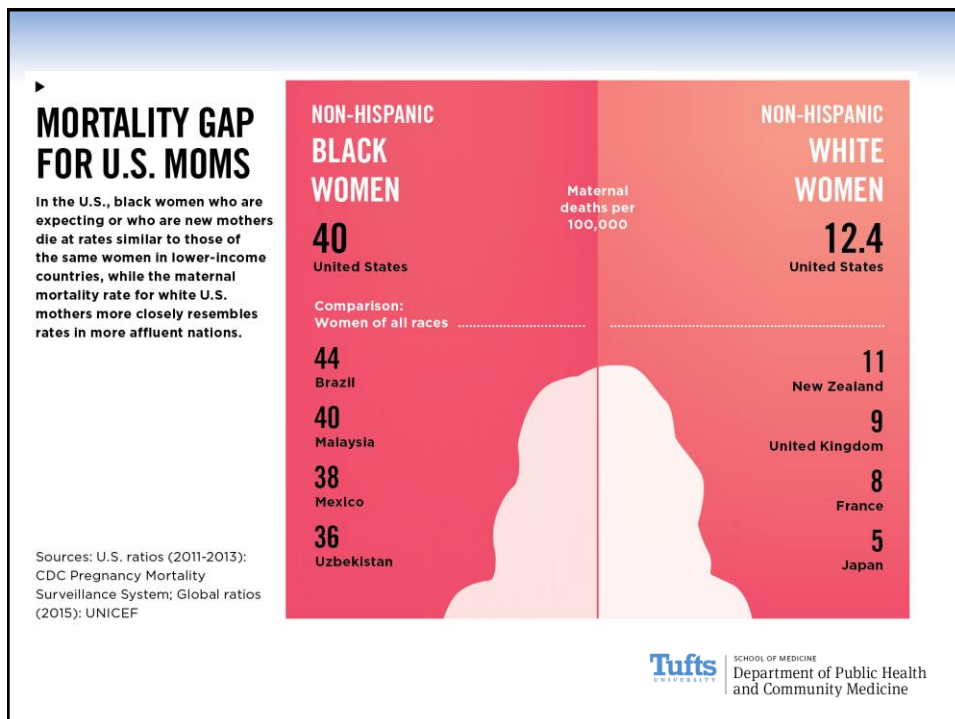
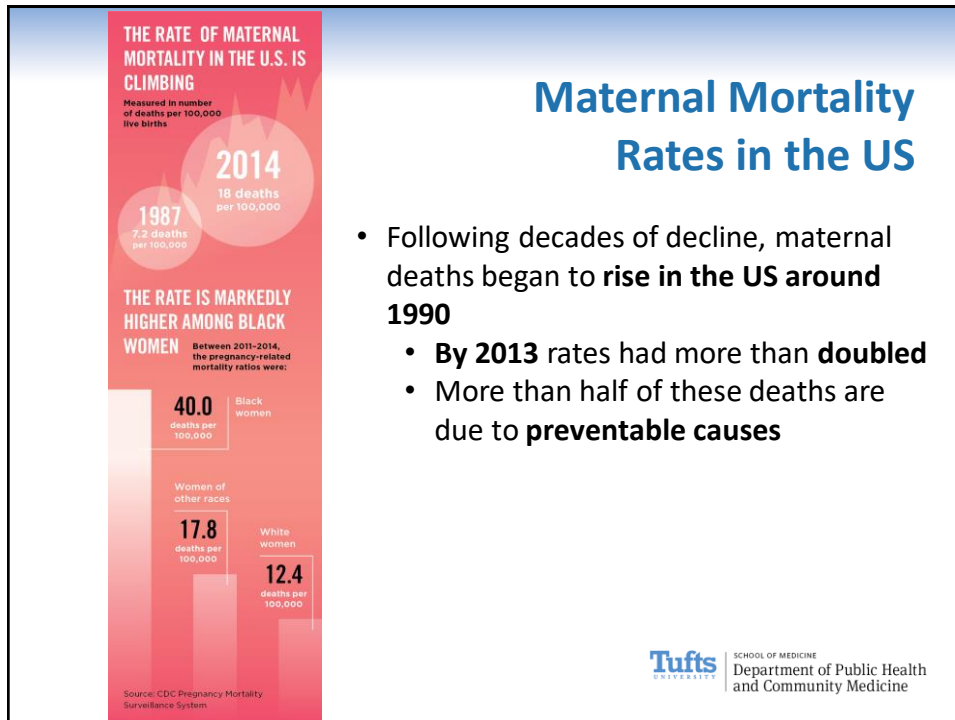
Maternal deaths per 100,000 live births (2011-2013)

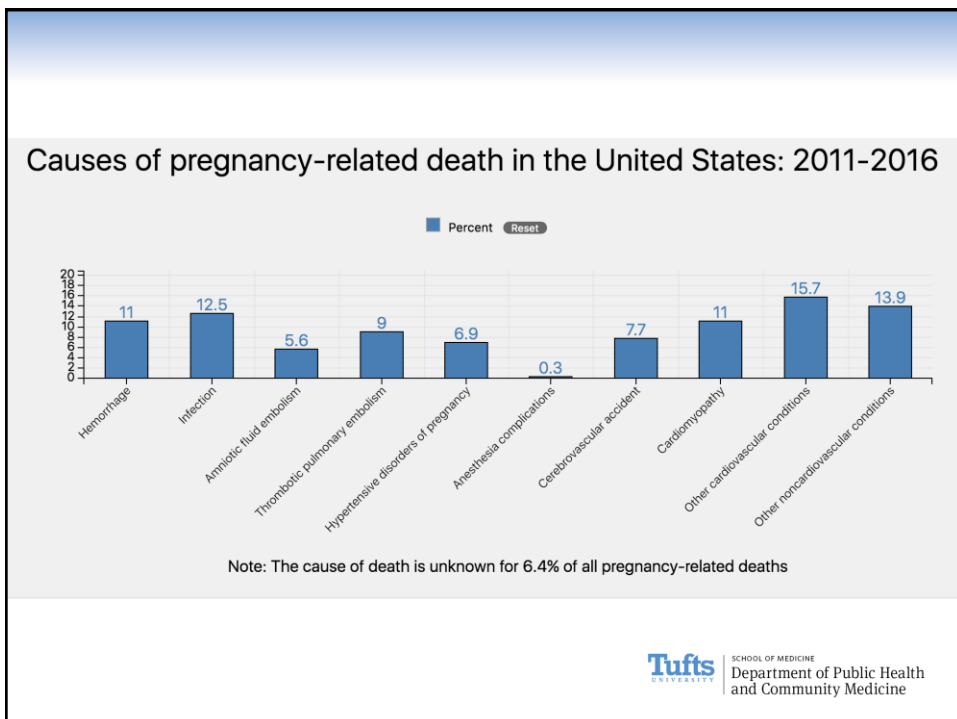
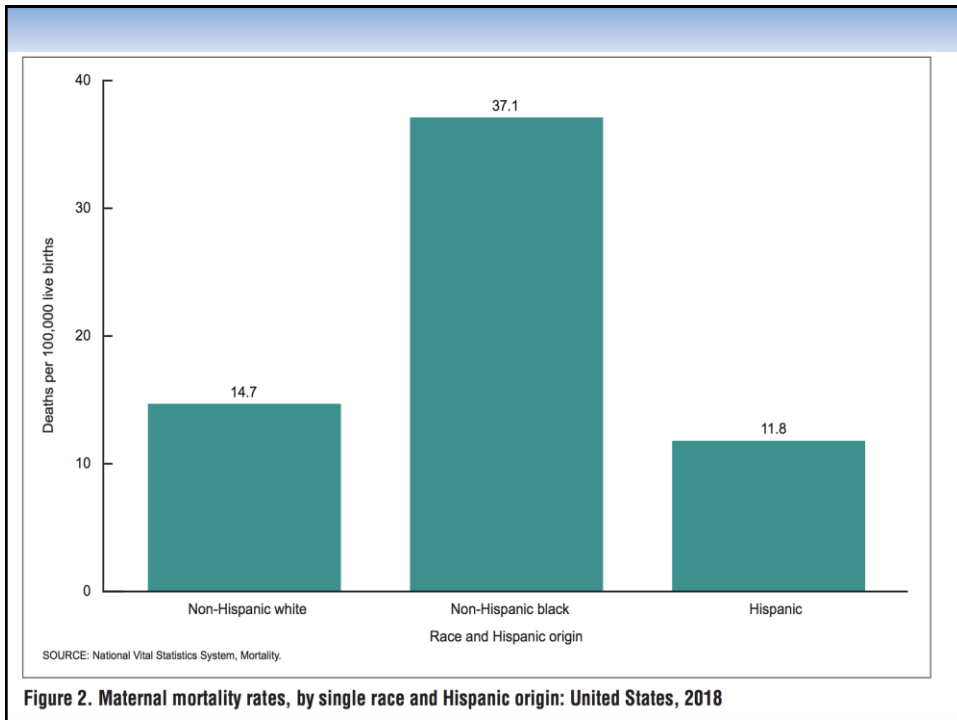


Source: Centers for Disease Control and Prevention



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Maternal and Reproductive Health Disparities

Black Women



- **Black women are three or four times more likely** to die of pregnancy or delivery complications **than white women**
- A **black woman is 22% more likely** to die from **heart disease than a white woman**
- **Black women are 71% more likely** to die from **cervical cancer**
- **243% more likely** to die from pregnancy or childbirth related causes

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"As a Black woman, I knew the numbers were especially dire for me. I knew that factors that usually reduce pregnancy and labor risks (under 35 yrs old, high education, high income, diligent prenatal care) would not be enough to counteract the dangers of my race."

– Lashonda, Freeport, NY



Find more stories in our Birth & Maternal Health Resource Book:

<http://moms.ly/BrthMatBook>

MamaRising.org | MamaConPodar.org

The higher risk faced by black women's maternal health spans **income** and **education level**.

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Lack of Education?

A New York 2016 analysis of five years concluded that Black college-educated mothers who gave birth in local hospitals were more likely to suffer from severe complications than white women who never graduated from high school.



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Low Socioeconomic Status?

- Low SES can create obvious and discrete barriers to adequate care.
 - Late prenatal care
 - Lack of paid maternity leave
 - Lack of childcare flexibility to attend appointments.
- Medicaid finances almost 50% of all U.S. births.
 - Many providers do not accept Medicaid.
 - This heightens the strain of provider and appointment availability for women using Medicaid.

Reality?



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Reality?

- Women of higher SES are not immune from the disproportionate rates of pregnancy and childbirth related complications.
- Studies in New York published by ProPublica points out that Black women in the wealthiest neighborhoods have more complications than white, Hispanic, and Asian mothers who live in the poorest neighborhoods.

Historical Context

Maternal Health Disparities amongst Black Women

1850: James Marion Sims and other physicians began experimentation on Black women's bodies

1807: The importation of humans became illegal, forcing Black women to procreate for economic benefit of slave owners



Historical Context

Maternal Health Disparities amongst Black Women



1980: The “welfare queen” and “crack baby” messaging surrounding Black mothers and their children

1930: The beginning of the Eugenics Movement which included “The Negro Project of 1939”



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The Reality of Racism Throughout the Lifespan

Maternal Health Disparities amongst Black Women

- Black women are at the intersection of **race** and **gender**
→ Tremendous chronic stress
- There is an expanding body of research surrounding the toll on childbirth that being a Black Woman in America can take
- This type of stress **cannot** be avoided with higher education or higher socioeconomic status



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"Weathering"

- "Weathering" is a term coined by Arline Geronimus a professor at the University of Michigan School of Public Health.
- Her work has shown that this type of chronic stress causes many health vulnerabilities and increases susceptibility to infection.
 - Weathering causes the early onset of chronic conditions such as diabetes and hypertension.
- In her 2010 study of telomeres, Geronimus found that telomeres of Black women in their 40's and 50's appeared an average of 7.5 years older than those of white women.
- Because maternal age is an important risk factor for many severe pregnancy-related complications, these age related pregnancy risks occur earlier for Black women.

Maternal health care



- Once a baby is born, he or she becomes the **focus of medical attention**
 - Mothers are **monitored less**
 - Their concerns are **dismissed**
 - Sent home **without adequate information**

For African American mothers, the **risks jump at each stage of labor, delivery, and post-partum**

The odds of **African American women surviving childbirth** are comparable to those of **women in countries such as Mexico and Uzbekistan**

Health care facilities

- 75% of black women give birth at hospitals that serve predominantly Black populations
- Predominantly black-serving hospitals have higher rates of maternal complications than other hospitals
- Creanga A.A. et al found that black-serving hospitals performed worse than other hospitals on 12 of 15 delivery-related indicators



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Limited Diversity in the Medical Profession

Percent of black doctors at Boston hospitals

Carney Hospital	6.4% (out of 47 doctors)
Boston Medical Center	5% (772)
Percent of US doctors who are black	4.1%
* Boston Children's Hospital	4% (175)
** Brigham and Women's Hospital/Faulkner Hospital	3.1% (1,842)
New England Baptist Hospital	3% (34)
Massachusetts General Hospital	2.8% (2,349)
Dana-Farber Cancer Institute	2.2% (359)
St. Elizabeth's Medical Center	2.1% (195)
Beth Israel Deaconess Medical Center	1.9% (1,078)
Tufts Medical Center	1.1% (641)
Massachusetts Eye and Ear	.5% (192)

* Children's data includes only doctors employed directly by the hospital, which is 8 percent of its physicians.
** The Brigham and Faulkner share physicians.
Source: The hospitals

- Limited diversity in the medical profession:
 - **6%** of M.D.s are Black
 - **11%** of OB-GYNs are Black
 - **3%** of medical school faculty are Black
 - **Less than 2%** of National Institutes of Health-funded principal investigators are Black

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Attitudes by Health Care Professionals

- Research has shown that implicit bias can cause doctors to spend less time with Black patients:
 - Receiving less effective care
 - More likely to underestimate the pain of their black patients – dismissing their complaints

- ❖ While pregnant, **Serena Williams** complained about trouble breathing
- ❖ She had to continuously pressure her health care providers to perform tests after dismissing her claims
 - ❖ Providers Chalked it up to medication making her “confused”
- ❖ With persistence she eventually convinced her providers to give her a CT scan and an accurate diagnosis with appropriate treatment



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*“The common thread is that when black women expressed concern about their symptoms, clinicians were more delayed and seemed to believe them less...there is a very **fine line between clinical intuition and unconscious bias.**”*

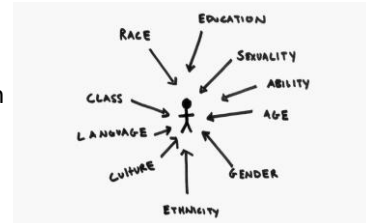
Neal Shah
Obstetrician-gynecologist
Beth Israel Deaconess Medical Center

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Addressing Intersectionality

- Provide health care to Black women that is:
 - Culturally competent
 - Safe
 - High quality
 - Respectful
- Policies should include practices that include non-clinical and social needs of Black women
 - Help change the negative historical narrative of the health care system and people of color
 - Restore trust in the health care system
 - 22% of black women report discrimination when going to the doctor or clinic (2017).



Addressing Intersectionality

Social determinants of health

- Structural inequality and discrimination
 - Chronic stress of poverty and racism can cause health outcomes that can be linked to the persistent maternal health disparities
- Policies that raise income and build wealth
- Access to clean, safe, and affordable housing
- Quality of education
- Reliable public transportation – accessibility to health care facilities and medical appointments
- Availability of healthy and affordable food

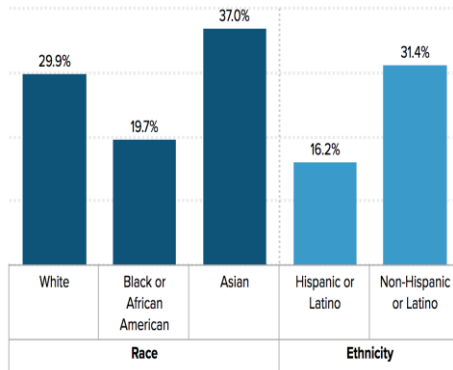
Moving Forward

- **2011-2015:** 3 in 10 charges of pregnancy discrimination were filed by Black Women
 - Black women only make up 14% of women ages 16 to 54 in the workforce
- **2015:** Only 30% of Black mothers are eligible for and able to afford to take unpaid leave under the Federal Family and Medical Leave Act
 - Expand paid family and medical leave
- **2017:** 1 in 4 Black worker reported that in the last two years they requested time off for parental, family or medical reasons and could not
- Expand access to comprehensive reproductive health care
- Expand and protect access to providers that are trusted by the community
- Expand protections for pregnant workers

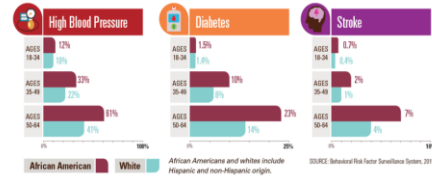
The Impact of COVID-19 on Black Maternal Health

Less than one in five black workers and roughly one in six Hispanic workers are able to work from home

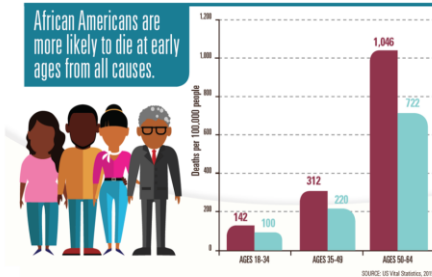
Share of workers who can telework, by race and ethnicity, 2017–2018



Young African Americans are living with diseases more common at older ages.



African Americans are more likely to die at early ages from all causes.



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The Impact of COVID-19 on Black Maternal Health

- Black mothers are four times more likely to die from pregnancy-related complications and with COVID-19 that number is expected to increase. According to the CDC pregnant women are at a higher risk of severe illness, morbidity, or mortality compared with the general population. Although not much data has been collected regarding the severity of COVID-19 on pregnant women, it has been determined that African Americans are at a greater risk of contracting and dying from this virus, therefore, Black mothers are at a greater risk of contracting this virus.
- This pandemic has forced many hospitals and healthcare institutions to either shut down or increase restrictions on visitors, many even opting to restrict partners or spouses or doulas from entering the delivery room. This places an emotional strain on expecting mothers.
- Many programs and services such as lactation services, peer-based programs for breastfeeding and the use of doulas or midwives have been suspended in some states, thereby, forcing many mothers to change their breastfeeding and birthing plans.

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The Impact of COVID-19 on Black Maternal Health

- Studies have shown that the use of doula services improves birth outcomes for Black women. Black mothers who have used doula assisted births were four times less likely to have a low birth weight (LBW) baby and two times less likely to experience any complications during birth. These same mothers are two times more likely initiate breastfeeding using these doula services. Currently in states such as New York where doulas services are not permitted, Black maternal mortality is expected to increase.
- COVID-19 has created a panic among Americans and people nationwide, which leads to excessive shopping, which creates a shortage of supplies, such as infant formula, which places Black children at risk. With the suspension of peer-based programs consisting of WIC peer counselors and local breastfeeding “clubs in order to abide by social distancing guidelines set forth by the CDC, the rate of Black mothers breastfeeding could potentially decline.

The Impact of COVID-19 on Black Maternal Health

Research on birth and breastfeeding have shown that women of color thrive when they receive support from a partner or spouse or family members or friends. However, when that support is not present or disrupted, there can be a negative impact on breastfeeding practices in this community.

In many hospitals, physicians are beginning to separate mothers and infants who have not been in contact or exposed to the virus as a precautionary measure, which goes against the breastfeeding guidelines set forth by WHO that states that mothers may continue to breastfeed but with protection. According to WHO, the risk of infants becoming ill increases when there is a discontinuation of breastfeeding.

The Impact of COVID-19 on Black Maternal Health

- According to the Birthplace Lab **one in six women** have been mistreated by a healthcare professional whether it is verbal humiliations, forced C-sections, invasive practices or dismissal of any complaint during birth.
- It has been predicted that there will be a dramatic increase in forced C-sections because of COVID-19, forcing many mothers to change their birthing plans. Black mothers have experienced a higher rate of obstetric violence than any other race and this number is expected to increase during this pandemic. The Giving Voice to Mothers study reported that **27.2 percent of women of color** have been mistreated by healthcare professional compared to 18.7 percent of white women who reported mistreatment among mothers with low socioeconomic status.
- Unfortunately, many Black mothers suffer in silence and these behaviors go unreported because they may be first-time mothers and are unsure of what is a routine exam or simply do not know who to go to file the complaint.
- Black mothers during this pandemic stand to lose or have their birthing rights suppressed more than any other race due to unconscious bias, stereotypes and racism. With mothers having to make life changing decisions in a matter of minutes due to anxiety caused by COVID-19, there will be an increase in the use of C-sections, thereby influencing pre-term birth rates causing an increase in the number of women of color suffering from postpartum depression.

How Expecting Birthing People Can Protect Themselves

- Follow the guidelines set by the CDC in preventing COVID-19 infection and exposure by regular handwashing and practicing social distancing.
- Having clear communication with their physicians especially if they have preexisting conditions such as diabetes, asthma etc. that poses a greater risk of contracting COVID-19. This method will ensure that both mother and physicians are on the same page regarding the care they will be receiving and safe methods to breastfeed.
- Educating themselves of their birth rights and who to contact if any of these rights are being violated such as your State's department of health services and The Empowered Patient Coalition. Also, educate themselves during this time of services available to them such as online doula services.

Groups/Organizations



BLACK WOMEN'S
HEALTH IMPERATIVE

and more...



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Momnibus bill

<https://underwood.house.gov/sites/underwood.house.gov/files/Black%20Maternal%20Health%20Momnibus.pdf>

<https://blackmaternalhealthcaucus-underwood.house.gov/research>

<https://blackmaternalhealthcaucus-underwood.house.gov/Momnibus>

@repunderwood



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References

- "African American Health." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 3 July 2017, www.cdc.gov/vitalsigns/aahealth/index.html.
- Allers, Kimberly Seals, and Kiddada Green. "Covid-19 Restrictions on Birth & Breastfeeding: Disproportionately Harming Black and Native Women." *Women's ENews*, 2 Apr. 2020, womensenews.org/2020/03/covid-19-restrictions-on-birth-breastfeeding-disproportionately-harming-black-and-native-women/.
- Allers, Kimberly Seals. "Perspective | Obstetric Violence Is a Real Problem. Evelyn Yang's Experience Is Just One Example." *The Washington Post*, WP Company, 6 Feb. 2020, www.washingtonpost.com/lifestyle/2020/02/06/obstetric-violence-is-real-problem-evelyn-yangs-experience-is-just-one-example/.
- Bedard, Paul, and Seth Wenig. "77% Black Births to Single Moms, 49% for Hispanic Immigrants." *Washington Examiner*, 5 May 2017, www.washingtonexaminer.com/77-black-births-to-single-moms-49-for-hispanic-immigrants.
- Gruber, Kenneth J. et al. "Impact of Doula on Healthy Birth Outcomes." *The Journal of Perinatal Education*, Springer Publishing Company, 2013, www.ncbi.nlm.nih.gov/pmc/articles/PMC3647727/.
- "Health Disparities between Blacks and Whites Run Deep." *Harvard T.H. Chan School of Public Health*, 15 Apr. 2016, www.hsph.harvard.edu/news/hsph-in-the-news/health-disparities-between-blacks-and-whites-run-deep/.
- "JOB FLEXIBILITIES AND WORK SCHEDULES — 2017-2018 DATA FROM THE AMERICAN TIME USE SURVEY." *U.S. Department of Labor, Commerce, Education, Health and Human Services*, 24 Sept. 2019, www.bls.gov/news.release/pdf/flex2.pdf.
- "Joint Statement: Recent Developments Regarding COVID-19 and Pregnant Women." *ACOG*, www.acog.org/news/news-releases/2020/04/joint-statement-recent-developments-regarding-covid-19-and-pregnant-women.
- Kritz, Fran. "A New Campaign to Reduce C-Sections Is Especially Critical for African-American Mothers and Babies." *California Health Report*, California Health Report, 20 Aug. 2018, www.calhealthreport.org/2018/08/10/new-campaign-reduce-c-sections-especially-critical-african-american-mothers-babies/.
- Moore, ReNika. "If COVID-19 Doesn't Discriminate, Then Why Are Black People Dying at Higher Rates?" *American Civil Liberties Union*, 8 Apr. 2020, www.aclu.org/news/racial-justice/if-covid-19-doesnt-discriminate-then-why-are-black-people-dying-at-higher-rates/.
- "Protecting Human Rights in Childbirth." *Birthrights*, 31 Mar. 2020, www.birthrights.org.uk/.
- "What You Need to Know about Coronavirus Disease 2019 (COVID-19)." *CDC*, 30 Mar. 2020, www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet.pdf.



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References

- Black Mamas Matter Alliance & Center for Reproductive Rights. (2016). *Research Overview of Maternal Mortality and Morbidity in the United States*.
- Color line persists, in sickness as in health. (2017). *Boston Globe*. Retrieved from <https://apps.bostonglobe.com/spotlight/boston-racism-image-reality/series/hospitals/>
- Creanga, A. A., Bateman, B. T., Mhyre, J. M., Kuklina, E., Shikrut, A., & Callaghan, W. M. (2014). Performance of racial and ethnic minority-serving hospitals on delivery-related indicators. *American Journal of Obstetrics & Gynecology*, 211(6), 647-e1.
- Creanga, A.A., Syverson, C., Seek, K., & Callaghan, W.M. (2017). Pregnancy-Related Mortality in the United States, 2011-2013. *Obstetrics & Gynecology*, 130(2), 366-373.
- deBocanegra, H. T., Braughton, M., Bradsberry, M., Howell, M., Logan, J., & Shwarz, E.B. (2017). Racial and ethnic disparities in postpartum care and contraception in California's Medicaid program (pp. e3-e4). *American Journal of Obstetrics & Gynecology*, 217(47), e1-e7.
- Dehlendorf, C., Park, S. Y., Emeremni, C. A., Comer, D., Vincett, K., & Borrero, S. (2014). Racial/ethnic disparities in contraceptive use: Variation by age and women's reproductive experiences (p. 526.e1). *American Journal of Obstetrics & Gynecology*, 210(6), 526.e1-526.e9.
- Diversity Data Kids . (2015). *Policy Rankings: The Family and Medical Leave Act*. Brandeis University, The Heller School, Institute for Child, Youth and Family Policy Publication.
- Geronimus, A.T., Hicken, M., Keene, D., & Bound, J. (2006). "Weathering" and age patterns of allostatic load scores among blacks and whites in the United States. *American Journal of Public Health*, 96(5), 826-833. doi:10.2105/AJPH.2004.060749
- Horowitz, J.M., Parker, K., Graf, N., & Livingston, G. (2017, March 23). *Americans Widely Support Paid Family and Medical Leave, but Differ Over Specific Policies*. Pew Research Center.
- Howell, E. A., Egorova, N., Balbierz, A., Zeitlin, J., & Hebert, P. L. (2016). Black-white differences in severe maternal morbidity and site of care. *American Journal of Obstetrics & Gynecology*, 214(1), 122-e1.
- Laughlin, L. (2011, October). *Maternity Leave and Employment Patterns of First-Time Mothers: 1961-2008*. U.S. Census Bureau Publication.
- Louis, J. M., Menard, M. K., & Gee, R. E. (2015). Racial and ethnic disparities in maternal morbidity and mortality. *Obstetrics & Gynecology*, 125(3), 690-694.
- National Partnership for Women & Families. (October 2016.). *By the Numbers: Women Continue to Face Pregnancy Discrimination in the Workplace*.
- Prather, C., Fuller, T. R., Marshall, K. J., & Jeffries IV, W. L. (2016). The impact of racism on the sexual and reproductive health of African American women. *Journal of Women's Health*, 25(7), 664-671.
- Roader, A. America is Failing Its Black Mothers. (2019). *Harvard T.H. Chan School of Public Health*. Retrieved from https://www.hsph.harvard.edu/magazine/magazine_article/america-is-failing-its-black-mothers/



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Questions?

Thank you!

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AAMC Health Equity Research and Policy



AAMC Maternal Health Equity Webinar Series

Part Two: Rural Maternal Health Equity

Thursday, May 14, 2020
1:30-2:30 p.m. ET

This series will highlight the unique role of academic medicine in the fight for maternal health justice and feature physicians, community leaders, and researchers who are committed to eliminating inequities.

Part Three: Immigrant Maternal Health Equity

Wednesday, June 24, 2020
1:30-2:30 p.m. ET

**REGISTRATION
COMING SOON**


Thank you

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Learn
Serve
Lead

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