

A gray silhouette of a pregnant woman in profile, facing right, with her hand on her hip. The silhouette is positioned on the left side of the slide, partially overlapping the title text.

# Maternal Health Disparities: An Overview

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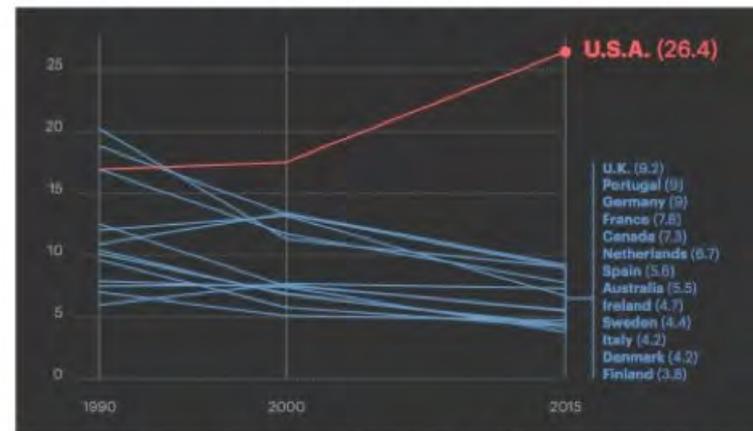
# Maternal Mortality Rates in the US

## 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

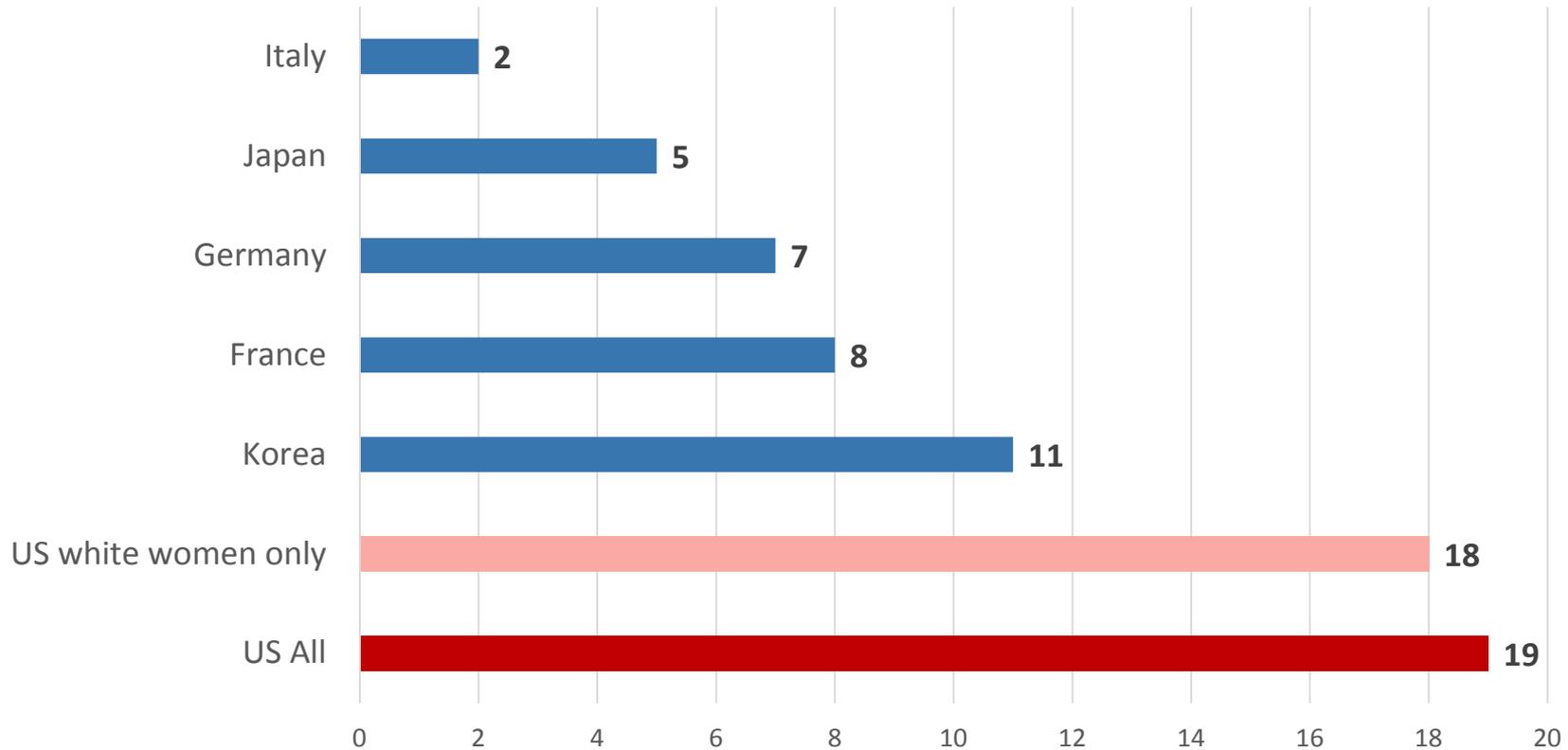


Per 100,000 live births. Source: "Global, regional, and national levels of maternal mortality, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2015." *The Lancet*. Note: Only data for 1990, 2000 and 2015 was made available in the journal.

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

# U.S. MMR\* Compared to Industrialized Countries with 300,000+ births, 2017, 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: World Health Organization. (2019). Maternal mortality: Levels and trends: 2000 to 2017. *Sexual and reproductive health.*

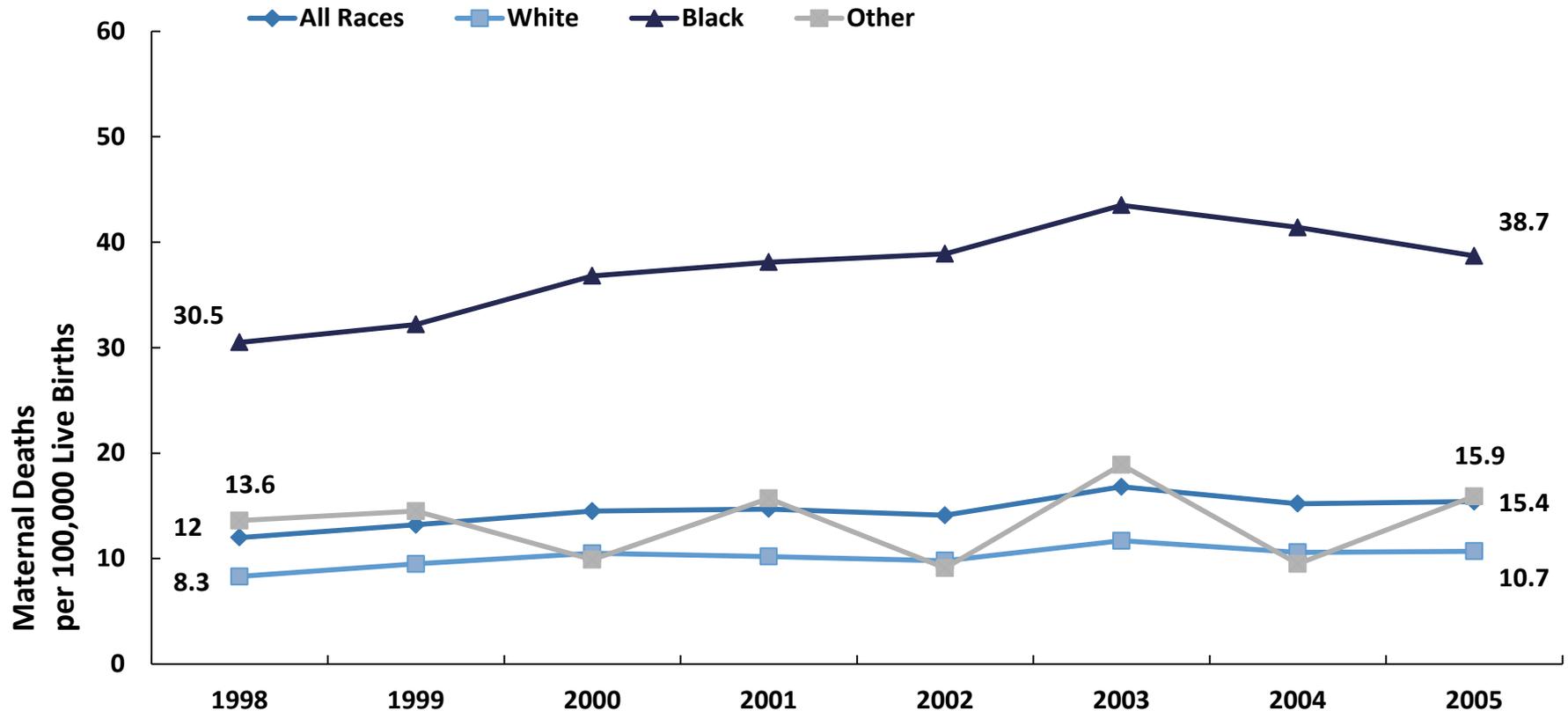


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# Maternal Mortality Rates in the US

**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.**

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

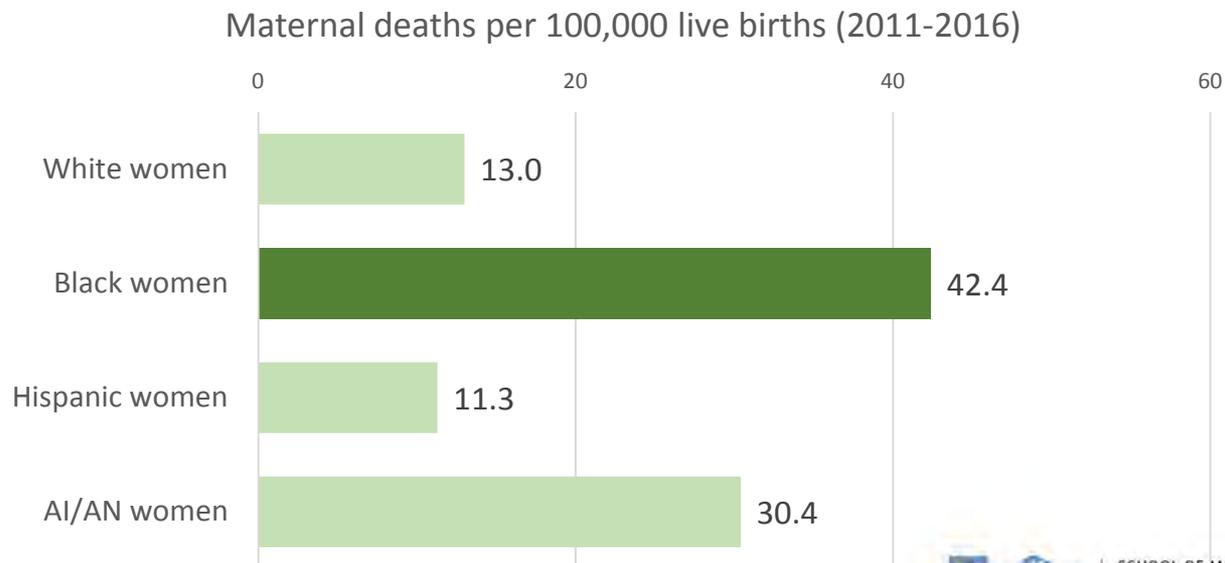


SOURCE: Berg CJ, Callaghan WM, Syverson C, Henderson Z. [Pregnancy-related mortality in the United States, 1998-2005](#). *Obstet/Gynecol.* 2010;116:1302-1309.

# Maternal Mortality Rates in the US

## By race

- According to the CDC's Pregnancy Mortality Surveillance system, during 2011- 2016 the pregnancy related ratios were:
  - 13.0 deaths per 100,000 live births for white women
  - **42.4 deaths per 100,000 live births for black women**
  - 11.3 deaths per 100,000 live births for Hispanic women
  - 30.4 deaths per 100,000 live births for AI/AN women



## THE RATE OF MATERNAL MORTALITY IN THE U.S. IS CLIMBING

Measured in number of deaths per 100,000 live births

2014

18 deaths per 100,000

1987

7.2 deaths per 100,000

## THE RATE IS MARKEDLY HIGHER AMONG BLACK WOMEN

Between 2011–2014, the pregnancy-related mortality ratios were:

40.0

deaths per 100,000

Black women

Women of other races

17.8

deaths per 100,000

White women

12.4

deaths per 100,000

Source: CDC Pregnancy Mortality Surveillance System

# Maternal Mortality Rates in the US

- Following decades of decline, maternal deaths began to **rise in the US around 1990**
  - **By 2013** rates had more than **doubled**
  - More than half of these deaths are due to **preventable causes**



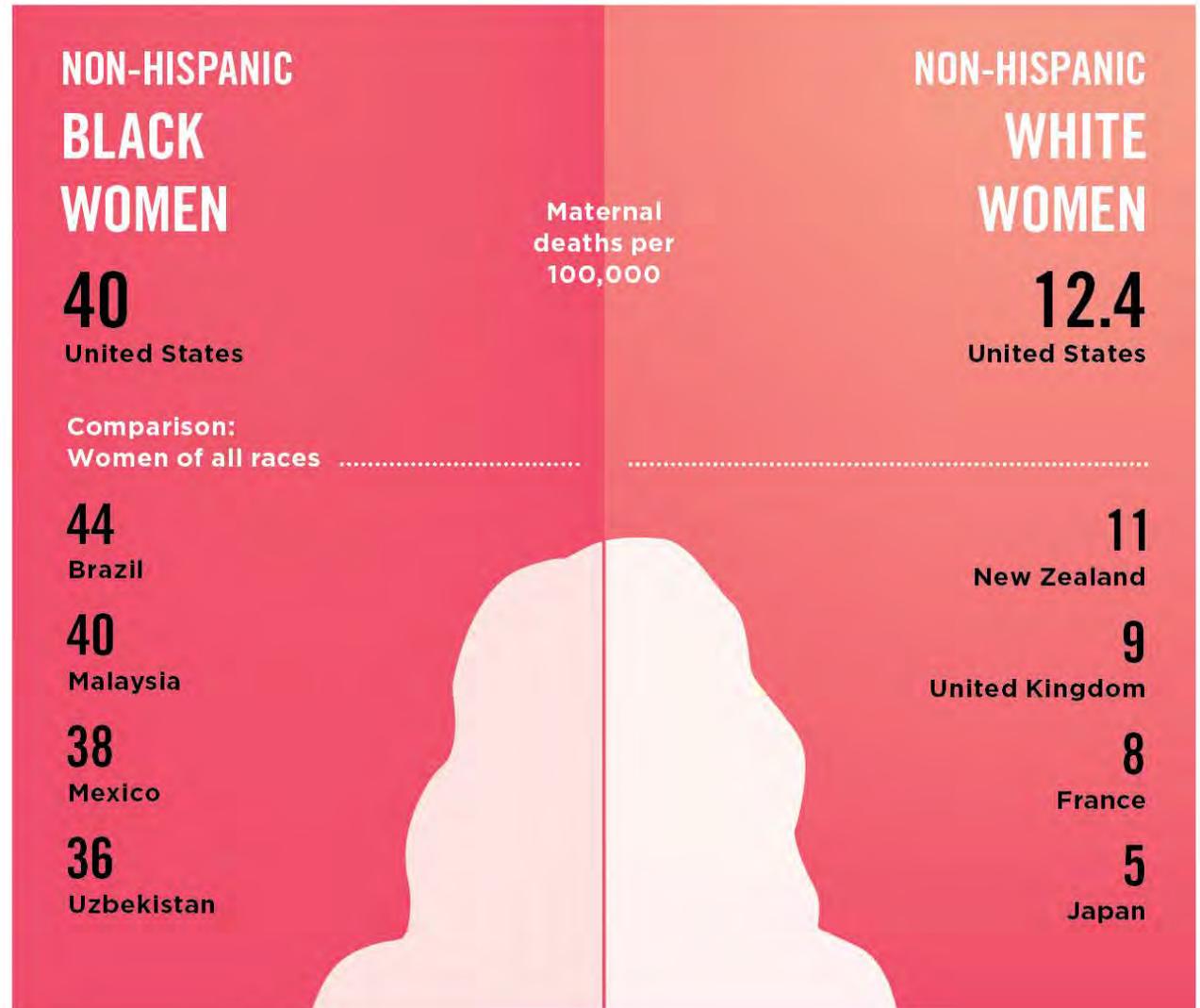
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# MORTALITY GAP FOR U.S. MOMS

In the U.S., black women who are expecting or who are new mothers die at rates similar to those of the same women in lower-income countries, while the maternal mortality rate for white U.S. mothers more closely resembles rates in more affluent nations.

Sources: U.S. ratios (2011-2013): CDC Pregnancy Mortality Surveillance System; Global ratios (2015): UNICEF



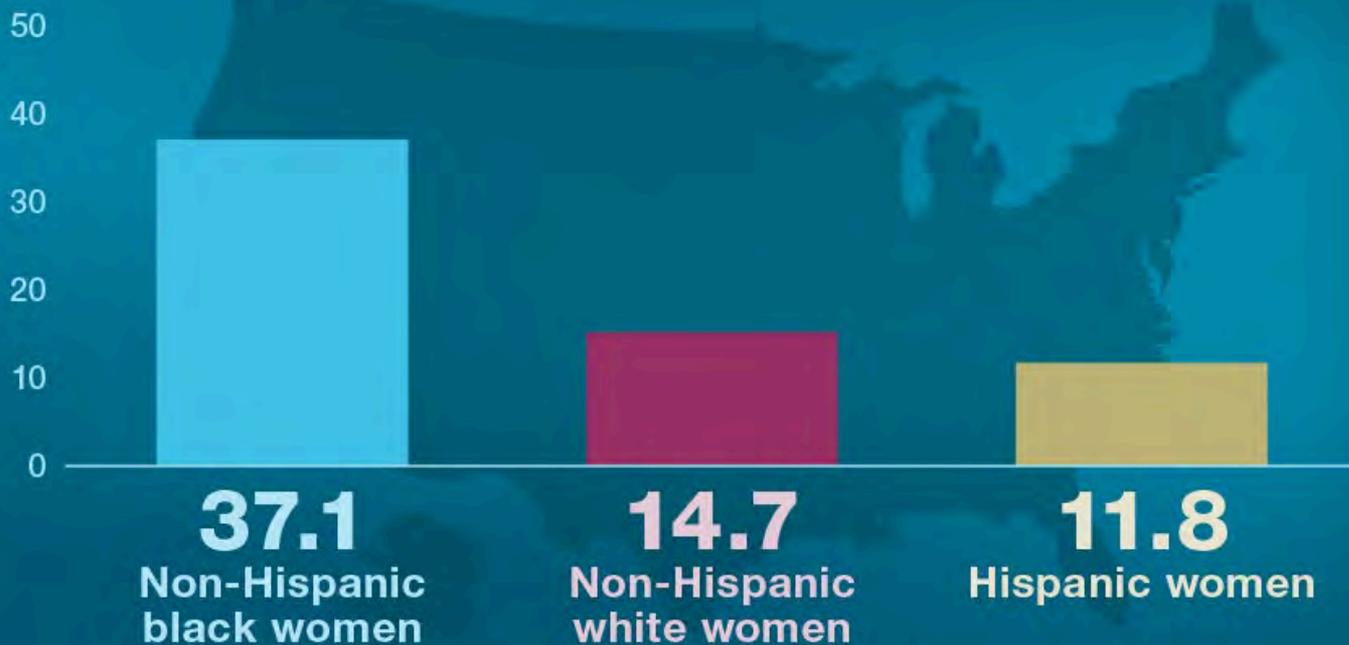
**NCHS**

National Center  
for Health Statistics

# 2018 MATERNAL MORTALITY STATISTICS HIGHLIGHT WIDE RACIAL AND ETHNIC GAPS



Death rate  
(per 100,000 live births)



SOURCE: National Center for Health Statistics. National Vital Statistics System.  
For more information, visit <https://www.cdc.gov/nchs/maternal-mortality/>.

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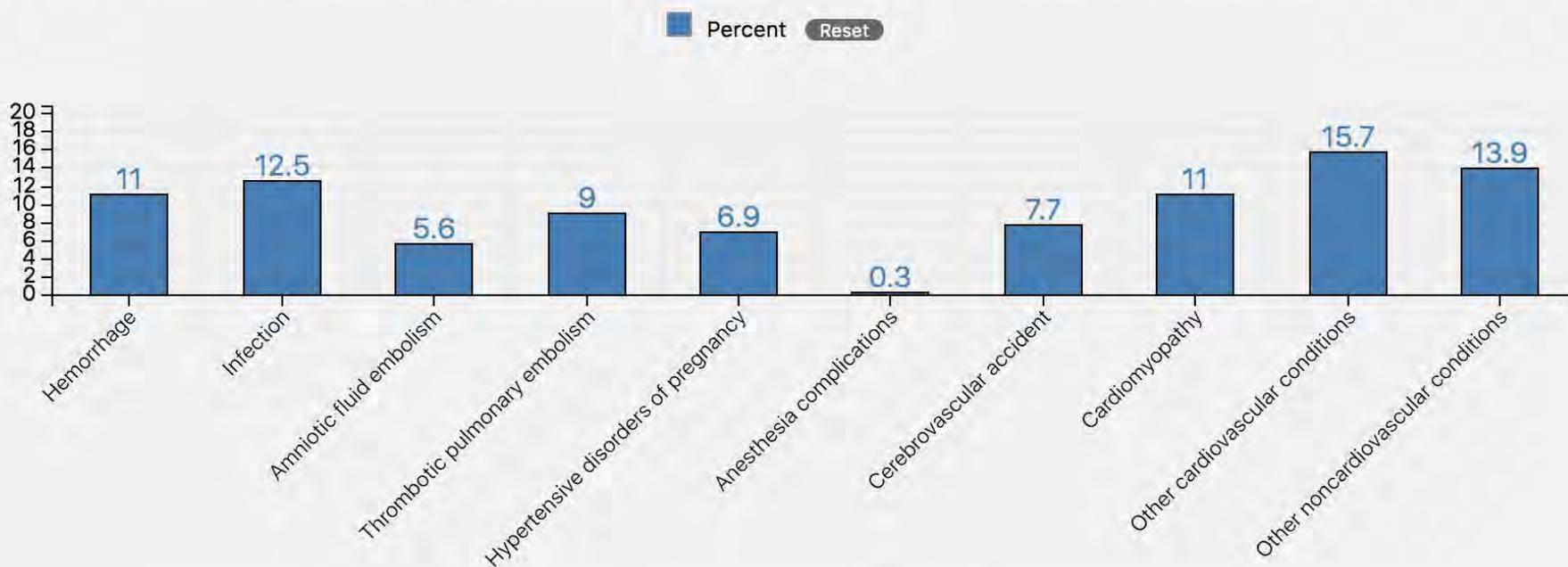


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# Causes of pregnancy-related death in the United States: 2011-2016



Note: The cause of death is unknown for 6.4% of all pregnancy-related deaths

# 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**

"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>

[MomsRiskUp.org](http://MomsRiskUp.org) | [MomsAndCopsForLife.org](http://MomsAndCopsForLife.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.



## 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?

## 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”

# 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



# 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.

# 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*



*“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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# 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)	
<b>Percent of US doctors who are black</b>	<b>4.1%</b>	
* 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.

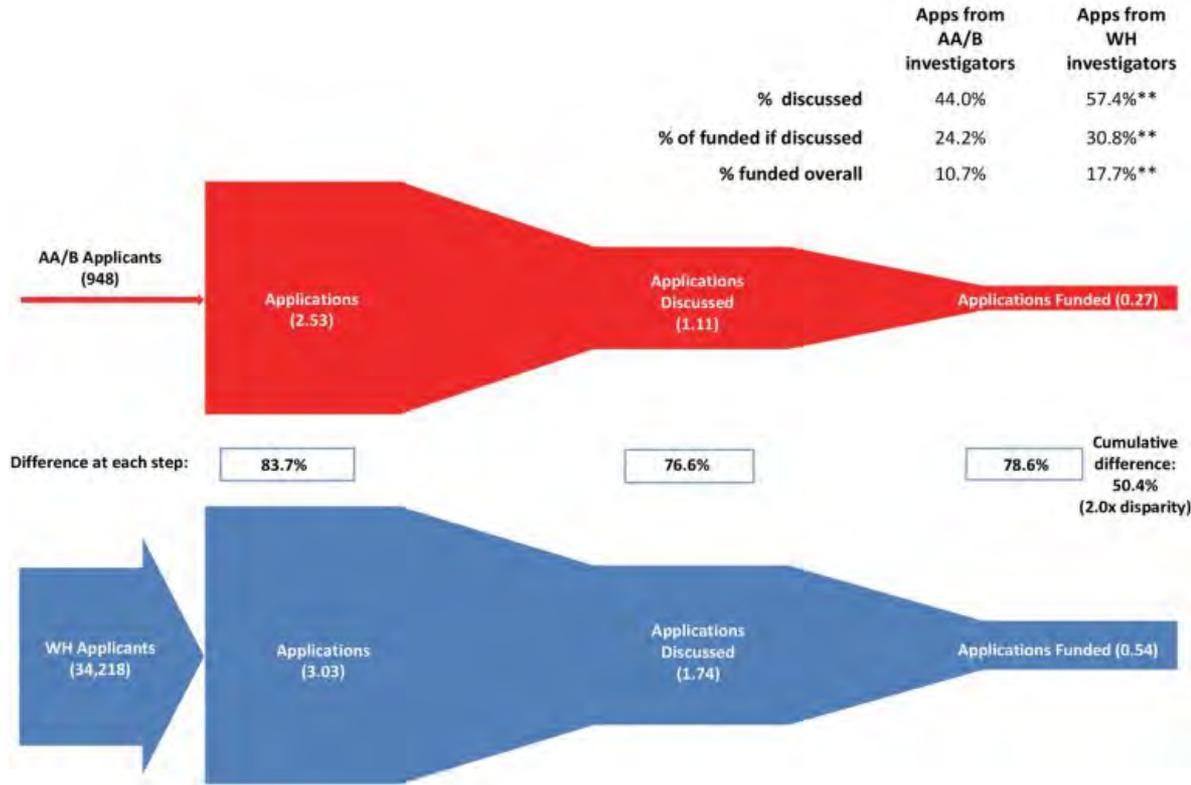
\*\* The Brigham and Faulkner share physicians.

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

# Racial disparities in NIH funding

Funding gap between AA/Black and white scientists at each stage of the R01 application and review process in FY 2011-2015

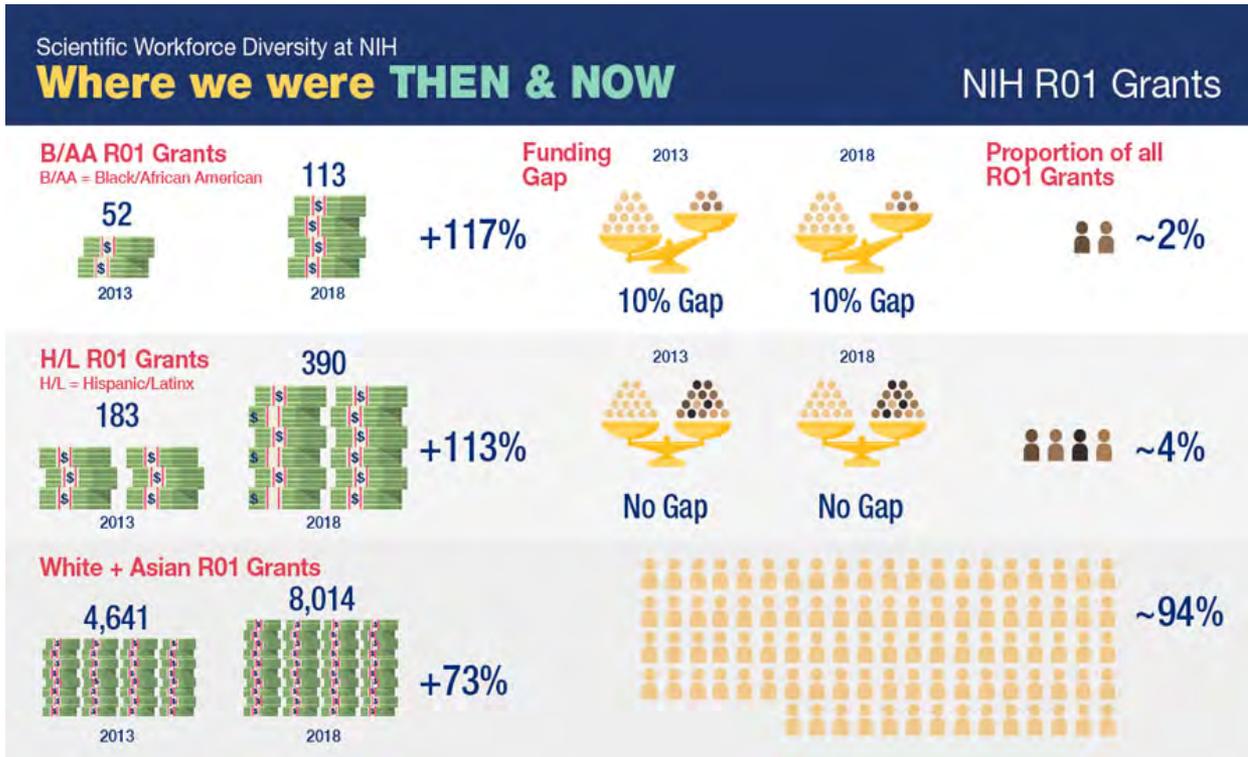


- 34,218 white applicants vs. 948 AA/Black applicants
- 24.2% of apps from Black investigators are funded if discussed vs. 30.8% from white investigators
- 10.7% of apps from Black investigators are funded vs. 17.7% of apps from white investigators
- 2.0x disparity across the application and review process

Source: Hoppe, T. A., Litovitz, A., Willis, K. A., Meseroll, R. A., Perkins, M. J., Hutchins, B. I., ... & Santangelo, G. M. (2019). Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. *Science advances*, 5(10), eaaw7238.

# Racial disparities in NIH funding

## NIH R01 Grants funding by race 2013 versus 2018



- Black investigators receive 2% of R01 Grants compared to 94% of white and Asian investigators
- In 2018, Black investigators received 113 R01 Grants compared to 8,014 received by white and Asian investigators

Source: NIH Scientific Workforce Diversity Actions and Progress: Narrowing the Funding Gap. (n.d.). National Institutes of Health. Retrieved from: [https://diversity.nih.gov/sites/coswd/files/images/docs/SWD\\_Progress\\_2020\\_Infographic\\_Final.pdf](https://diversity.nih.gov/sites/coswd/files/images/docs/SWD_Progress_2020_Infographic_Final.pdf)

# Recommendations to address funding gap

- Develop and implement mentoring programs that provide all new and early stage investigators with quality guidance on navigating the NIH system.
- Targeted funding opportunities to enhance postdoctoral career transitions to promote faculty diversity in the biomedical research workforce.
- NIH institutes and centers to establish a policy that directs discretionary funding to meritorious applications on topics that are underappreciated by review but align well with their strategic priorities.

# Addressing Intersectionality

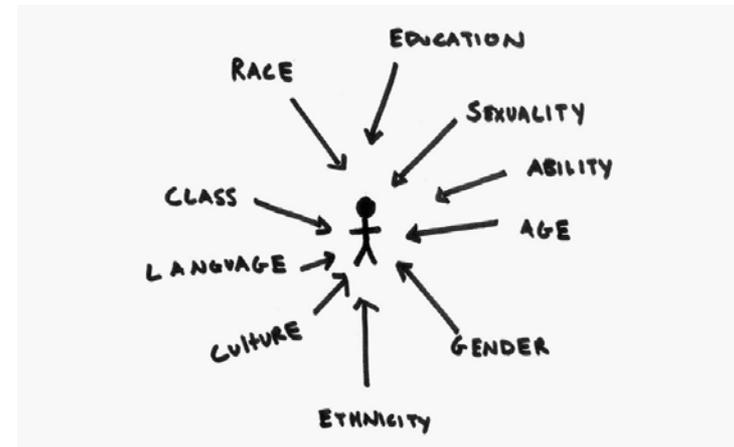
## Recommendations for healthcare providers

- Improve cross-cultural **patient-provider communication**
  - Provider communication training programs that emphasize understanding and addressing needs and complexities of a diverse patient population
- Increase number of minority physicians in the workforce
- **Reforms to postpartum care** - more than half of PREVENTABLE maternal deaths occur in the postpartum period
  - Implement maternal safety bundles!
- **Cultural humility is necessary for equitable delivery of health care:**
  - On-going process of self-awareness and self-reflection in order to understand one's assumptions, biases, and values
  - Increases understanding of other's experiences necessary for improved provision of care



# 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
    - Develop trust in the health care system
    - 22% of Black women report discrimination when going to the doctor or clinic (2017).



# 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](http://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/](http://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/](http://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](http://www.washingtonexaminer.com/77-black-births-to-single-moms-49-for-hispanic-immigrants).

Bowleg, L. (2012). The problem with the phrase women and minorities: intersectionality—an important theoretical framework for public health. *American journal of public health*, 102(7), 1267-1273.

Gruber, Kenneth J, et al. “Impact of Doulas on Healthy Birth Outcomes.” *The Journal of Perinatal Education*, Springer Publishing Company, 2013, [www.ncbi.nlm.nih.gov/pmc/articles/PMC3647727/](http://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/](http://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](http://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](http://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/](http://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/](http://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/](http://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](http://www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet.pdf).

## References cont.

- 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., Shilkret, 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.
- DiAngelo, R. J. (2018). *White fragility : why it's so hard for white people to talk about racism*. Boston: Beacon Press.
- 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.
- Martin, N. (2017, December). Nothing Protects Black Women From Dying in Pregnancy and Childbirth. Retrieved from <https://www.propublica.org/article/nothing-protects-black-women-from-dying-in-pregnancy-and-childbirth>
- McIntosh, P. (1988). White privilege: Unpacking the invisible knapsack.
- 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/](https://www.hsph.harvard.edu/magazine/magazine_article/america-is-failing-its-black-mothers/)
- The Aspen Institute. (n.d.). *Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis*.
- UNICEF. (2019). Trends in maternal mortality 2000 to 2017.

# Questions?

*Thank you!*



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