



01 **US Maternal Mortality**



**Defining Maternal Mortality**

WHO: Deaths from any pregnancy related cause during pregnancy or 42 days after the end of pregnancy

CDC: Death during pregnancy or within 1 year related to pregnancy or due to an underlying condition aggravated by pregnancy

2019	754 deaths	20.1/100,000 live births
2020	861 Deaths	23.8/100,000 live births
2021	1,205 deaths	32.9/100,000 live births

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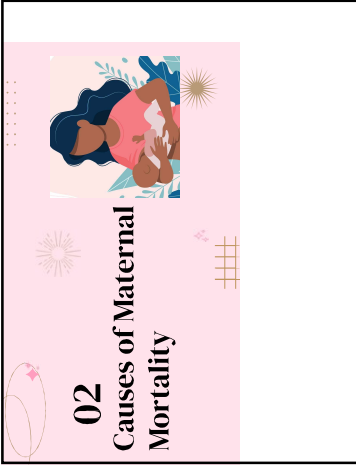
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# 02 Causes of Maternal Mortality



## Healthy People 2030 Goal

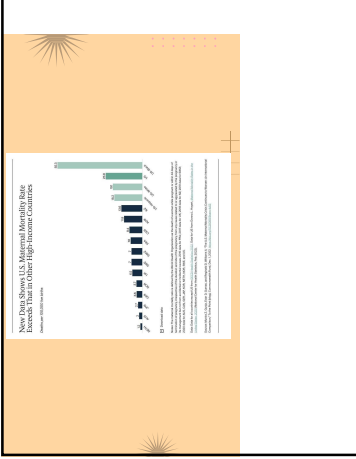
**Status:** Getting worse   
 Last updated: 12/01/2023, 01:00:00 AM

**Healthy People Data:** **32.9** maternal deaths per 100,000 live births (2021)   
**Target:** **15.7** per 100,000   
**Quality Objective:** **Decrease** maternal deaths

**Baseline:** **17.4** maternal deaths per 100,000 live births (occurred in 2018)

National Maternal Deaths - (NCHS) OH: Healthy People 2030.   
 This chart displays the performance of the United States in meeting objectives, progress, and quality of the national maternal deaths.   
 The chart is based on data from the National Center for Health Statistics (NCHS).

## New York State's 15 Maternal Mortality Rates Are Better Than in Other High-Income Countries



Source: Healthy People 2030.

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**Increasing Maternal Age**

- Increasing age of first pregnancy
  - 25.6y/o in 2011 to 27.3 in 2021

**Maternal Mortality by Age**

- 35-39y/o: 3x higher
- 40-44y/o: 4x higher
- 45-54y/o: 11x higher

Amniotic Fluid Embolism 6.1%	Anesthesia Complications 0.2%	Cardiovascular Accidents 5.8%	Cardiovascular Health Conditions 11.1%
			7.0% Unknown

Cardiovascular conditions 14.5%	Infection or Sepsis 14.3%
Cardiomyopathy 12.1%	Hemorrhage 12.1%
Thrombotic Embolism 10.5%	Hypertensive Disorders of Pregnancy 6.3%

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CDC Maternal Mortality Review Committee



**84.2%**  
Preventable

**15.8%**  
Not Preventable

**Mental Health and Maternal Mortality**  
CDC Maternal Mortality Review Committee

**Causes of Pregnancy Related Deaths**

- Mental Health Conditions 22.7%
- Black Women - Cardiac Conditions and Cardiomyopathy
- Asian Women - Hemorrhage and Cardiac Conditions

**Increasing Obesity Rates**

- Prepregnancy Obesity is increasing
  - 26.1% in 2016 → 29.0% in 2019
  - 26.6% of non-Hispanic White Women
  - 39.1% of non-Hispanic Black Women
  - 32.4% of Hispanic Women

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**03**  
**Racial**  
**Disparities**

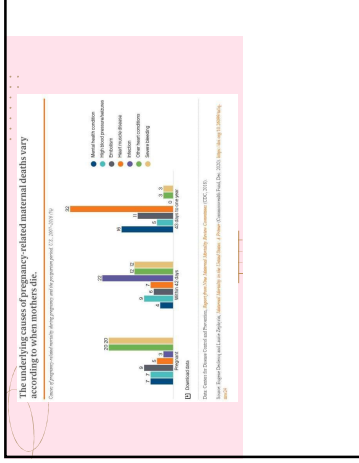


**Intimate Partner**  
**Violence**

54.3% of suicides and 45.3% of pregnancy associated homicides involved IPV

Black women accounted for 17.7% of births but 44.6% of pregnancy associated homicides

The leading causes of pregnancy-related maternal deaths vary according to when mothers die.



Source: Pregnancy-related Deaths by Trimester and Underlying Cause, U.S., 2007-2019

Trimester	Cardiovascular disease	Stroke	Severe hemorrhage	Infection	Obstetric hemorrhage	Other
1st Trimester	1.2%	0.2%	0.2%	0.1%	0.1%	8.2%
2nd Trimester	0.6%	0.2%	0.4%	0.1%	0.1%	1.6%
3rd Trimester	0.2%	0.1%	0.1%	0.1%	0.1%	0.6%

Source: Centers for Disease Control and Prevention, Reproductive Health Statistics Branch, Behavioral Risk Factor Surveillance System, CDC, 2021.  
Note: All figures include both live births and stillbirths. Percentages may not equal 100% due to rounding.

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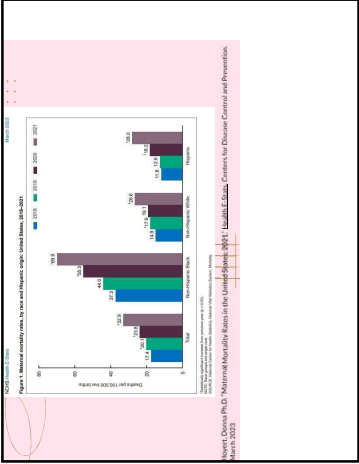
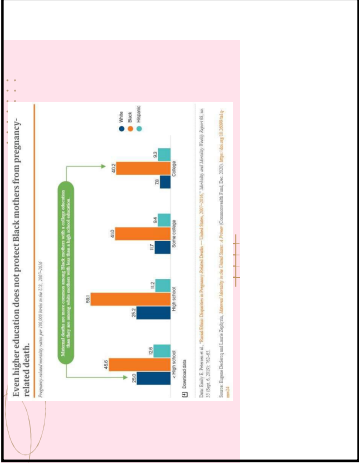
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### US Racial Disparities

- Black Women**  
3x as likely to die
- Indigenous Women**  
2x as likely to die

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**04**  
**Path to Improvement**

**Weathering Hypothesis**

- Dr. Arline Geronimus 1992
  - Accumulated socioeconomic disadvantage and political marginalization
  - Structural environmental and social stressors

Racial disparities persist even without underlying health conditions such as hypertension, diabetes, cardiovascular disease and obesity.

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**NIH IMPROVE Initiative**

- Reduce Preventable Maternal Mortality
- Decrease Severe Maternal Morbidity
- Promote Health Equity

**Prepregnancy Care**

- Control Health Conditions
- Contraception Care
- Screen for Substance Use
- EKGs when Appropriate
- Discuss Childbearing Age
- Stabilize Mental Health Conditions

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**Reducing Bias**

Peer Review and M&M Discussions	Centering Pregnancy Groups	Protocols, Drills and Simulations	Diversifying the Workforce
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**Standardized Screening for IPV**

Reduced risk of recurrent IPV, especially amongst pregnant and postpartum black women

**Obesity Management**

- Newer medications do not yet have data on pregnancy outcomes
- Fertility is generally increased during weight loss
- Encourage contraception use!!!

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**Thank You**

Do you have any questions?  
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CREDIT: This presentation and associated materials are made possible by the generous support of the National Institutes of Health.

**Postpartum Care**

- 2020 Study of Medicaid patients
  - 38% had no preventive care visits at 1 year
  - Attended numerous pediatric visits
- Tan et al: Follow up care in NICUs

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