

# National Vital Statistics System Maternal Mortality

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Infant and Maternal Mortality

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# Maternal Mortality Data from NCHS

- NCHS uses WHO definition of maternal death: death of a woman while pregnant or within 42 days of the end of the pregnancy from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes
- NCHS uses ICD-10 codes to classify cause of a maternal death
- Maternal mortality rates are calculated as the number of maternal deaths per 100,000 live births
- Information comes from death certificates completed by physicians and reported to the states

# Maternal Mortality Data from NCHS

- Statistics go back to the early 1900's but a 2003 national consensus process recommended that all states add a standardized “checkbox” to improve the identification of maternal deaths
- NCHS paused publication of national rates until 2018 after all states had added the checkbox and some modifications were made to mitigate likely reporting errors
- Efforts to improve quality continue

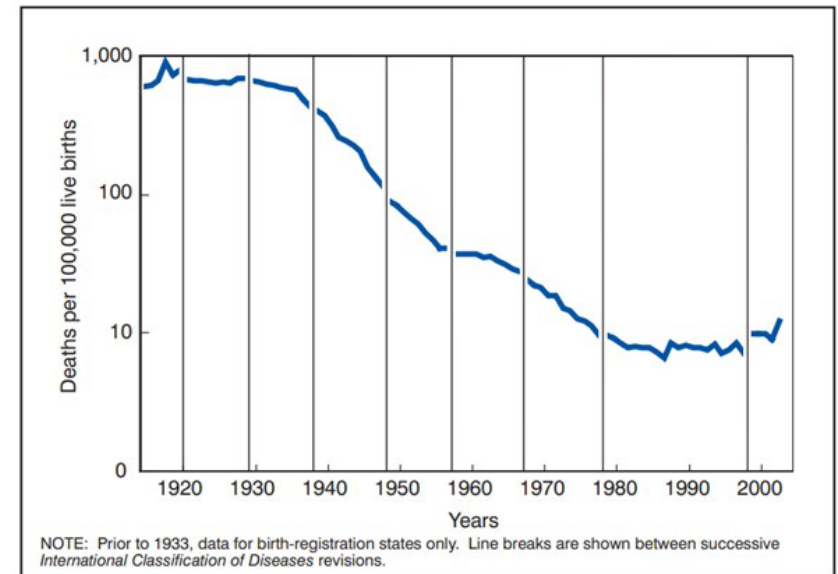


Figure 1. Maternal mortality rates, United States, 1915–2003

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## Maternal Mortality Rates in the United States, 2021

by Donna L. Hoyert, Ph.D., Division of Vital Statistics

This report presents maternal mortality rates for 2021 based on data from the National Vital Statistics System. A maternal death is defined by the World Health Organization as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (1).” Maternal mortality rates, which are the number of maternal deaths per 100,000 live births, are shown in this report by age group and race and Hispanic origin.

This report updates a previous one that showed maternal mortality rates for 2018–2020 (2). In 2021, 1,205 women died of maternal causes in the United States compared with 861 in 2020 and 754 in 2019 (2). The maternal mortality rate for 2021 was 32.9 deaths per 100,000 live births, compared with a rate of 23.8 in 2020 and 20.1 in 2019 (Table).

In 2021, the maternal mortality rate for non-Hispanic Black (subsequently, Black) women was 69.9 deaths per 100,000 live births, 2.6 times the rate for non-Hispanic White (subsequently, White) women (26.6) (Figure 1 and Table). Rates for Black women were significantly higher than rates for White and Hispanic women. The increases from 2020 to 2021 for all race and Hispanic-origin groups were significant.

Rates increased with maternal age. Rates in 2021 were 20.4 deaths per 100,000 live births for women under age 25, 31.3 for those aged 25–39, and 138.5 for those aged 40 and over (Figure 2 and Table). The rate for women aged 40 and over was 6.8 times higher than the rate for women under age 25. Differences in the rates between age groups were statistically significant. The increases in the rates between 2020 and 2021 for each of these age groups were statistically significant.

### Data source and methods

Data are from the National Vital Statistics System mortality file (3). Consistent with previous reports, the number of maternal deaths does not include all deaths occurring to pregnant or recently pregnant women, but only deaths with the underlying cause of death assigned to *International Statistical Classification of Diseases, 10th Revision* code numbers A34, O00–O95, and O98–O99. Maternal mortality rates are per 100,000 live births, based on data

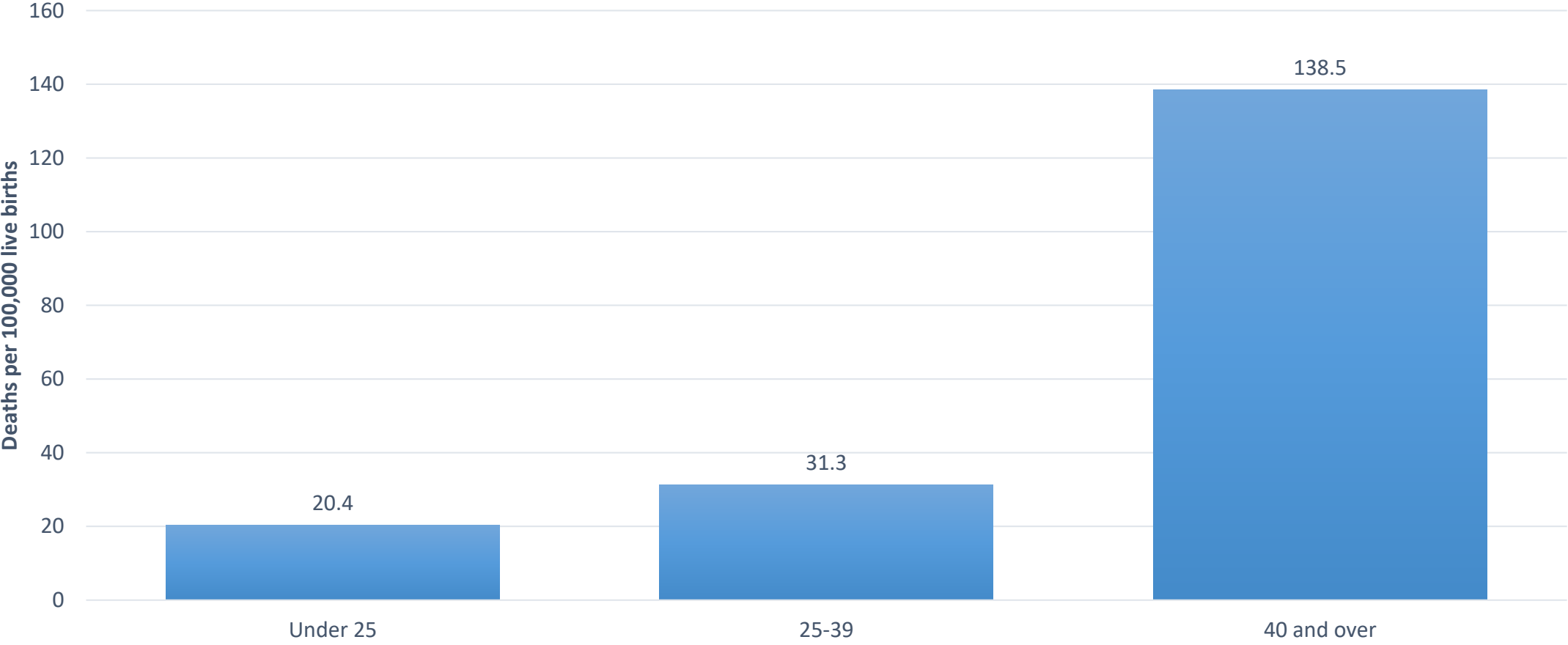
<https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.htm>



Centers for Disease  
Control and Prevention  
National Center for  
Health Statistics

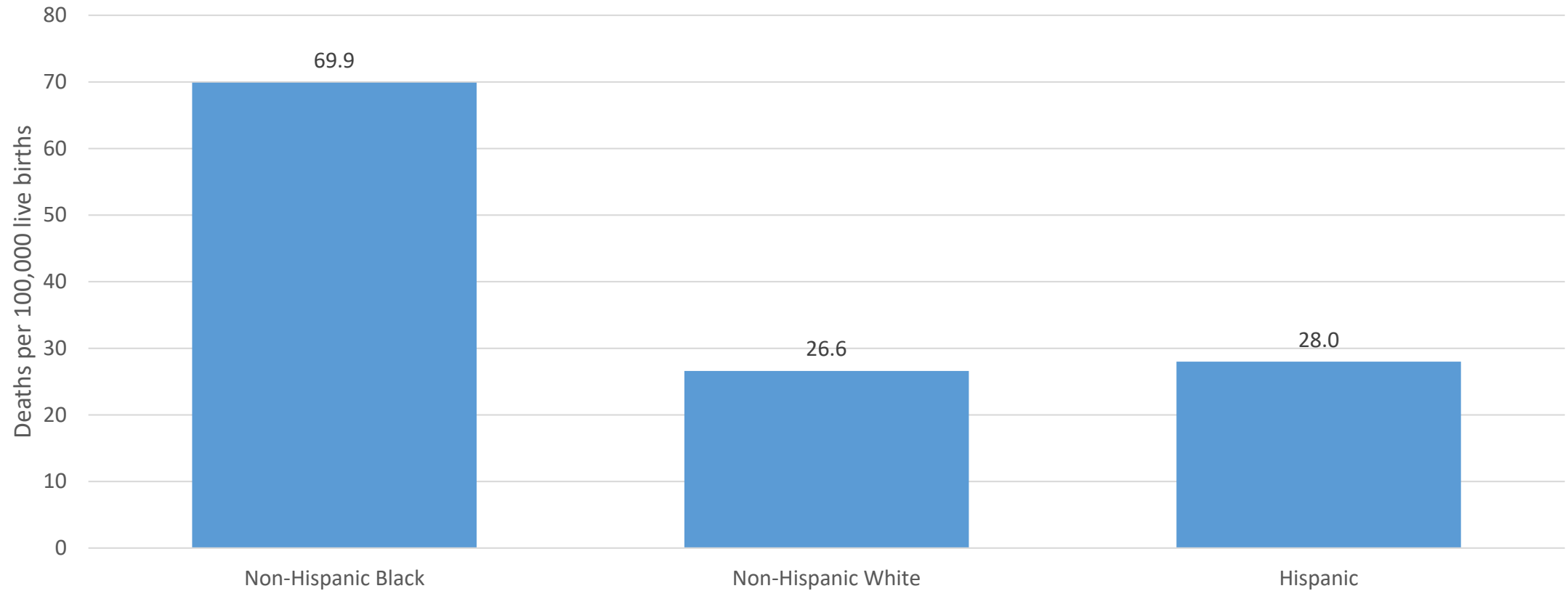
NCHS reports can be downloaded from:  
<https://www.cdc.gov/nchs/products/index.htm>.

# Maternal mortality rates, by age: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

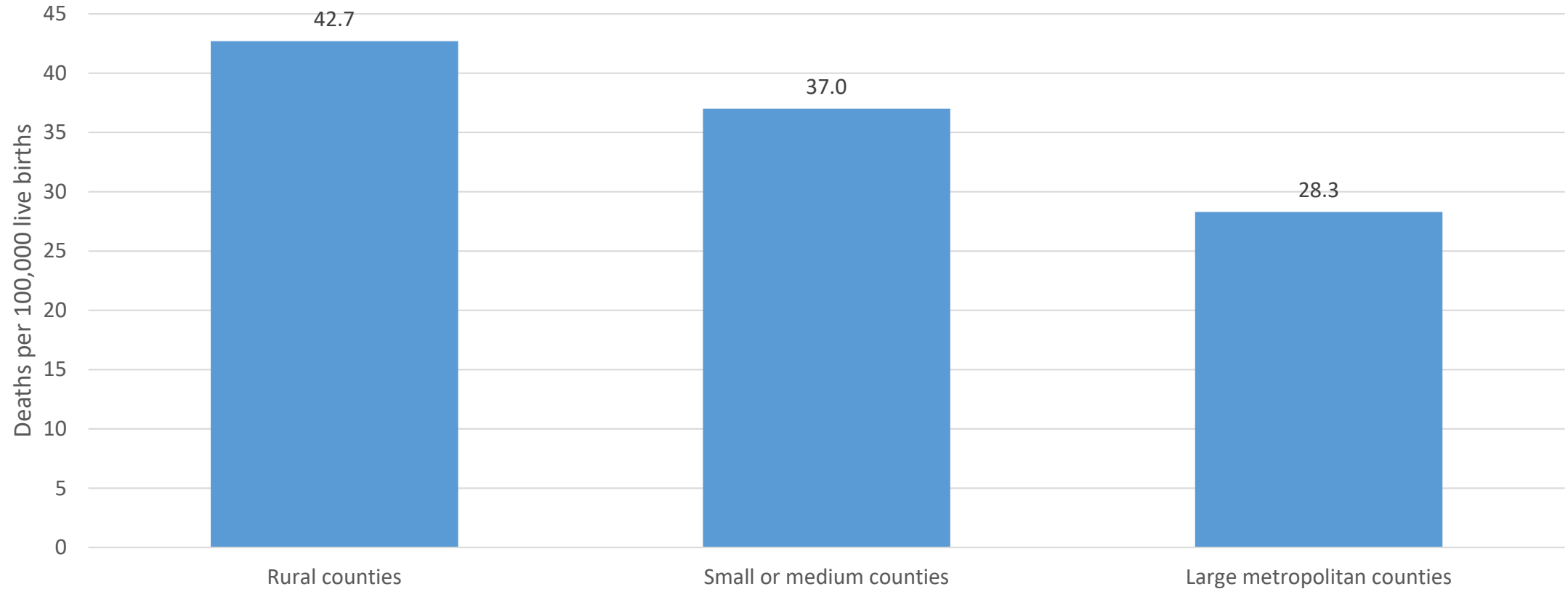
# Maternal mortality rates, by race and Hispanic origin: United States, 2021



NOTE: Race groups are single race.

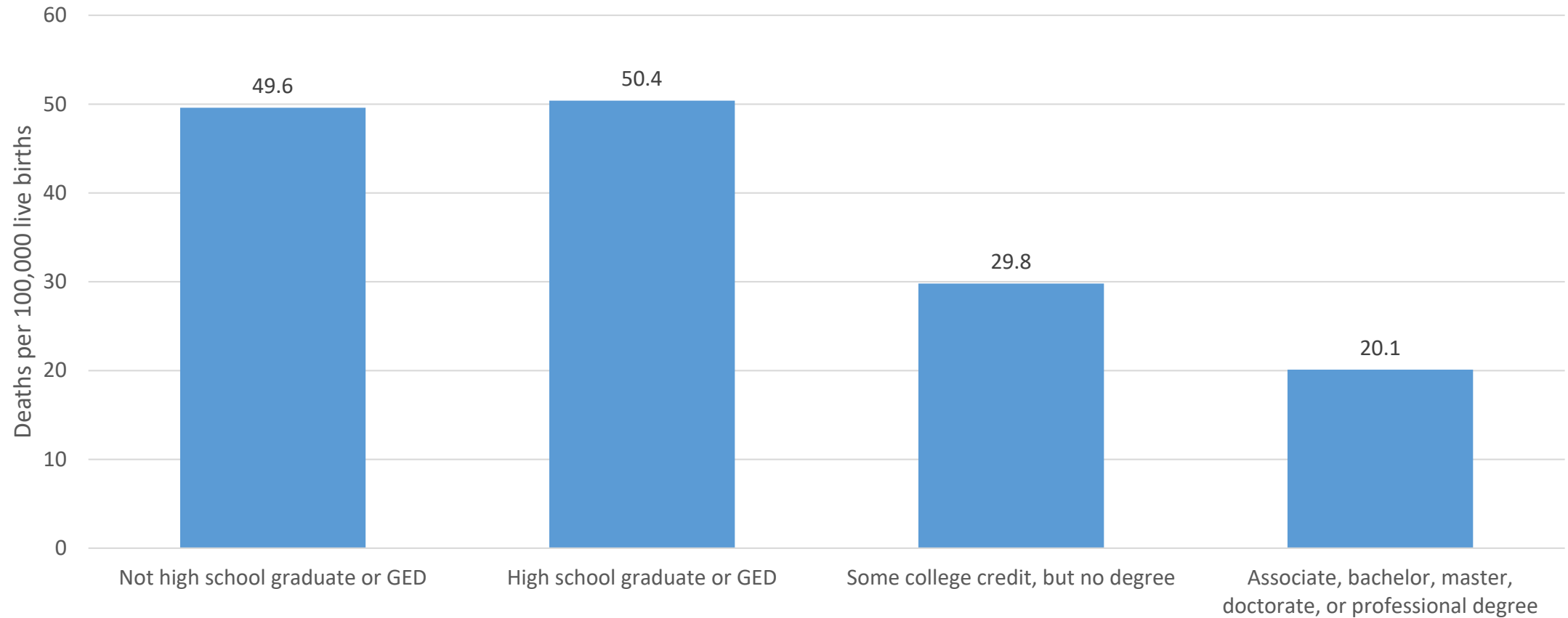
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

# Maternal mortality rates, by urbanization level: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

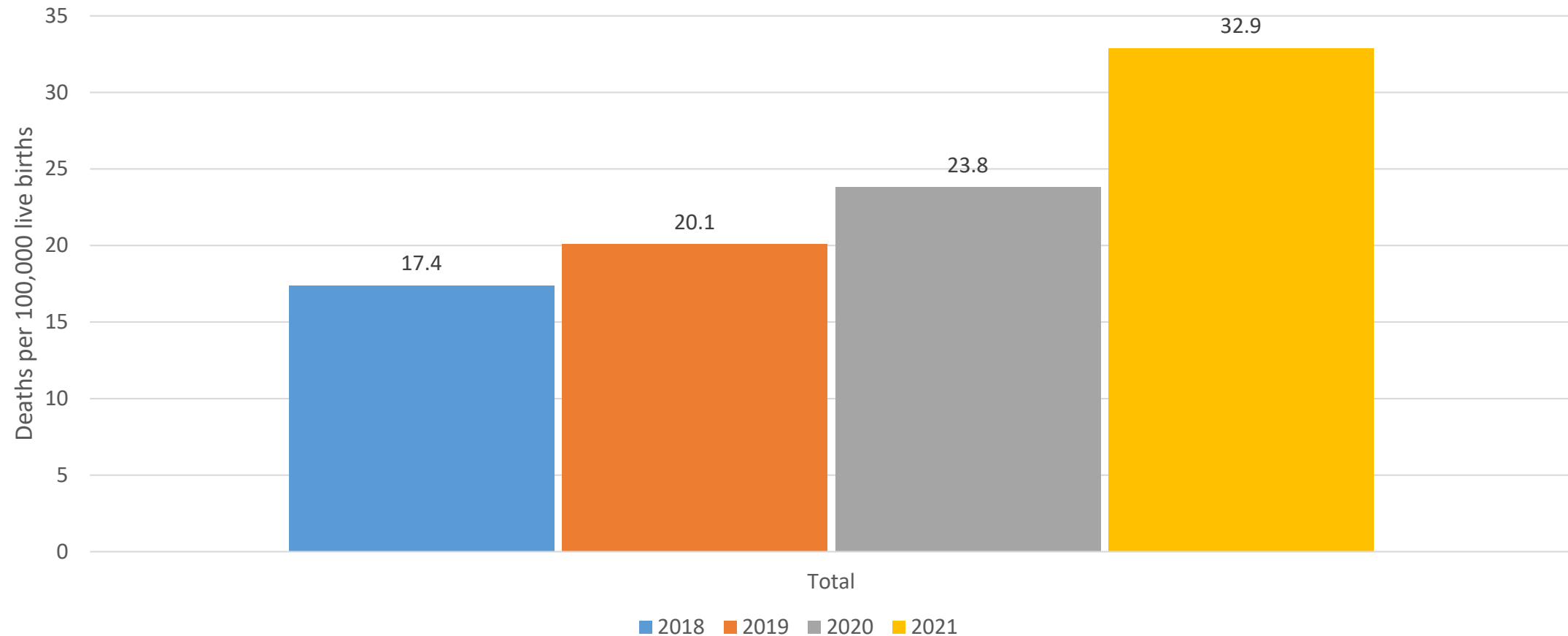
# Maternal mortality rates, by education level: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.



# Maternal mortality rates: United States, 2018-2021



<sup>1</sup>Statistically significant increase in rate from previous year ( $p < 0.05$ ).

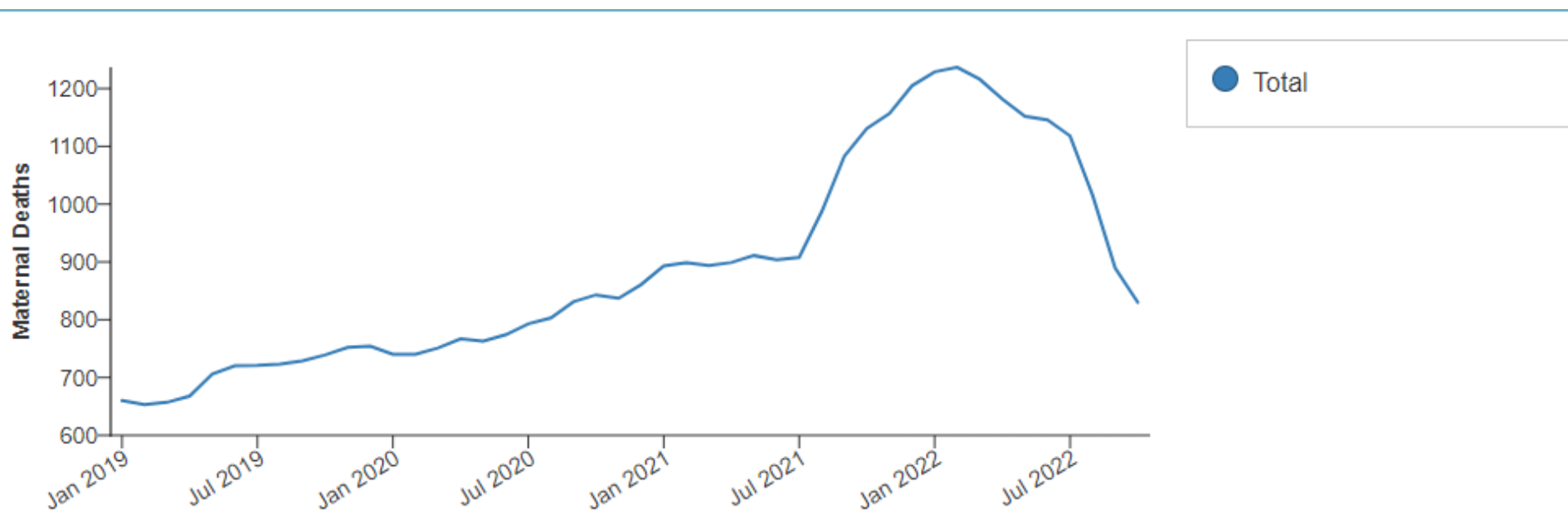
SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

# Maternal mortality data through October 2022, provisional data

Provisional Maternal Death Counts, 12-month period ending October 2022

Based on data available for analysis on: February 5, 2023

**Figure 1: 12-month ending provisional maternal death counts: United States**



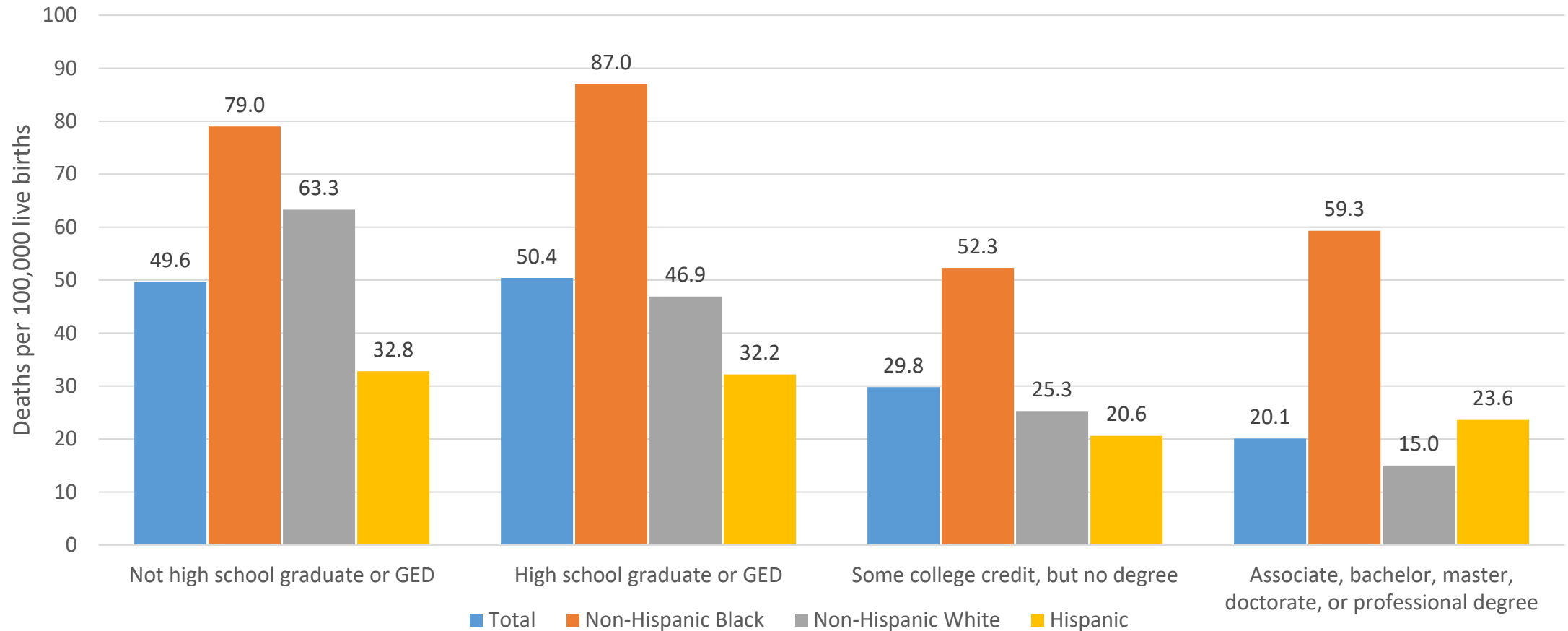
# COVID-19 and Maternal Mortality

- COVID-19 was reported on maternal records
- Patterns reflect what was happening in the broader population
- Disparities during the pandemic

# Conclusions

- NCHS restarted release of maternal mortality statistics with 2018 data
- Long-observed differentials still evident
- Trend has been increasing but in the time of the COVID-19 pandemic
- Provisional data suggest maternal mortality rates will return to pre-pandemic levels in 2022

# Maternal mortality rates, by education level, race, and Hispanic origin: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

A Reference Guide for Certification of Deaths Associated With Pregnancy  
on Death Certificates

[Vital Statistics Reference Guidance Number 04, March, 2022 \(cdc.gov\)](#)