

Maternal and infant characteristics among mothers with presumed or confirmed COVID-19 during pregnancy

Michelle Osterman

Acknowledgements:

Claudia Valenzuela and Joyce Martin

Birth Team, Reproductive Statistics Branch, Division of Vital Statistics

National Center for Health Statistics

History/Purpose

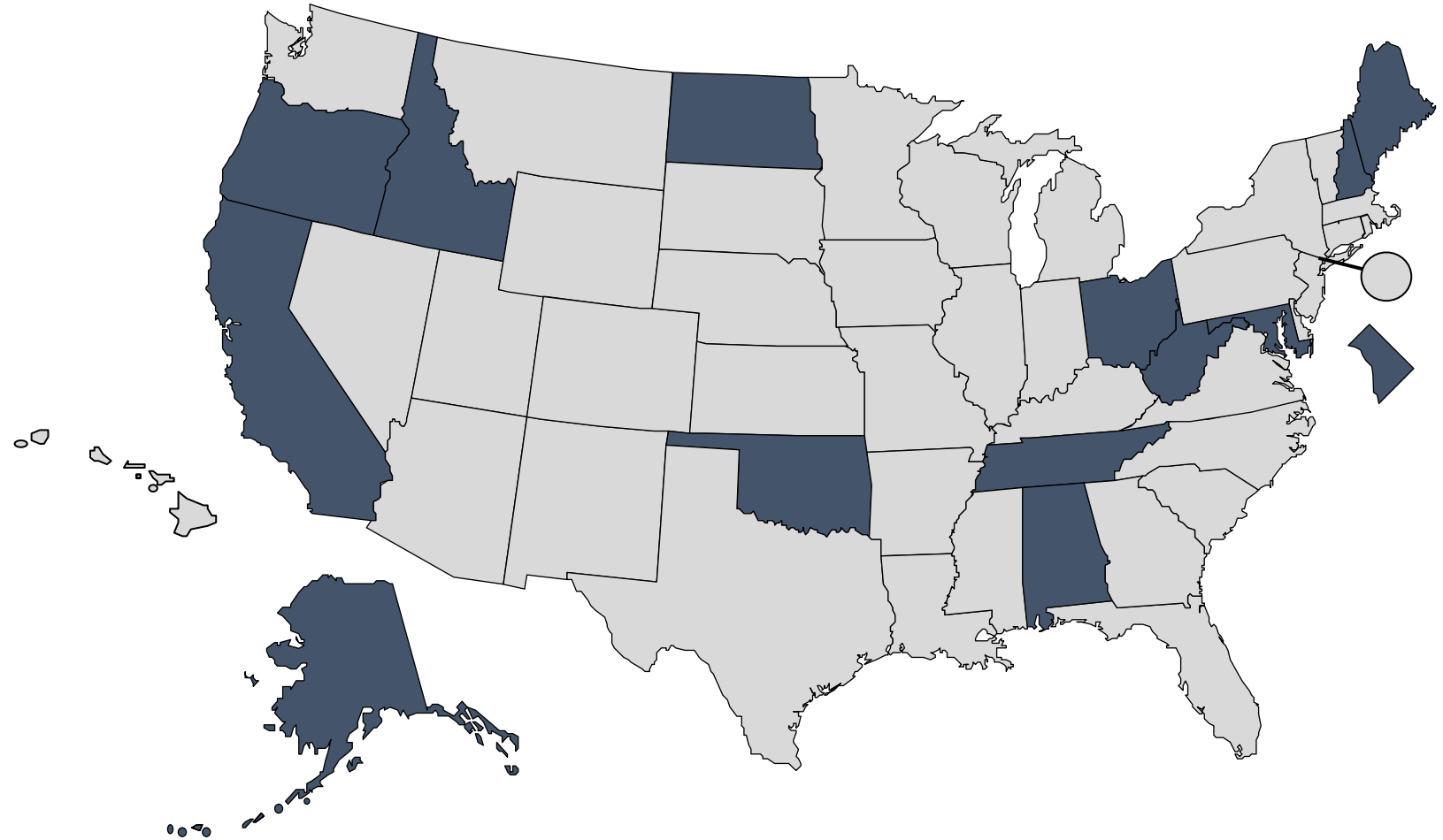
- In March, NCHS's Division of Vital Statistics, Reproductive Statistics Branch began efforts to encourage states to collect maternal COVID-19 status via the vital statistics system
- Worked through the national Birth Data Quality Workgroup to encourage collection, and to develop standards and processes for reporting
- Some jurisdictions had the flexibility to modify electronic birth certificate reporting systems and add a maternal COVID-19 item
- Others were able to link COVID-19 status information from infectious disease surveillance systems to birth certificates, or to collect data through the use of supplementary forms
- Goal: Assess impact of COVID-19 on pregnancy, childbirth, and newborns on an ongoing basis

Methods

- Variable reporting area for April–October. Earliest reporting for participating states began in April, and start dates vary from April-June with full reporting through October
- Data for all 15 jurisdictions from June 19 - October
- States differed in how information on COVID-19 status was obtained
- Some states report both presumed and confirmed COVID-19; others report confirmed cases only

Reporting jurisdictions (April-October)

- Alabama
- Alaska
- Arkansas
- California
- District of Columbia
- Idaho
- Maine
- Maryland
- New Hampshire
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Tennessee
- West Virginia



Birth COVID-19 Release Webpage

- <https://www.cdc.gov/nchs/covid19/technical-linkage.htm>
- 2nd release January 12, 2021

The screenshot shows the National Center for Health Statistics (NCHS) website. The header is blue with the text 'National Center for Health Statistics'. Below the header is a breadcrumb trail: 'CDC > NCHS > COVID-19 Data from NCHS > COVID-19 Birth Data and Resources'. There are social media icons for Facebook, Twitter, LinkedIn, and RSS. The main content area has a left sidebar with a navigation menu. The main title is 'Maternal and Infant Characteristics Among Women with Confirmed or Presumed Cases of Coronavirus Disease (COVID-19) During Pregnancy'. Below the title is a paragraph of text: 'Limited information is available on the impact of the COVID-19 pandemic on pregnant women and their newborns. While national data are not available as of October 2020, 14 states vital records offices and the District of Columbia were routinely collecting information on confirmed or presumed COVID-19 cases among'.

National Center for Health Statistics

CDC > NCHS > COVID-19 Data from NCHS > COVID-19 Birth Data and Resources

COVID-19 Data from NCHS

COVID-19 Death Data and Resources +

Reporting and Coding Deaths Due to COVID-19

COVID-19 Birth Data and Resources -

Provisional

Maternal and Infant Characteristics Among Women with Confirmed or Presumed Cases of Coronavirus Disease (COVID-19) During Pregnancy

Limited information is available on the impact of the COVID-19 pandemic on pregnant women and their newborns. While national data are not available as of October 2020, 14 states vital records offices and the District of Columbia were routinely collecting information on confirmed or presumed COVID-19 cases among

Methods

- The web release presents data for a select area on characteristics of women with COVID-19 at any time during pregnancy, and their newborns.
- Characteristics presented are: maternal race and Hispanic origin, age, educational attainment, source of payment-Medicaid, ICU admission, preterm delivery, low birthweight, NICU admission, and infant living.
- Data are based on cases of COVID-19 reported to NCHS and linked to the standard birth record, allowing for an analysis of birth-related data by maternal COVID-19 status.

Table 1. Presumed or confirmed cases of maternal COVID-19 during pregnancy, by selected maternal and infant characteristics and by race and Hispanic origin of the mother: 14 states and the District of Columbia, April-October, 2020

[Data table](#)  [XLS - 28 KB]

Maternal or infant characteristic	Total ¹		Non Hispanic White ²		Non-Hispanic Black ²		Hispanic ³	
	Yes COVID-19 ⁴	No COVID-19	Yes COVID-19 ⁴	No COVID-19	Yes COVID-19 ⁴	No COVID-19	Yes COVID-19 ⁴	No COVID-19
Number								
Total	9,195	461,038	2,281	235,912	1,607	59,228	4,543	107,720
Percent distribution								
COVID-19 case percent distribution ⁵	100.0	...	25.3	...	17.8	...	50.4	...
Non-COVID-19 case percent distribution ⁵	...	100.0	...	52.1	...	13.1	...	23.8

Methods

Table I. Reporting specifications for maternal COVID-19 by state: 14 states and the District of Columbia, April–October, 2020

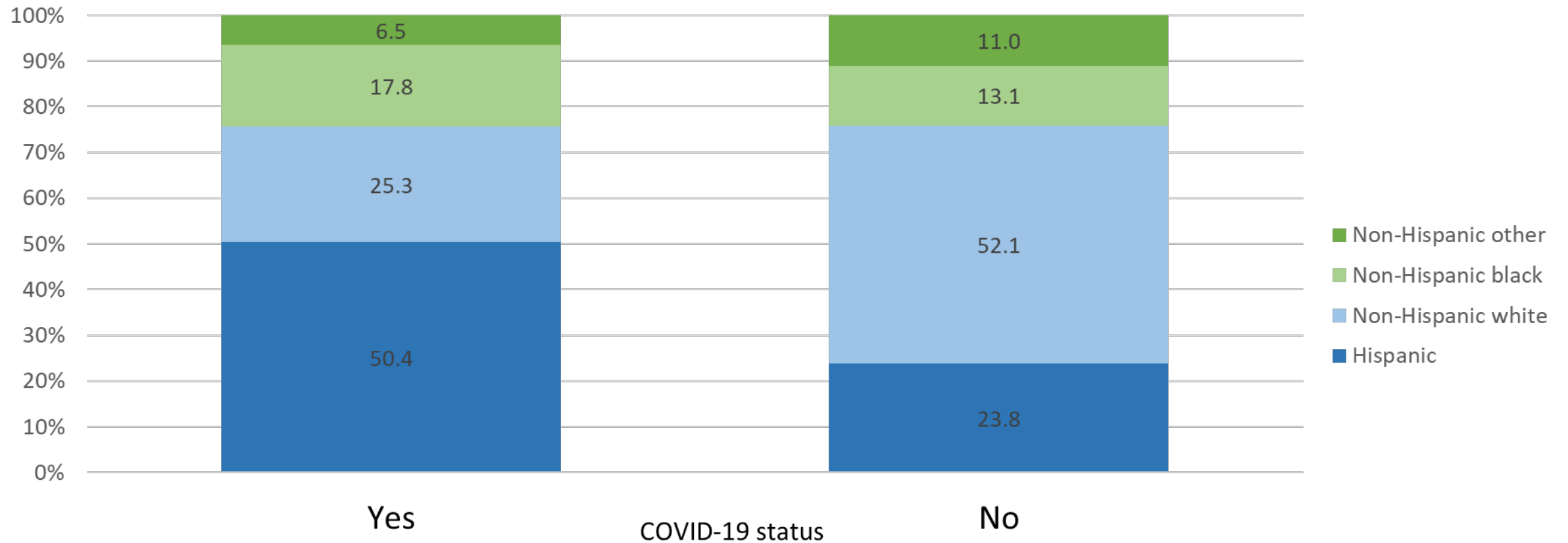
Jurisdiction	Date data collection began	Data collection method
Alabama	3/1/2020	Reports confirmed or presumed cases of maternal COVID-19 reported in the medical notes section of the electronic birth reporting system and birth database. Also matches birth file with COVID-19 positive tests from Alabama National Electronic Disease Surveillance System.
Alaska	4/16/2020	Indicates that confirmed or presumed COVID-19 was present during pregnancy in the “Other Infections of Interest” section of the birth certificate item “Infections present and/or treated during this pregnancy.”

Results

Results

- Maternal COVID-19 reporting area comprised 26.9% of all births during the reporting period
- Births to moms with presumed or confirmed COVID-19
 - N=9,195
 - 99.6% of all cases linked with full birth record
- Births to moms without COVID-19
 - N=461,038

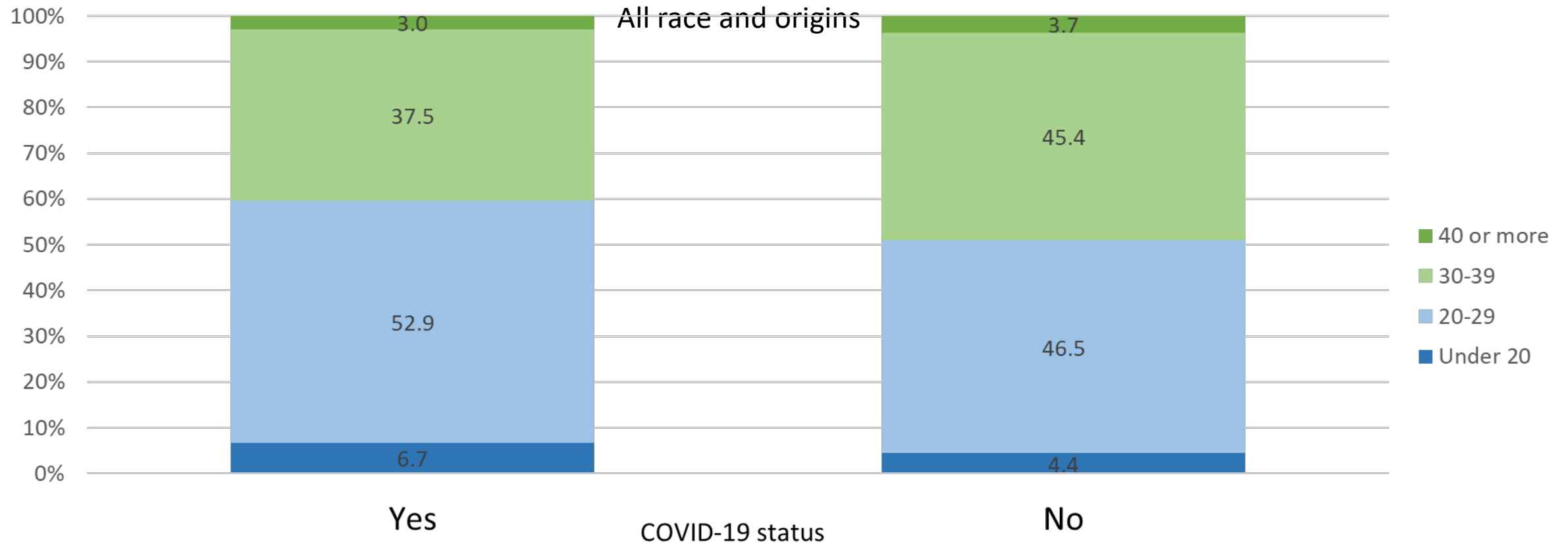
Distribution of births by maternal COVID-19 status and race and Hispanic origin: 14 states and DC, April-October 2020



NOTES: COVID-19-Yes includes presumed or confirmed cases.

Non-Hispanic other includes: non-Hispanic Asian, non-Hispanic American Indian or Alaska Native, non-Hispanic Native Hawaiian or Pacific Islander, and non-Hispanic multiple race.

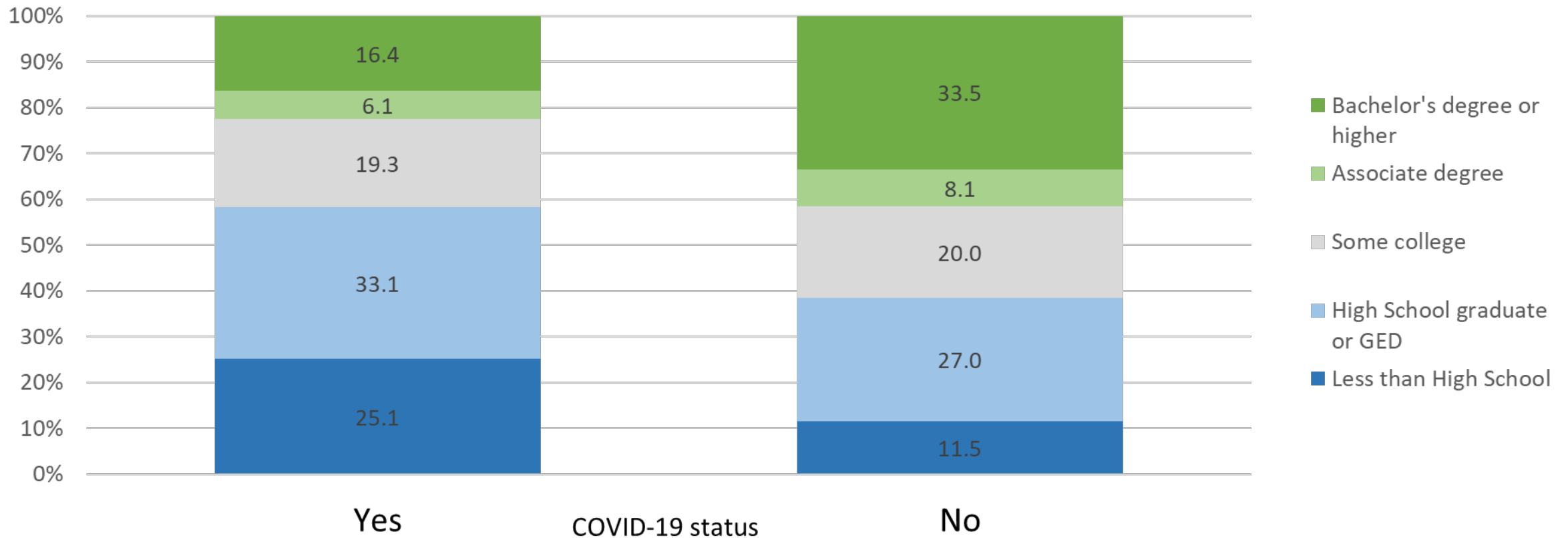
Distribution of births by maternal age and COVID-19 status: April-October 2020



NOTE: COVID-19 Yes includes presumed or confirmed cases.

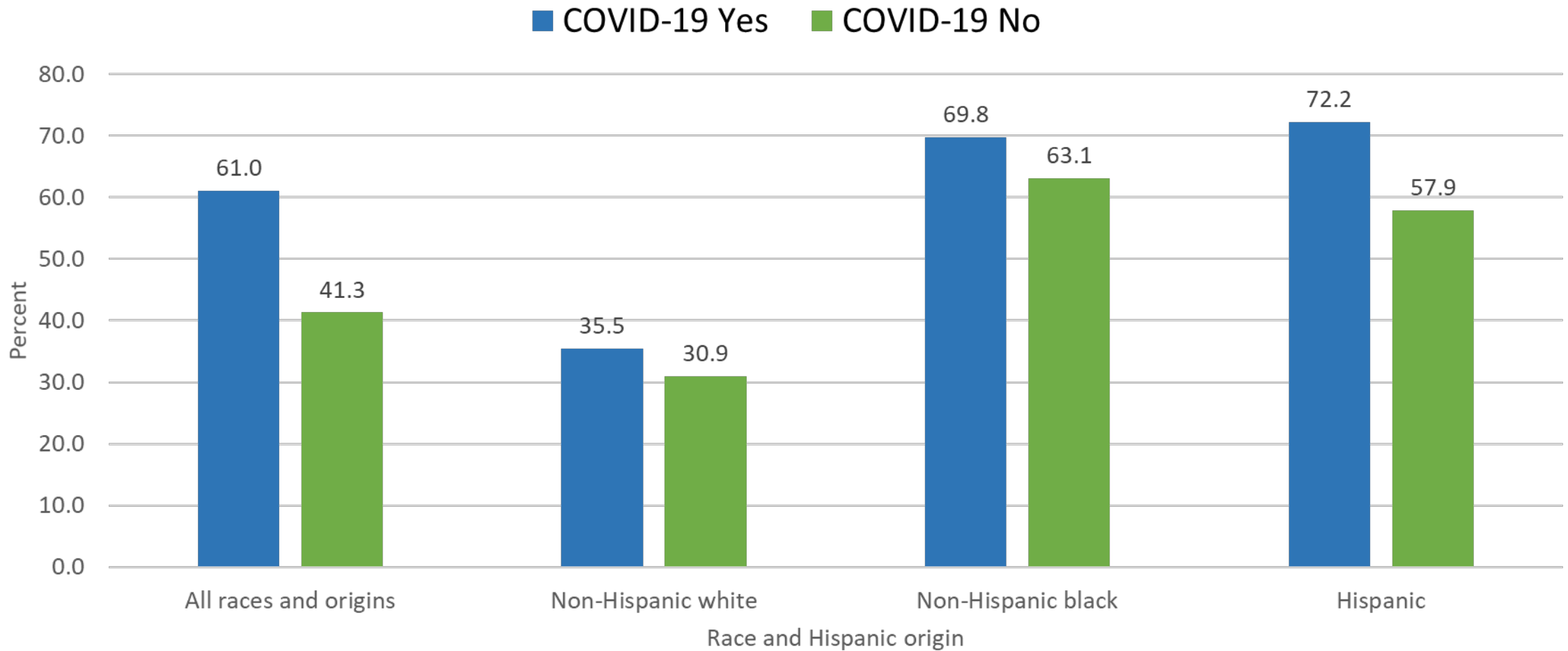
Distribution of births by maternal education and COVID-19 status: April-October 2020

All race and origins



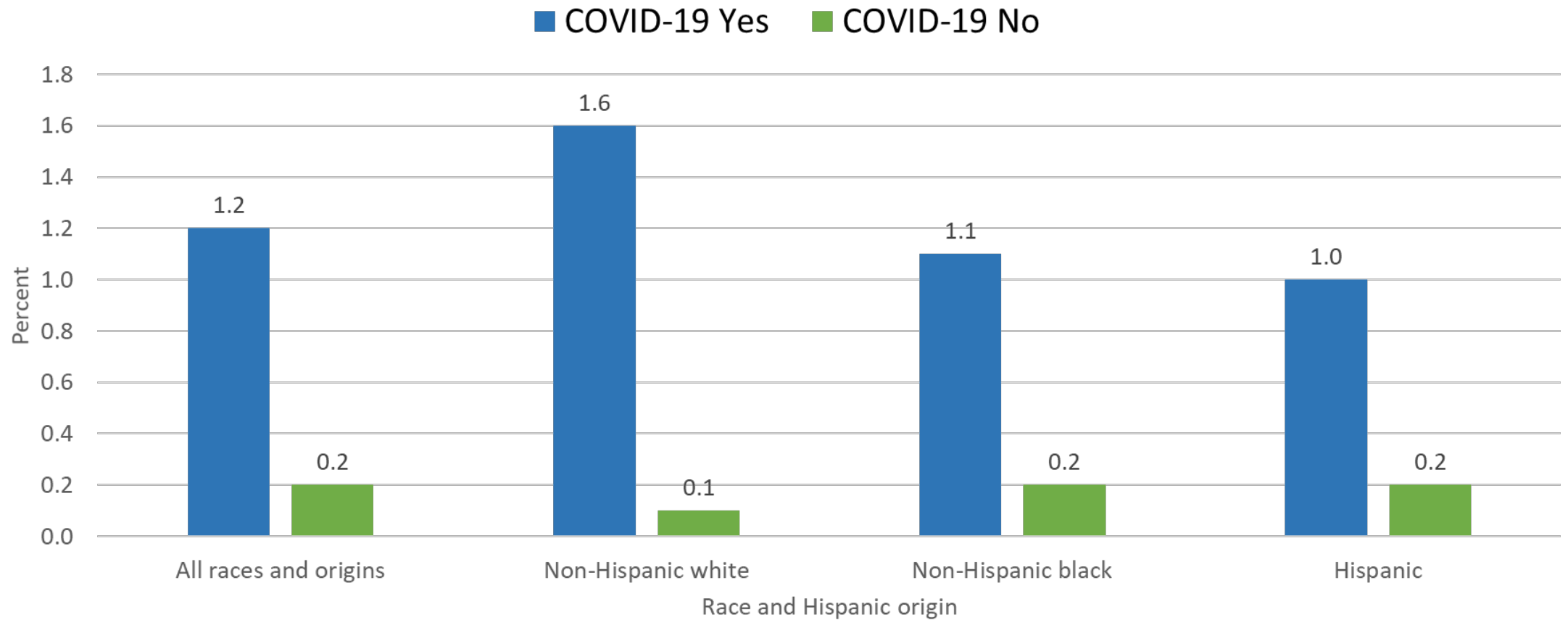
NOTE: COVID-19 Yes includes presumed or confirmed cases. Includes women who may not have had time to complete their education.

Births covered by Medicaid by COVID-19 status and race and Hispanic origin: April-October 2020



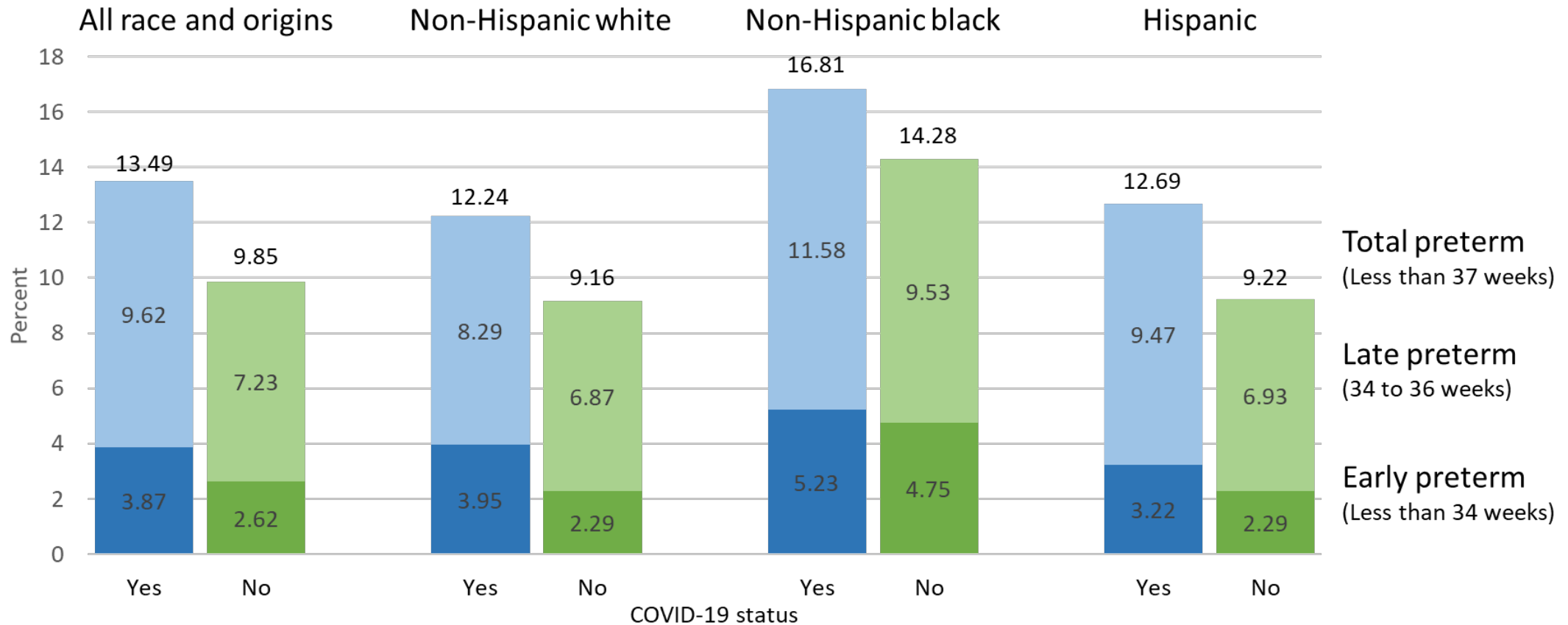
NOTE: COVID-19 Yes includes presumed or confirmed cases.

ICU admission by COVID-19 status and race and Hispanic origin: April-October 2020



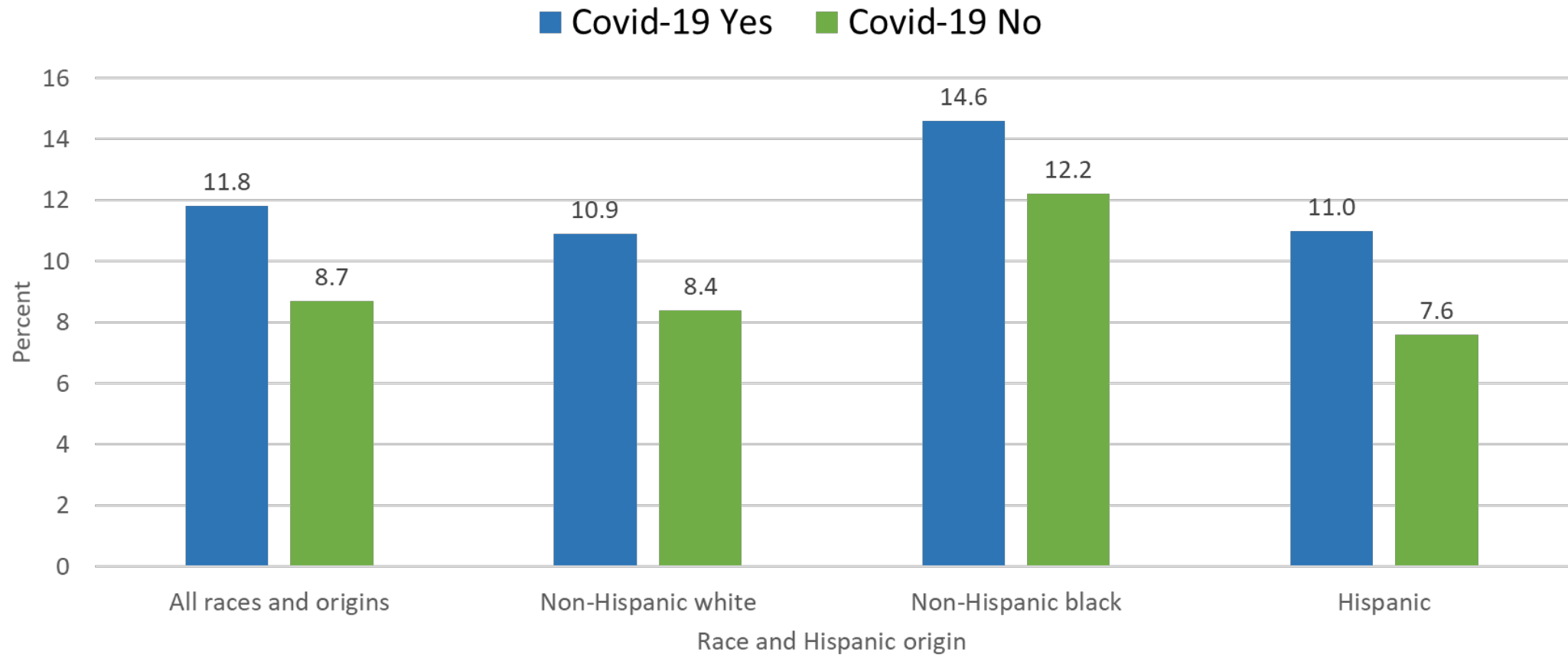
NOTE: COVID-19 Yes includes presumed or confirmed cases.

Preterm birth by COVID-19 status by race and Hispanic origin: April-October 2020



NOTE: COVID-19 Yes includes presumed or confirmed cases. Gestational age based on obstetric estimate.

NICU admission by COVID-19 status and race and Hispanic origin: April-October 2020



NOTE: COVID-19 Yes includes presumed or confirmed cases.

Limitations

- Not national data; not representative of entire U.S.; CA births over-represented
- Some reporting areas did not report COVID-19 status for entire reporting period
 - For example, California began reporting on June 10; Oklahoma on June 19.
- Different methods of reporting COVID-19 status
 - Surveillance vs. birth certificate
 - Confirmed only vs. presumed/confirmed

Next Steps

- Update the web table bi-monthly
- Add states as data become available
- Add more items (e.g., maternal obesity)
- Perform more detailed analysis