

# Maternal and Infant Characteristics Among Women with Coronavirus Disease (COVID-19) During Pregnancy for Selected Reporting Areas

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*Acknowledgments*

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# Outline

- History/purpose
- Methods
- Results

# History/Purpose

## **Question**

**What impact does having COVID-19 during pregnancy have on the mother and newborn?**

## **Goal**

**Assess impact of COVID-19 on pregnancy, childbirth, and newborns on an ongoing basis**

# History/Purpose (cont.)

- In March 2020, RSB Natality team began efforts to encourage states to collect maternal COVID-19 status
  - Urgency of pandemic did not allow for new data items to be added to the U.S. Standard Certificate of Live Birth
  - Alternative approach needed to collect COVID-19 data
- Worked through the national Birth Data Quality Workgroup to
  - Develop recommended question(s)
  - Develop alternative approaches
  - Encourage collection
  - Develop standards and processes for reporting

# Data Collection

- 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 use of supplementary forms
- All jurisdictions report maternal COVID-19 *at any time during pregnancy*

# Recommended question options

INFECTIONS PRESENT AND/OR TREATED DURING THIS PREGNANCY (Check all that apply)

- Gonorrhea
- Syphilis
- Chlamydia
- Hepatitis B
- Hepatitis C
- COVID-19 (confirmed or presumed)
- None of the above

Did the mother have confirmed or presumed COVID-19 (SARS-CoV-2) at any time during this pregnancy?

- Yes
- No

# Recommended question options (cont.)

INFECTIONS PRESENT AND/OR TREATED DURING THIS PREGNANCY (Check all that apply)

- Gonorrhea
- Syphilis
- Chlamydia
- Hepatitis B
- Hepatitis C
- COVID-19 (confirmed or presumed)
- None of the above

Did the mother have confirmed or presumed COVID-19 (SARS-CoV-2) at any time during this pregnancy?

- Yes
- No

If yes, specify the period(s) during which a confirmed or presumed diagnosis of COVID-19 was present:

- First trimester
- Second trimester
- Third trimester
- At delivery
- Time of infection unknown

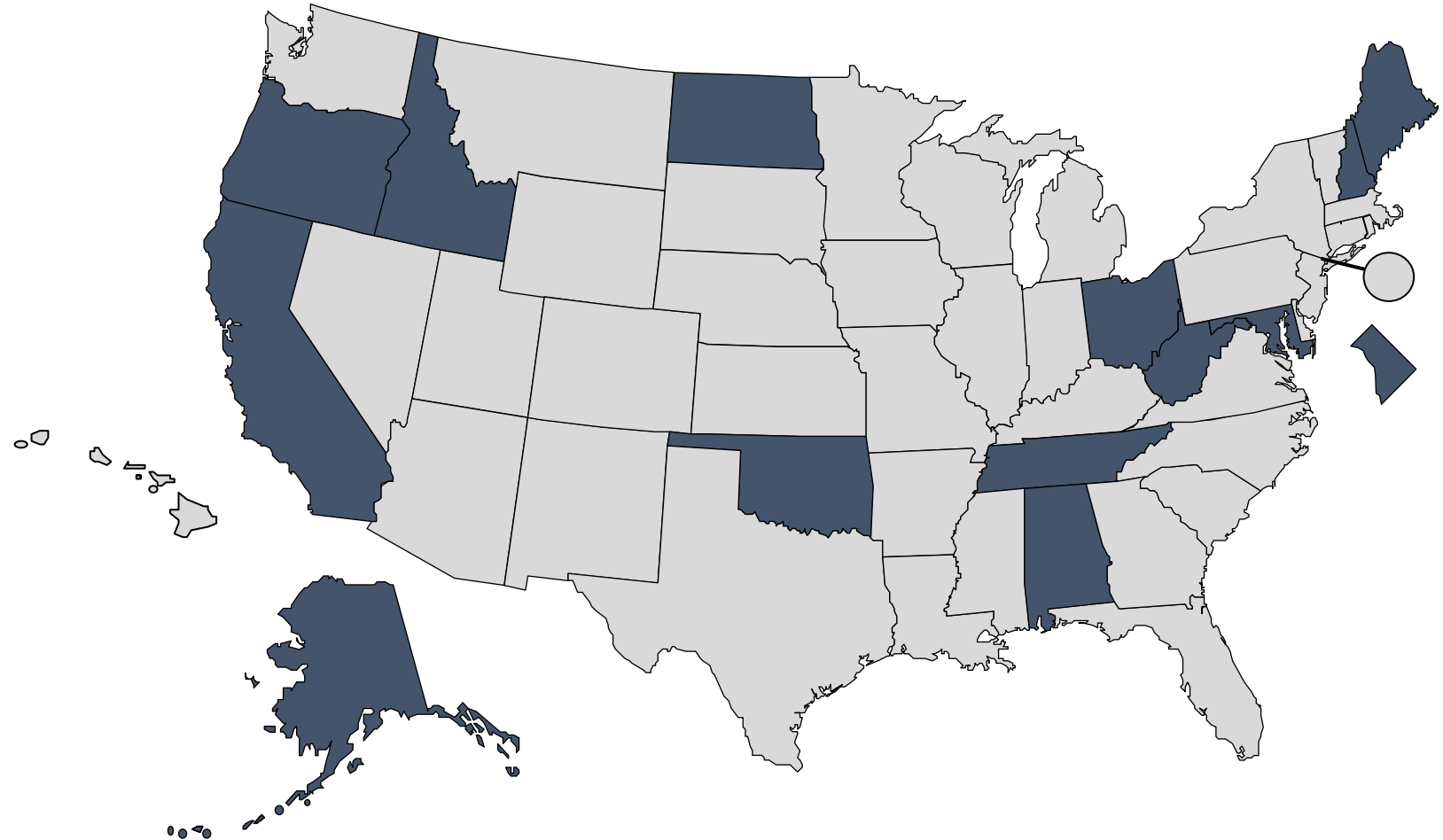
# Methods

- 15 jurisdictions are currently providing data
  - Variable reporting period; reporting start dates vary by state, ranging from March through mid-June
  - Data for all 15 jurisdictions from June 19, 2020 – February 2021
  - Jurisdictions differ in how information on COVID-19 status was obtained
  - Some states report both presumed and confirmed maternal COVID-19; others report confirmed cases only
- Reported cases of COVID-19 are linked to the standard birth record at NCHS using provisional 2020 and 2021 data



# Reporting jurisdictions

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



# Birth COVID-19 Webpage

- Results published on webpage on a bi-monthly basis
- Comparisons made for COVID-19 vs. no COVID-19 by race and Hispanic origin
  - Maternal characteristics/outcomes
    - Age
    - Education
    - Medicaid as source of payment for the delivery
    - ICU admission
  - Infant outcomes
    - Preterm birth
    - Low birthweight
    - NICU admission
    - Infant living

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-December, 2020

[Data table](#) [XLS - 27 KB]

Maternal or infant characteristic	Total <sup>1</sup>		Non Hispanic White <sup>2</sup>		Non-Hispanic Black <sup>2</sup>		Hispanic <sup>3</sup>	
	Yes COVID-19 <sup>4</sup>	No COVID-19	Yes COVID-19 <sup>4</sup>	No COVID-19	Yes COVID-19 <sup>4</sup>	No COVID-19	Yes COVID-19 <sup>4</sup>	No COVID-19
Number								
Total	16,599	608,373	5,099	306,081	2,675	77,155	7,339	146,429
Percent distribution								
COVID-19 case percent distribution <sup>5</sup>	100.0	...	30.7	...	16.1	...	44.2	...
Non-COVID-19 case percent distribution <sup>5</sup>	...	100.0	...	50.3	...	12.7	...	24.1

# Birth COVID-19 Release Webpage

- <https://www.cdc.gov/nchs/covid19/technical-linkage.htm>

- Data published:

- April through October
  - January 2021
- April through December
  - March 2021
- April through February
  - May 2021

The screenshot shows the National Center for Health Statistics (NCHS) website. The breadcrumb trail is: CDC > NCHS > COVID-19 Data from NCHS > COVID-19 Birth Data and Resources. The main content area features the article title: "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 explaining the data source and limitations. A blue box highlights the caption for Table 1: "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-December, 2020". Below the caption is a link to the data table: "Data table [XLS - 27 KB]".

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 Estimates for Selected Maternal and Infant Outcomes by Month, 2018-2020
- Maternal and Infant Characteristics Among Women with Confirmed or Presumed Cases of Coronavirus Disease (COVID-19) During Pregnancy**
- Health Care Access, Telemedicine, and Mental Health
- Health Care Access, Telemedicine, and Loss of Work Due to Illness
- COVID-19 Data from Selected

## 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 were not available as of December 2020, 14 states vital records offices and the District of Columbia were routinely collecting information on confirmed or presumed COVID-19 cases among pregnant women who then gave birth and reporting this information to the National Center for Health Statistics (NCHS). The table below presents data for this select area on characteristics of women with COVID-19 at any time during pregnancy, and their newborns. These 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. Any additional jurisdictions that begin reporting maternal COVID-19 cases to NCHS and will be included in future updates. While these data are not representative of all births in the United States, they are currently the only multi-state birth certificate-based data available. Of note, not all of the 15 reporting areas provided information for the total reporting period (April-December). The information provided is based on 27.0% of all births during the reporting period and the characteristics of the mothers and their newborns reflect the jurisdictions reporting COVID status. States also differed in how information on COVID-19 status was obtained and reported to NCHS. See Technical Notes for more information.

**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-December, 2020**

[Data table](#) [XLS - 27 KB]

# Results

- Maternal COVID-19 reporting area compared with all US births
  - 27% of all U.S. births during the reporting period
  - Smaller proportion of births to non-Hispanic white, non-Hispanic black women
  - Larger proportion of births to Hispanic women
  - Lower preterm birth rate

	United States	COVID-19 reporting area
Births to non-Hispanic white women	51.6%	50.3%
Births to non-Hispanic black women	14.7%	13.2%
Births to Hispanic women	24.3%	25.3%
Preterm birth rate	10.03%	9.83%

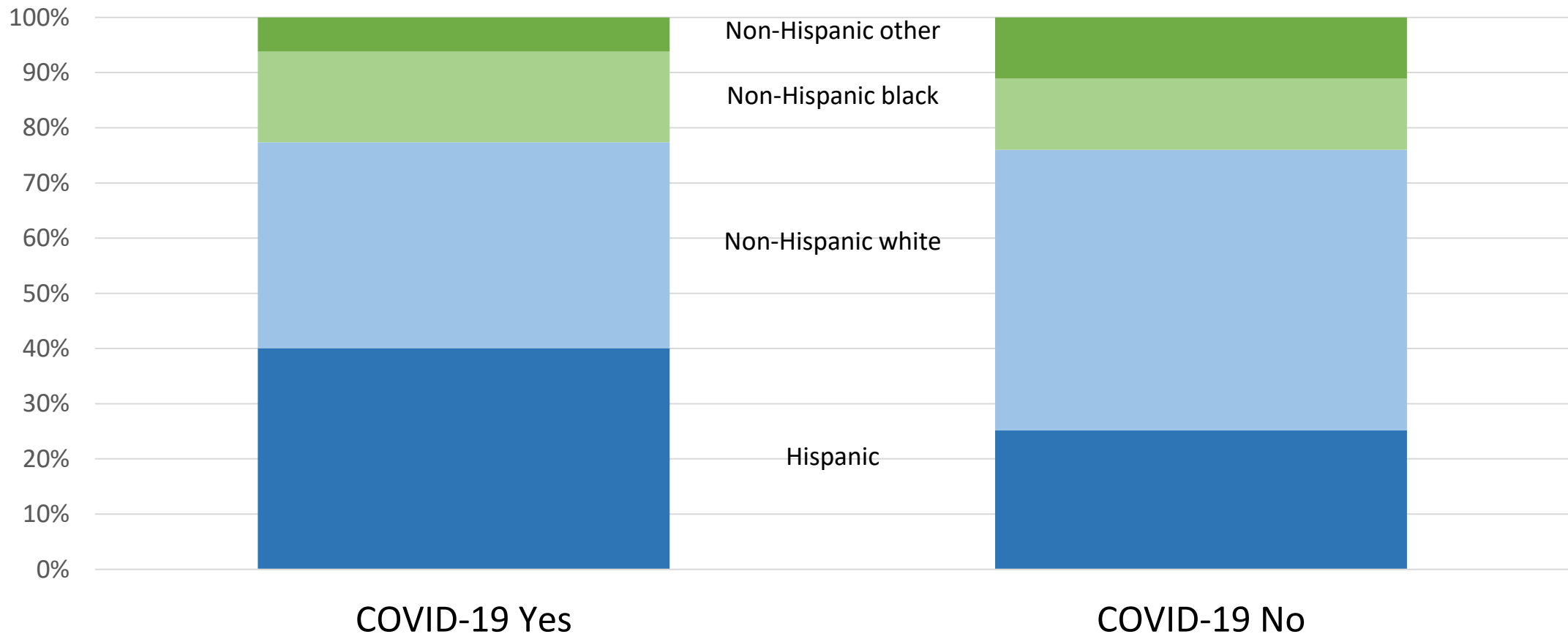
## Results (cont.)

- 99.6% of all cases linked with full birth record
- More than 23,000 births to moms with presumed or confirmed COVID-19
- Approximately 750,000 births to moms without COVID-19

# Results - Distributions

14 state and DC Maternal COVID-19 reporting area

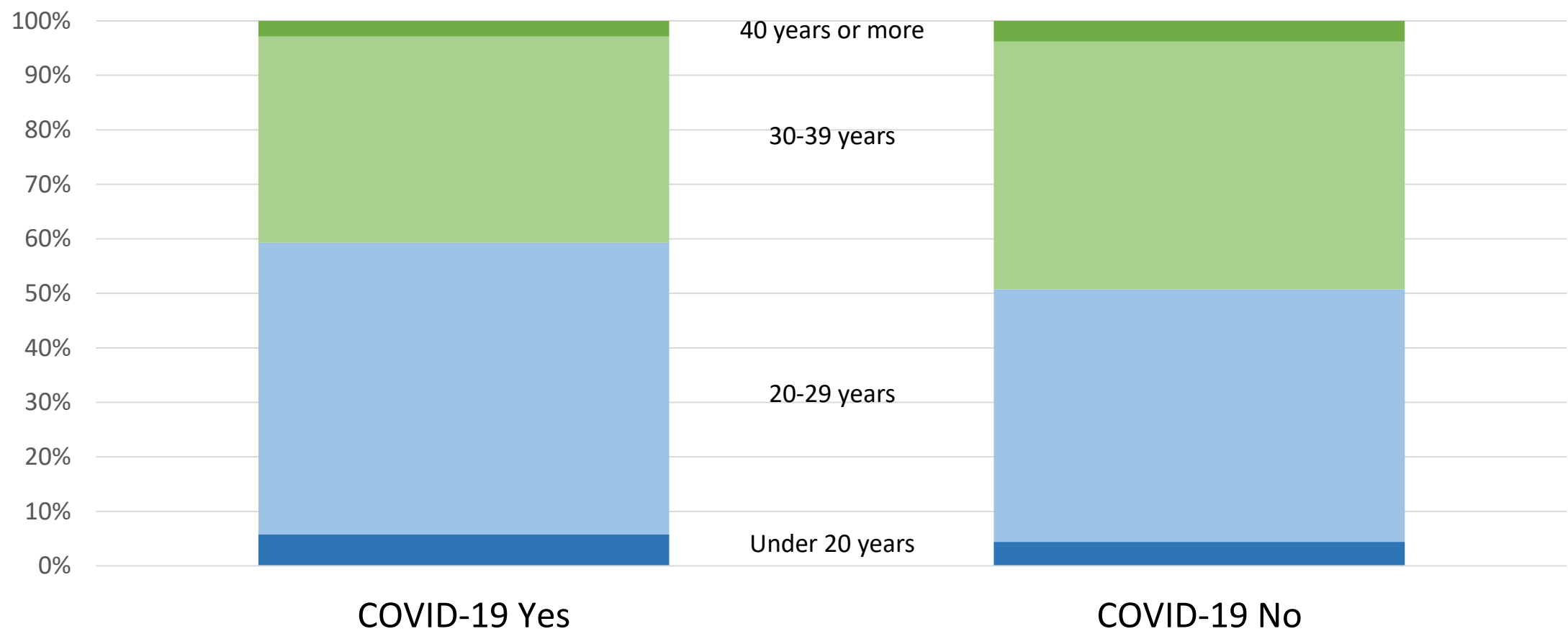
# Distribution of births by race and Hispanic origin and COVID-19 status: April 2020-February 2021



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.

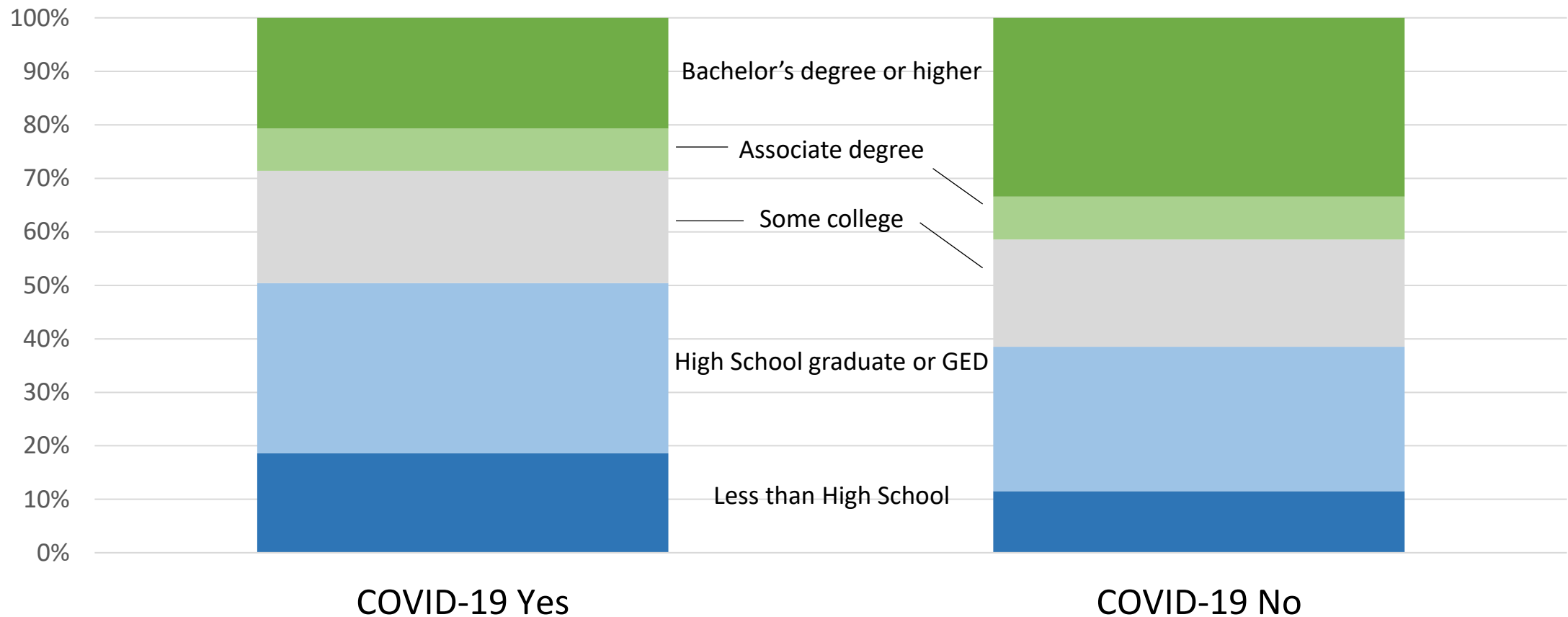
# Distribution of births by maternal age and COVID-19 status: April 2020-February 2021



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



# Distribution of births by maternal education and COVID-19 status: April 2020-February 2021

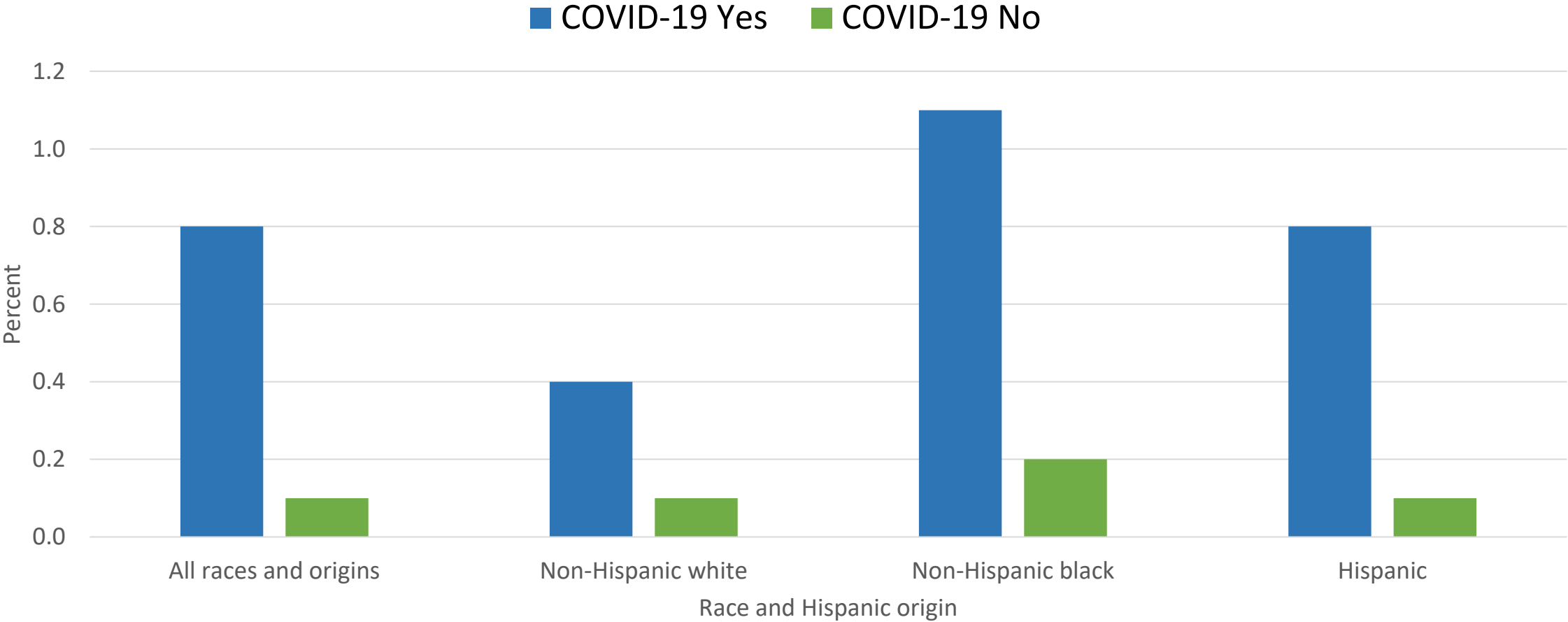


NOTE: COVID-19 Yes includes presumed or confirmed cases. Includes women who may not have had time to complete their education.

# Results - Outcomes

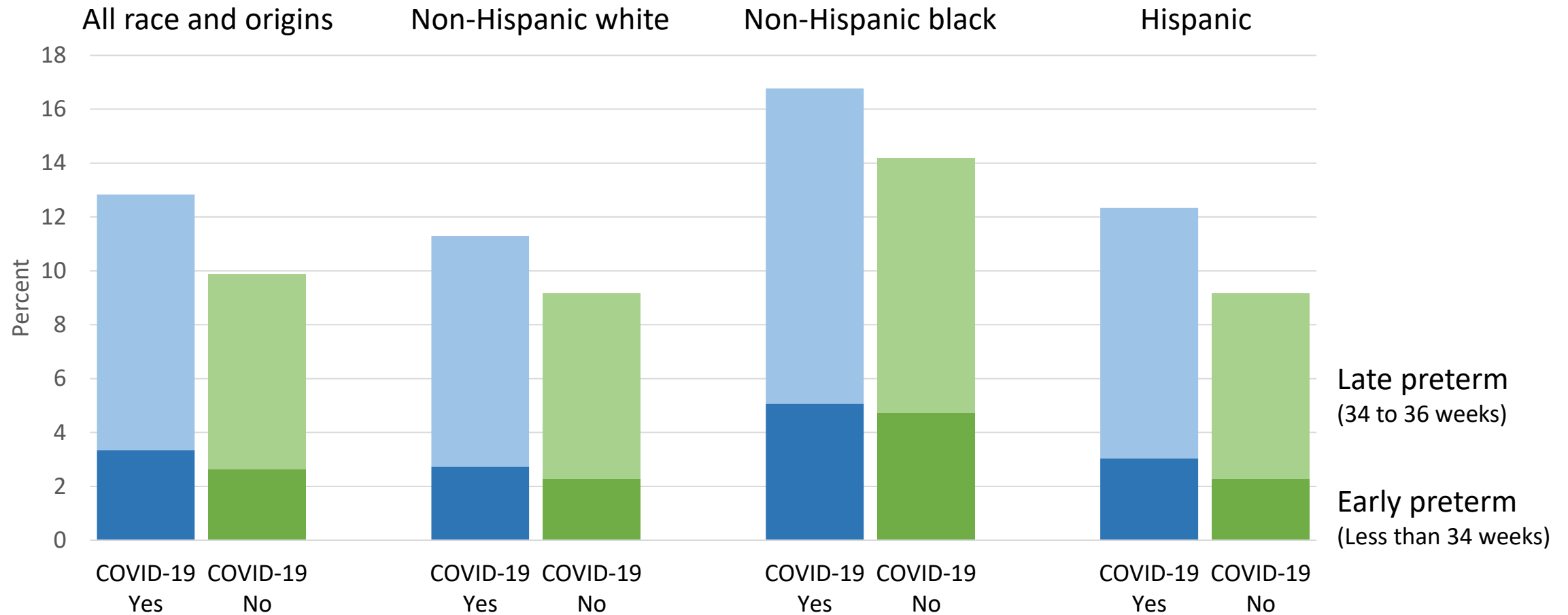
14 state and DC maternal COVID-19 reporting area

# Maternal ICU admission by COVID-19 status and race and Hispanic origin: April 2020-February 2021



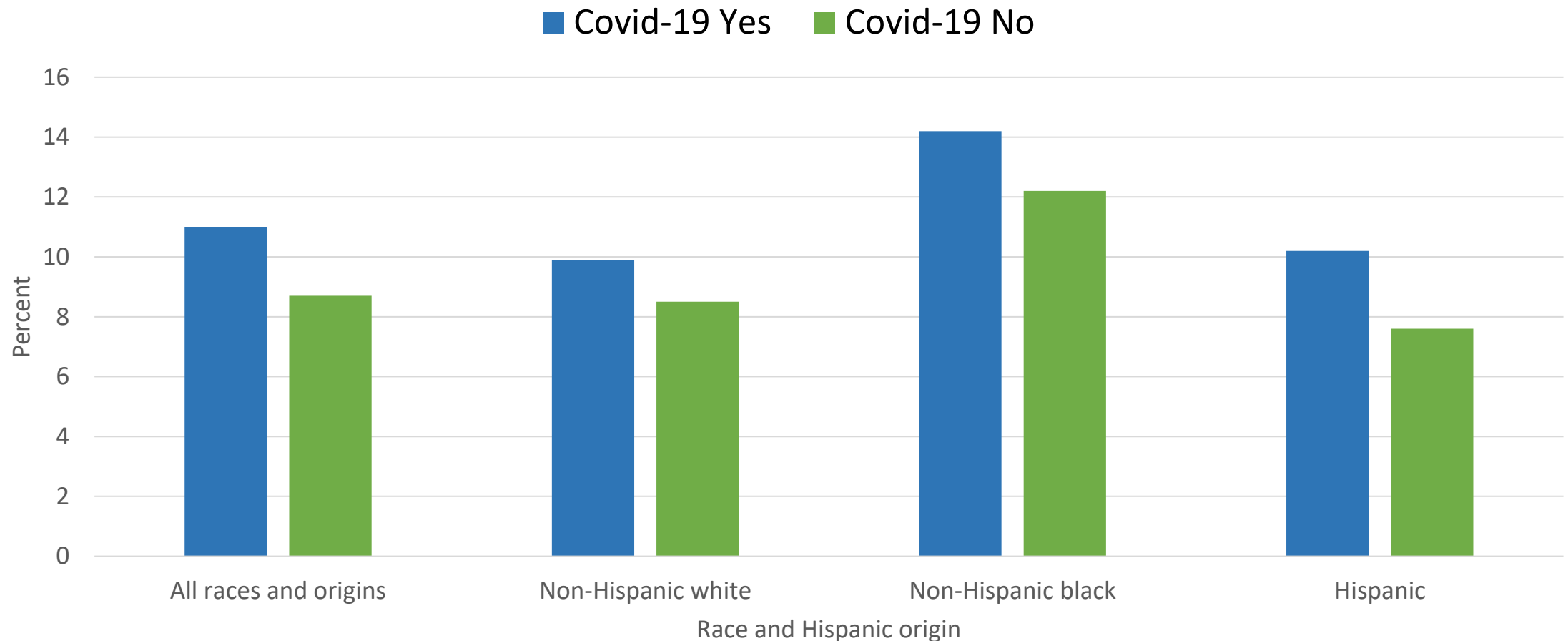
NOTE: COVID-19 Yes includes presumed or confirmed cases.

# Preterm birth by COVID-19 status and race and Hispanic origin: April 2020-February 2021



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 2020-February 2021



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

# Limitations and Next Steps

# Limitations

- Not national data; not representative of entire U.S.; CA births over-represented
- No information on when in pregnancy the mother had COVID-19
- 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
- *However, more complete national data do not currently exist*

# Next Steps

- Continue to update the webpage release bi-monthly
- Add more reporting areas
- Perform more detailed analysis