

NCHS Webinar: What happened with births in 2020?

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Introduction

- Coronavirus Disease 2019 (COVID-19) was first recognized in the United States in early March 2020
- By December, there were more than 20 million reported cases and 384,564 reported deaths attributed to COVID-19
- Predictions about the pandemic's impact on births in the United States ranged widely, from a large upswing to a severe decline
- NCHS has recently released several reports looking at the potential impact on births

Methods

- Data are based on birth certificates registered in all states and D.C.
 - Data provided to NCHS through the Vital Statistics Cooperative Program
- Data for 2020 are provisional and based on 99.87% of birth records
 - Data for 2019 and earlier years are final and based on 100% of birth records
- Comparisons of the 2020 data are made with 2019 data and earlier years
 - Changes or differences are statistically significant at the 0.05 level

U.S. Birth Data

Births and rates by month

Births: Provisional Data for 2020 and Declines in Births by Month: United States, 2020

NVSS Vital Statistics Rapid Release

Report No. 012 ■ May 2021

Births: Provisional Data for 2020

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Abstract

Objectives—This report presents provisional 2020 data on U.S. births. Births are shown by age and race and Hispanic origin of mother. Data on cesarean delivery and preterm births also are presented.

Methods—Data are based on 99.87% of all 2020 birth records received and processed by the National Center for Health Statistics as of February 11, 2021. Comparisons are made with final 2019 data and earlier years.

Results—The provisional number of births for the United States in 2020 was 3,605,201, down 4% from 2019. The general fertility rate was 55.8 births per 1,000 women aged 15–44, down 4% from 2019 to reach another record low for the United States. The total fertility rate was 1,637.5 births per 1,000 women in 2020, down 4% from 2019 to also reach another record low for the nation. In 2020, birth rates declined for women in all age groups 15–44 and were unchanged for adolescents aged 10–14 and women aged 45–49. The birth rate for teenagers aged 15–19 declined by 8% in 2020 to 15.3 births per 1,000 females; rates declined for both younger (aged 15–17) and older (aged 18–19) teenagers. The cesarean delivery rate rose to 31.8% in 2020; the low-risk cesarean delivery rate increased to 25.9%. The preterm birth rate declined to 10.09% in 2020, the first decline in the rate since 2014.

Keywords: birth rates • maternal and infant health • vital statistics • National Vital Statistics System

Introduction

This report from the National Center for Health Statistics (NCHS) is part of the National Vital Statistics System Rapid Release Quarterly Provisional Estimates. This series provides timely vital statistics for public health surveillance based on provisional data received and processed by NCHS at a specified date. Estimates (quarterly and 12-month period ending with each quarter) for selected key vital statistics indicators are presented and released online through Quarterly Provisional Estimates (<https://www.cdc.gov/nchs/vssr/nativity-dashboard.htm>). The series also includes reports that provide additional information on specific topics to help readers understand and interpret provisional natality and mortality data. Also, now available are provisional birth estimates developed to monitor health services utilization and maternal and infant outcomes that may be directly or indirectly impacted by COVID-19. Information is updated quarterly and is available from: <https://www.cdc.gov/nchs/covid19/covid-birth.htm>.

Using provisional birth data for the 12 months of 2020 (1), this report supplements the Quarterly Provisional Estimates for 2020 by presenting longer temporal trends in context and more detail (by race and Hispanic origin of the mother and by state of residence). Statistics from previous provisional reports have been shown to be consistent with the final statistics for the year (2,3). This report presents provisional data on births and birth rates and cesarean delivery and preterm birth rates for the United States in 2020. Information on prenatal care, low birthweight, and other

health utilization and maternal and infant risk factors is presented with final birth data for 2020.

Methods

The provisional estimates shown in this report are collected via the National Vital Statistics System (4). Findings are based on all birth records received and processed by NCHS for calendar year 2020 as of February 11, 2021; these records represent nearly 100% (99.87%) of registered births occurring in 2020. Comparisons in this report are based on the final data for 2019 and earlier years (3). Data for American Samoa, Guam, and the U.S. Virgin Islands were not available as of the release of the 2020 provisional birth file. Detailed information on reporting completeness and criteria may be found elsewhere (4,5).

Hispanic origin and race are reported separately on the birth certificate. Data shown by Hispanic origin include all persons of Hispanic origin of any race. Data for non-Hispanic persons are shown separately for each single-race group. Data by race are based on the revised standards issued by the Office of Management and Budget (OMB) in 1997 (6). The race and Hispanic-origin groups shown are: non-Hispanic, single-race white; non-Hispanic, single-race black; non-Hispanic, single-race American Indian or Alaska Native (AIAN); non-Hispanic, single-race Asian; non-Hispanic, single-race Native Hawaiian or Other Pacific Islander (NHOPI); and Hispanic. For brevity, text references to race omit the term “single-race” (3).

NVSS Vital Statistics Rapid Release

Report No. 014 ■ June 2021

Declines in Births by Month: United States, 2020

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Abstract

Objectives—This report presents provisional 2020 and final 2019 and 2018 data on changes in the number of U.S. births by race and Hispanic origin of mother and by month of birth and state.

Methods—Data are based on all birth certificates registered to U.S. residents in the 50 states and D.C.; data for 2019 and 2018 are final. Changes in the number of births by month from 2019 to 2020 by race and Hispanic-origin group are compared with changes occurring from 2018 to 2019. Changes for the first and second 6 months of the year by race and Hispanic origin and by state are also compared for the periods 2019 to 2020 and 2018 to 2019.

Results—From 2019 to 2020, the number of births for the United States declined for each month, with the largest declines occurring in December (8%), August (7%), and October and November (6%) (Figure 1). Larger declines in births were seen in the second half of 2020 (down 6%) compared with the first half (down 2%) of 2020. The number of births declined in both the first and second 6 months of 2020 compared with 2019 for nearly all race and Hispanic-origin groups, with larger declines in the second half of 2020 compared with the first half of the year. Births declined in 20 states in the first half of 2020, and in all states in the second half of 2020 (declines in 7 states were not significant). Changes in births by race and Hispanic origin and by state were less pronounced from 2018 to 2019; the number of births declined for 9 months by 1%–3%.

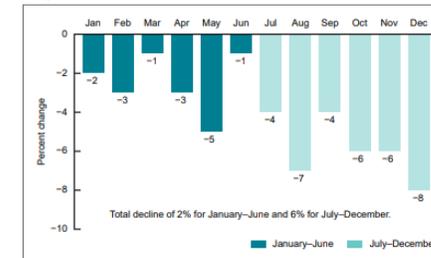
Keywords: birth certificate • maternal race and Hispanic origin • state • National Vital Statistics System

Introduction

On March 13, 2020, the U.S. government declared a national emergency in response to the emergence of the COVID-19 pandemic (1). The pandemic, which is ongoing as of the publication of this report, has constituted a public health event not seen in the country since the 1918 influenza pandemic (2). A recent report has shown a decline of 1.0 year in the overall life expectancy at birth in the first 6 months of 2020 (3). The impact of the pandemic on trends in fertility for the United States has been uncertain, with predictions ranging from an upswing to a severe decline (4–6).

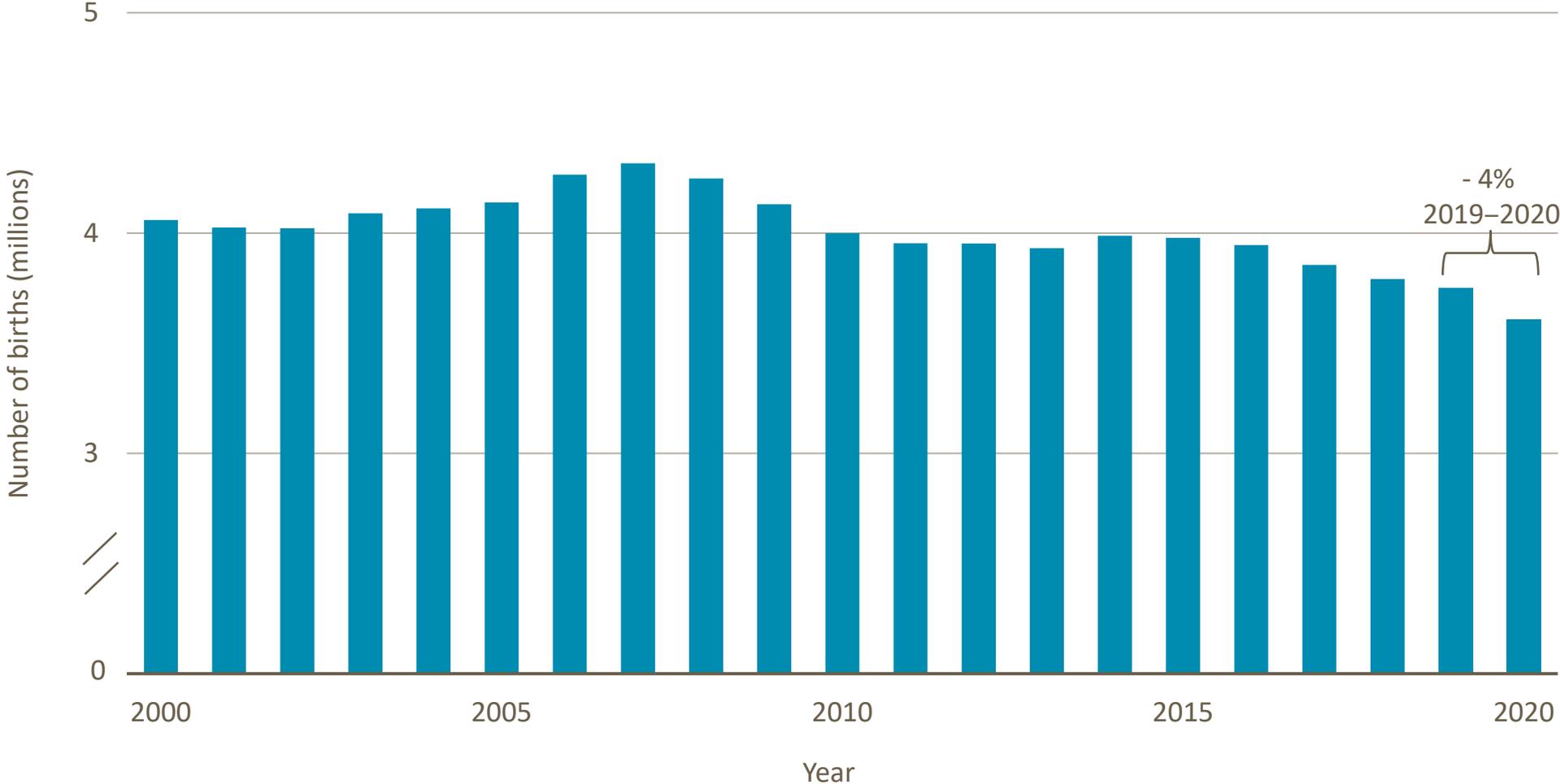
Births generally had been on the decline in the United States from 2007 to 2019, with declines averaging about 2% annually (7–10). A recent report showed a 4% drop in the total number of U.S. births from 2019 to 2020, the largest annual decline in the number of births since 1973 (7–11). The number of births declined for all race and Hispanic-origin groups from 2019 to 2020, with declines ranging from 3% (Hispanic women) to 8% (non-Hispanic Asian women) (7). The U.S. general fertility rate (GFR) also declined 4% from 2019 to 2020, the largest percent decline in this rate in nearly five decades; rates declined for each race and Hispanic-origin group (7). The impact of the pandemic on the United States in 2020 varied by month, as reported infection cases rose rapidly through the year, from 26 cases in early March to over 20 million cases at

Figure 1. Percent change in number of births, by month: United States, 2019 final and 2020 provisional



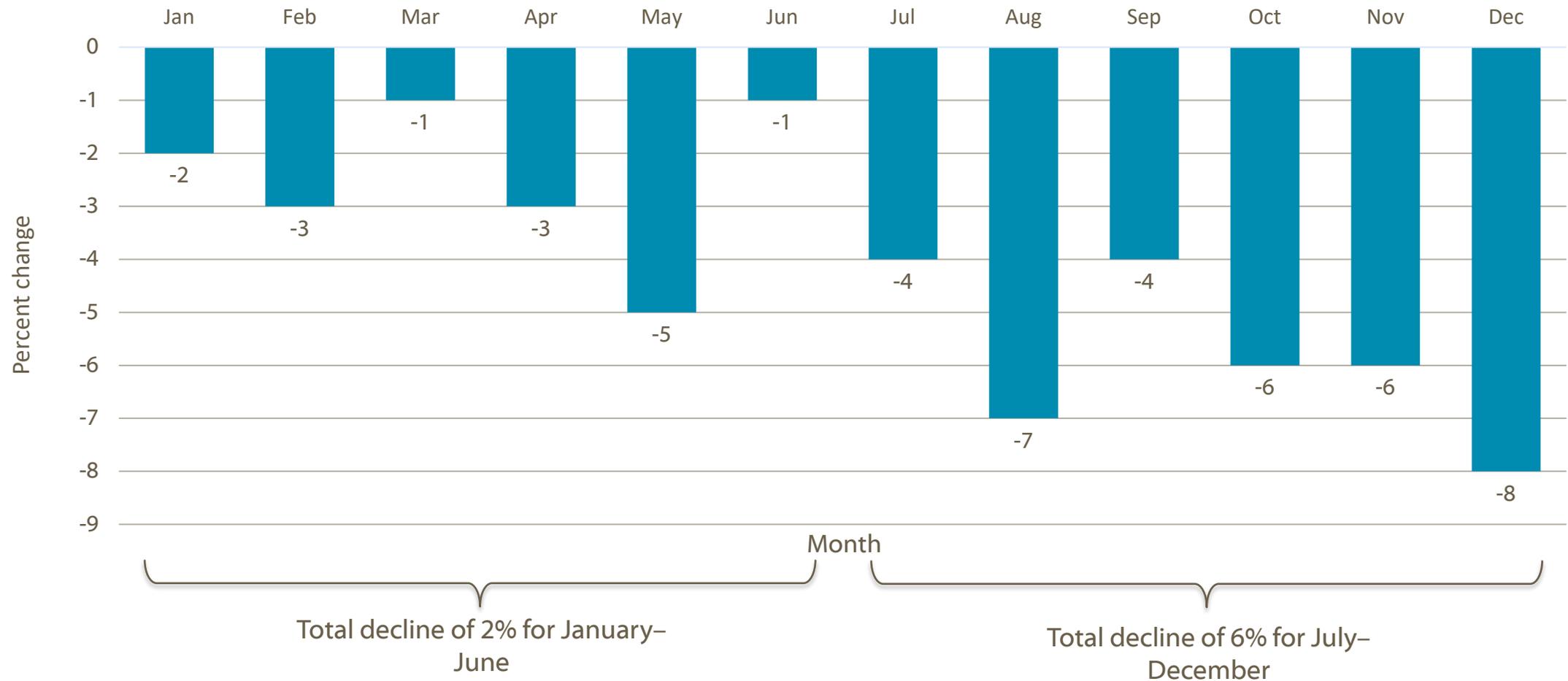
NOTES: Number of births for February 2020 was adjusted for leap day, February 29. Significant declines from 2019 to 2020 for all months (p < 0.05).
SOURCE: National Center for Health Statistics, National Vital Statistics System, Natality

Number of live births: 2000–2020



Source: <https://www.cdc.gov/nchs/data/vsrr/vsrr012-508.pdf>

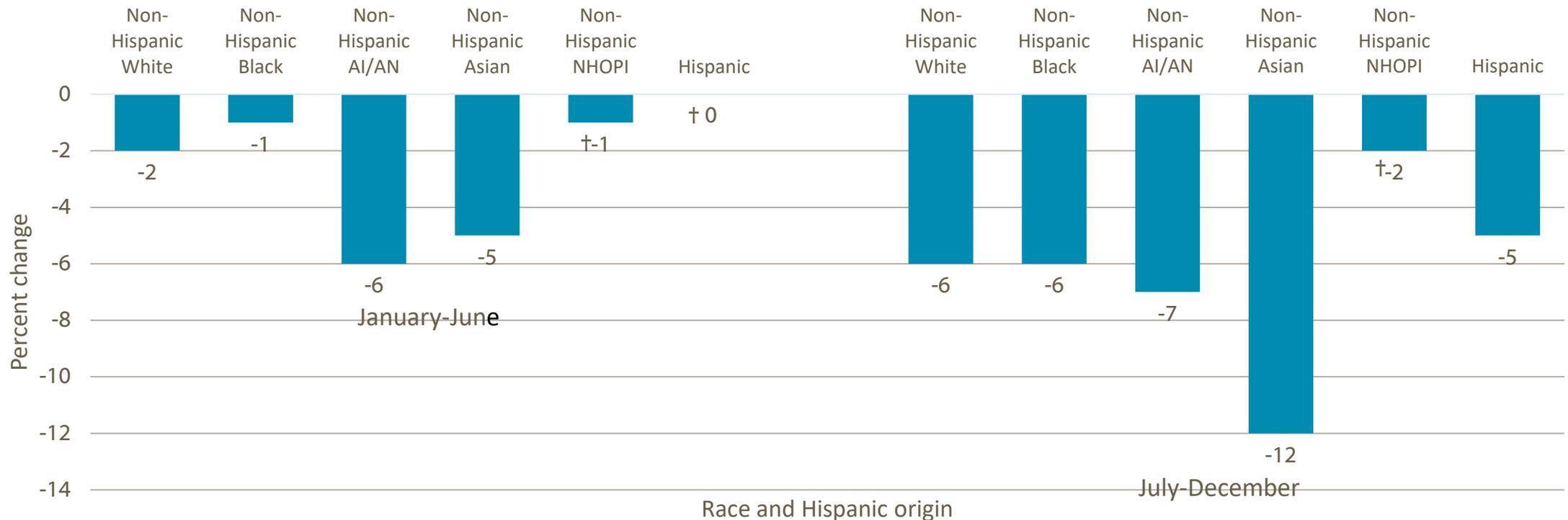
Percent change in number of births by month: 2019–2020



NOTES: Number of births for February 2020 adjusted for leap day, February 29. Significant declines from 2019 to 2020 for all months ($p < 0.05$).

Source: <https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf>

Percent change in number of births by race and Hispanic origin: January–June and July–December, 2019–2020

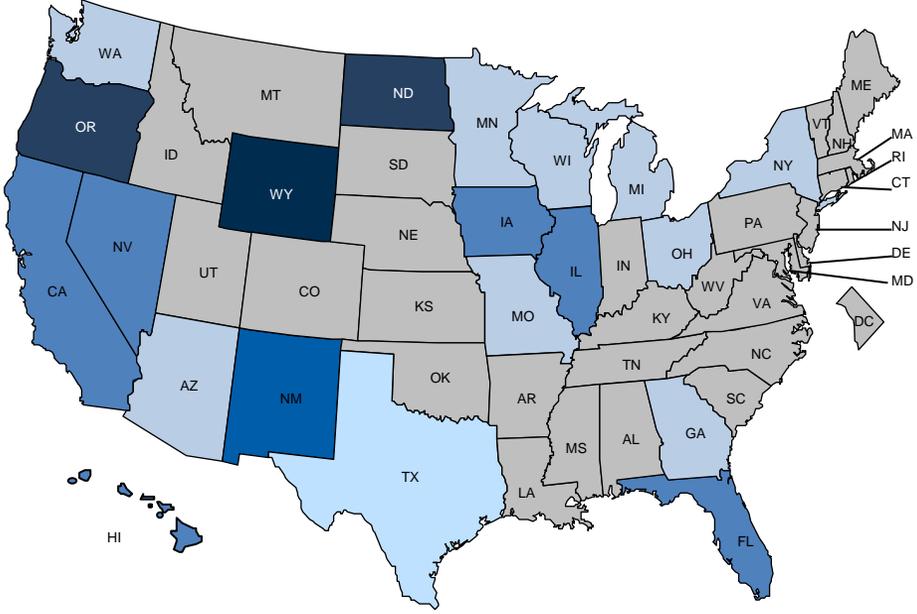


NOTES: AIAN is American Indian or Alaska Native; NHOPI is Native Hawaiian or Other Pacific Islander. Significant declines from 2019 to 2020 for all race and Hispanic-origin groups, except (†) non-Hispanic Native Hawaiian or Other Pacific Islander for the first and second half of the year and Hispanic for first half of the year ($p < 0.05$).

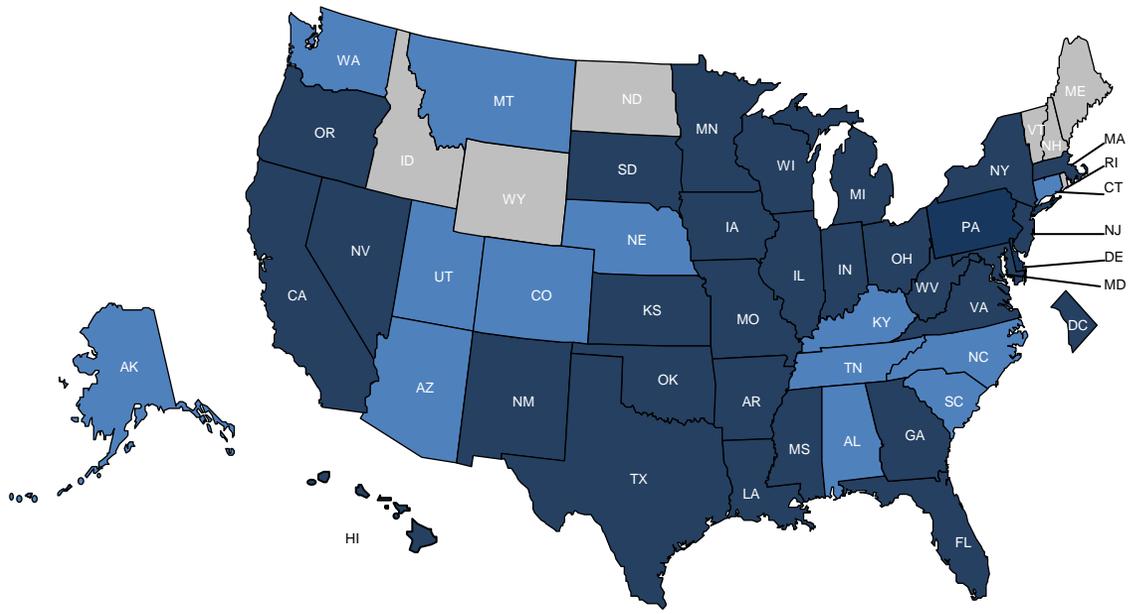
Source: <https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf>

Percent change in number of births by state: January–June and July–December, 2019–2020

January to June



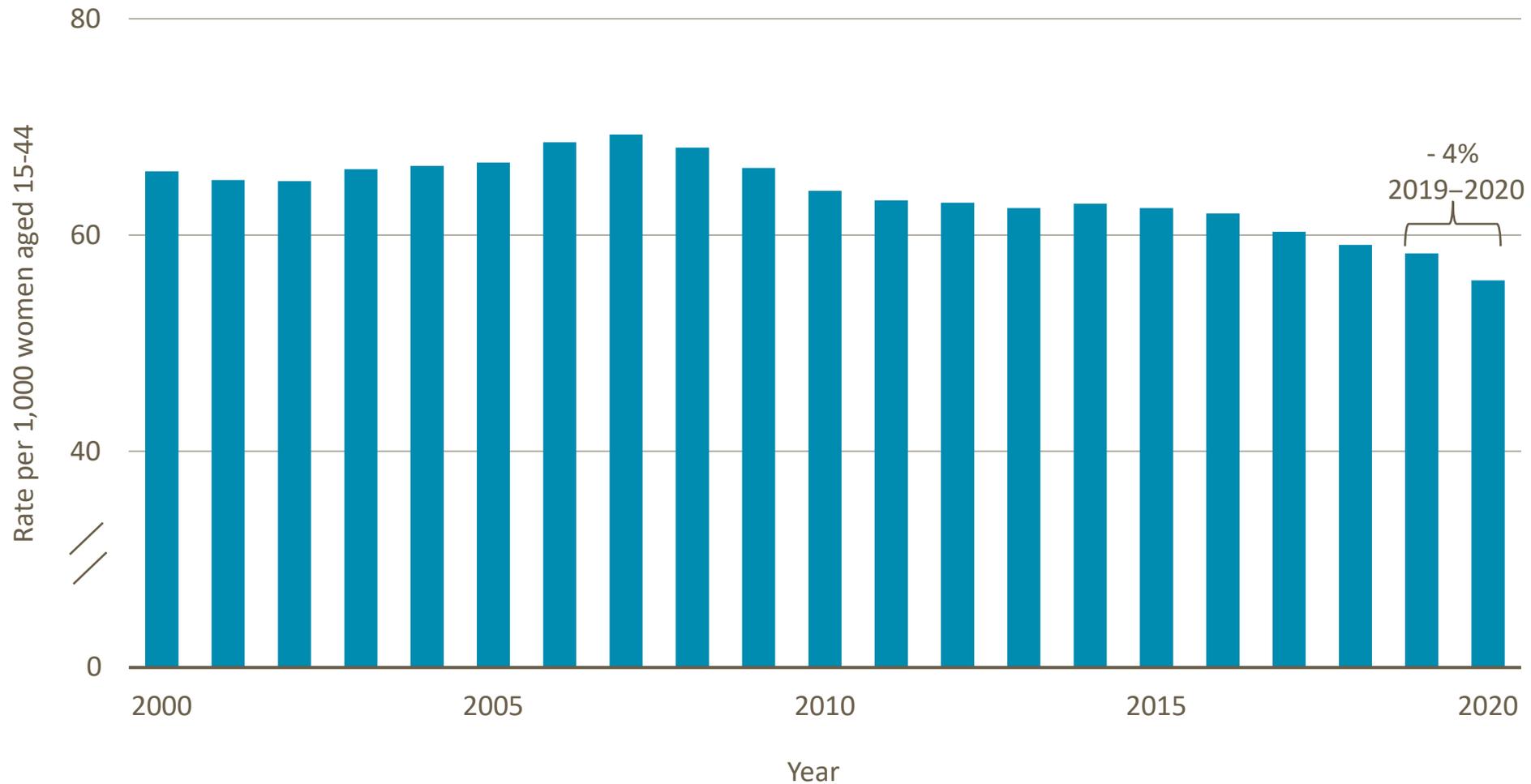
July to December



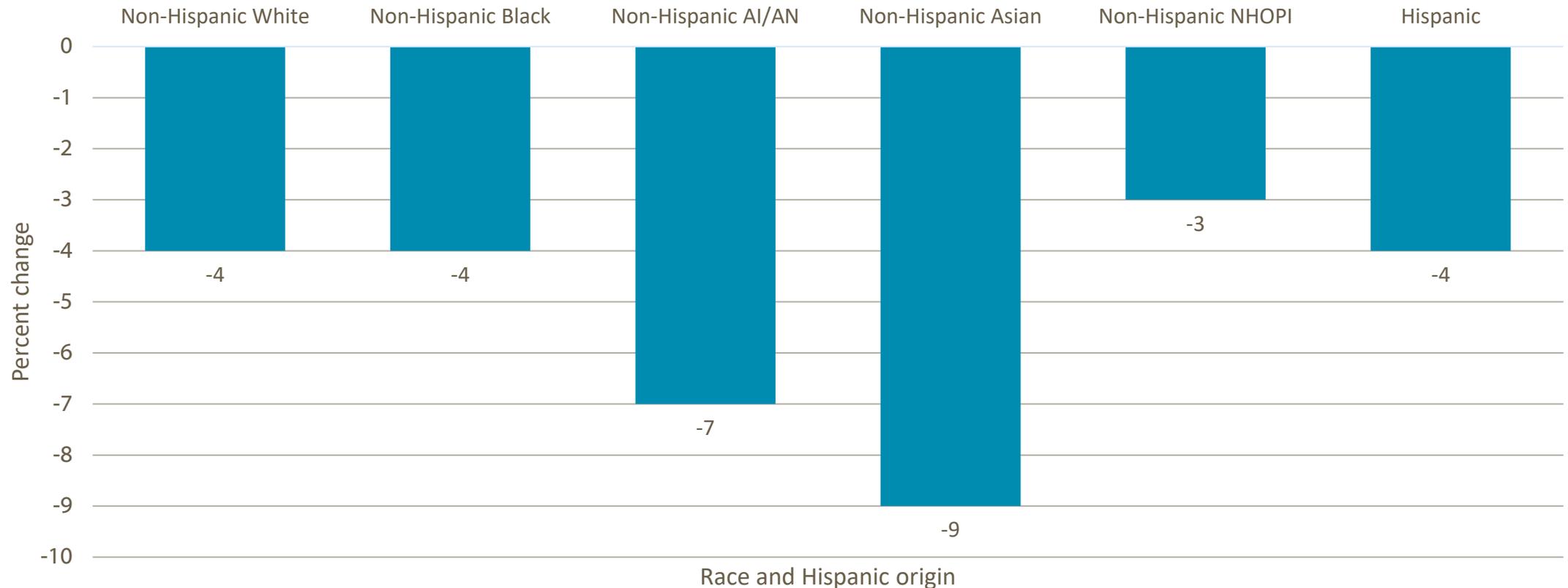
- No significant change
- 1% to 2% decline
- 3% to 4% decline
- 5% or more decline

Source: <https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf>

General fertility rate: 2000–2020



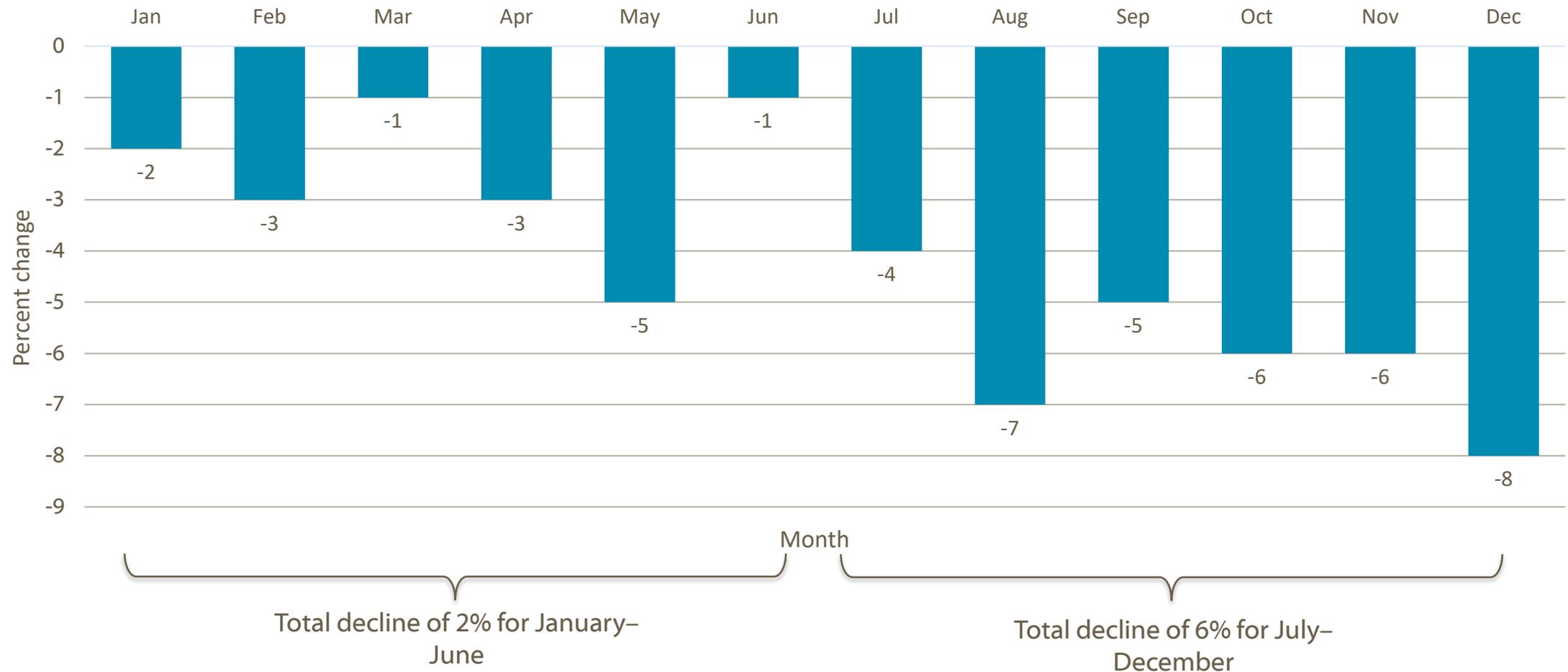
Percent change in the general fertility rate by race and Hispanic origin: 2019–2020



NOTES: AIAN is American Indian or Alaska Native; NHOPI is Native Hawaiian or Other Pacific Islander. Significant declines from 2019 to 2020 for all race and Hispanic-origin groups ($p < 0.05$).

Source: <https://www.cdc.gov/nchs/data/vsrr/vsrr012-508.pdf>

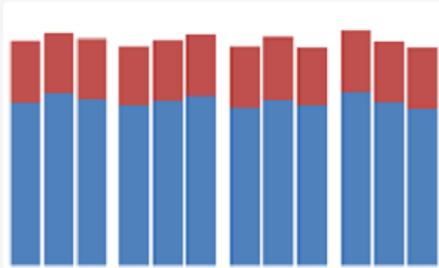
Percent change in the general fertility rate by month: 2019–2020



NOTE: Significant declines from 2019 to 2020 for all months ($p < 0.05$).

Source for numerator of rates: <https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf>

Provisional Birth Estimates for Selected Maternal and Infant Outcomes by Month



Maternal and infant outcomes by month

Tabulated provisional 2020 data on selected birth measures, by month for the United States.

Updated March 8, 2021

Provisional Estimates for Selected Maternal and Infant Outcomes by Month, 2018–2020

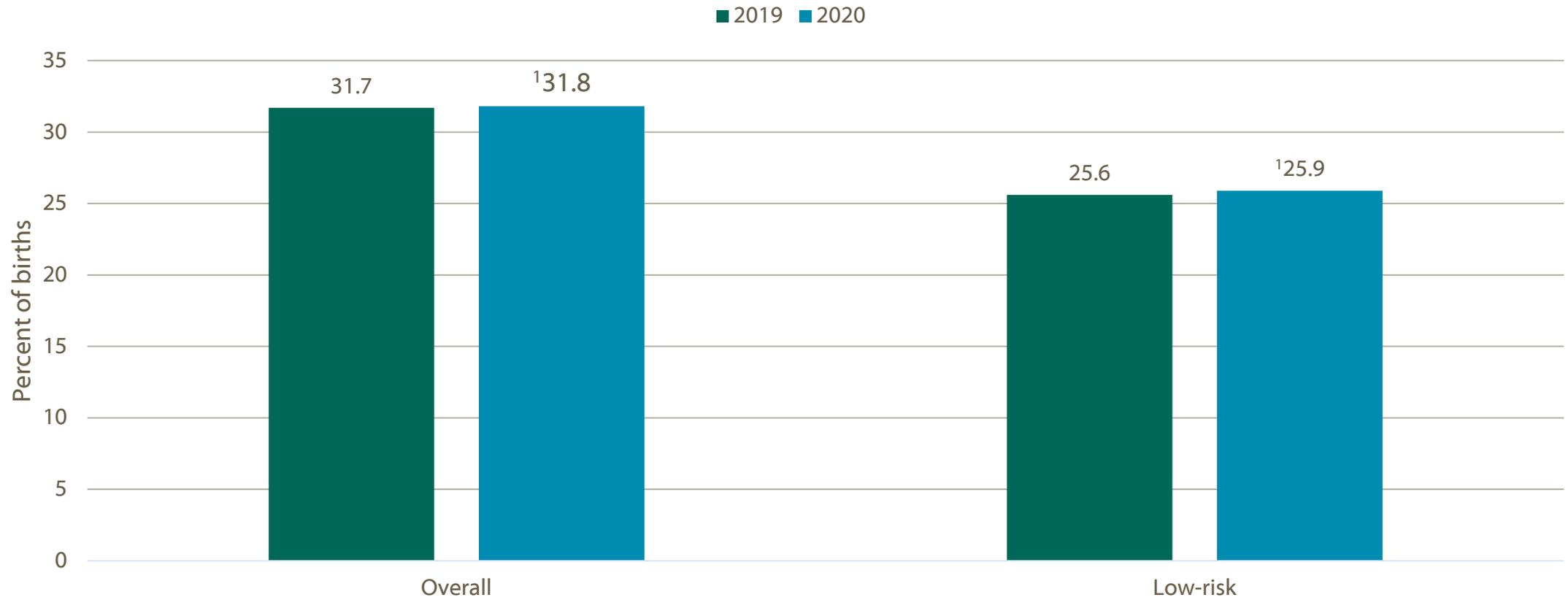
The table below presents provisional estimates for selected pregnancy characteristics and birth outcomes that may be relevant to the direct and indirect impacts of COVID-19. Estimates are shown for each month in 2020 and compared with data for the same period in 2019 and 2018 to identify changes. Note that COVID-19 would have had little to no impact on many of these indicators in the early months of the pandemic.

Table. Selected medical and health characteristics of births, by month of birth: United States, January through December, final 2018 and 2019 and provisional 2020

[Data table](#) [XLS - 35 KB]

Characteristic	Month of Birth											
	January	February	March	April	May	June	July	August	September	October	November	December
Births	Number											
2020¹	304,683	282,601	301,457	290,252	301,313	301,931	321,253	319,313	311,224	304,460	281,576	285,138
2019	310,872	279,963	304,237	298,947	316,386	304,092	333,646	341,685	325,781	325,043	298,086	308,802
2018	314,808	284,250	316,044	298,394	320,622	314,816	329,009	344,750	322,772	326,778	308,703	310,766

Overall and low-risk cesarean delivery: 2019 and 2020

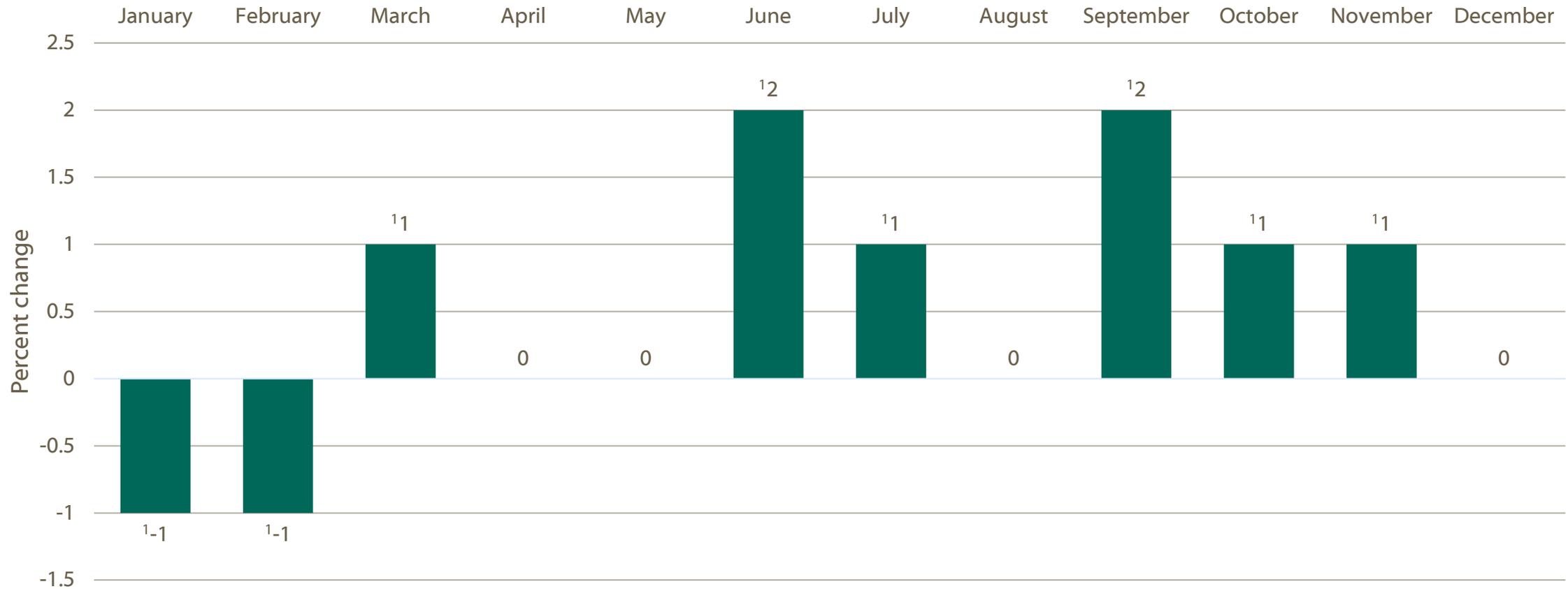


¹Significantly different than 2019.

NOTE: Low-risk cesarean is defined as singleton, term (37 or more weeks of gestation based on the obstetric estimate), cephalic cesarean deliveries to women having a first birth.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

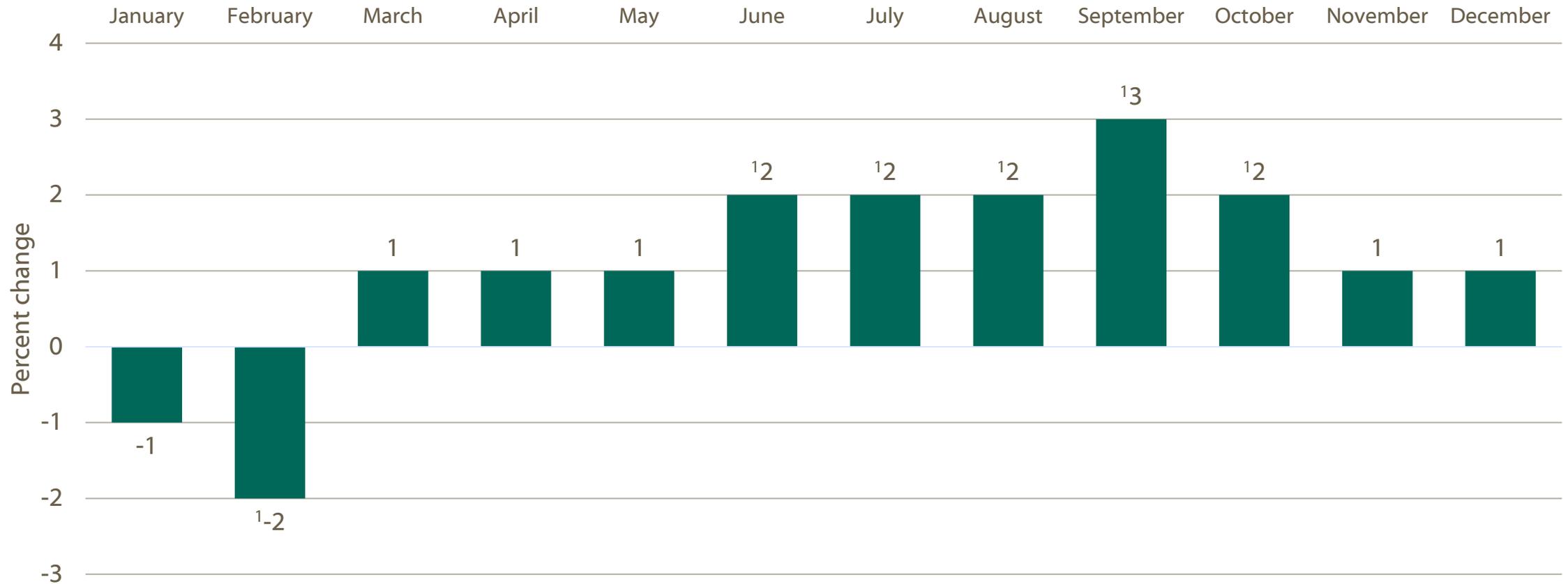
Percent change in cesarean delivery, by month: 2019—2020



¹Significantly different than 2019.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

Percent change in low-risk cesarean delivery, by month: 2019–2020

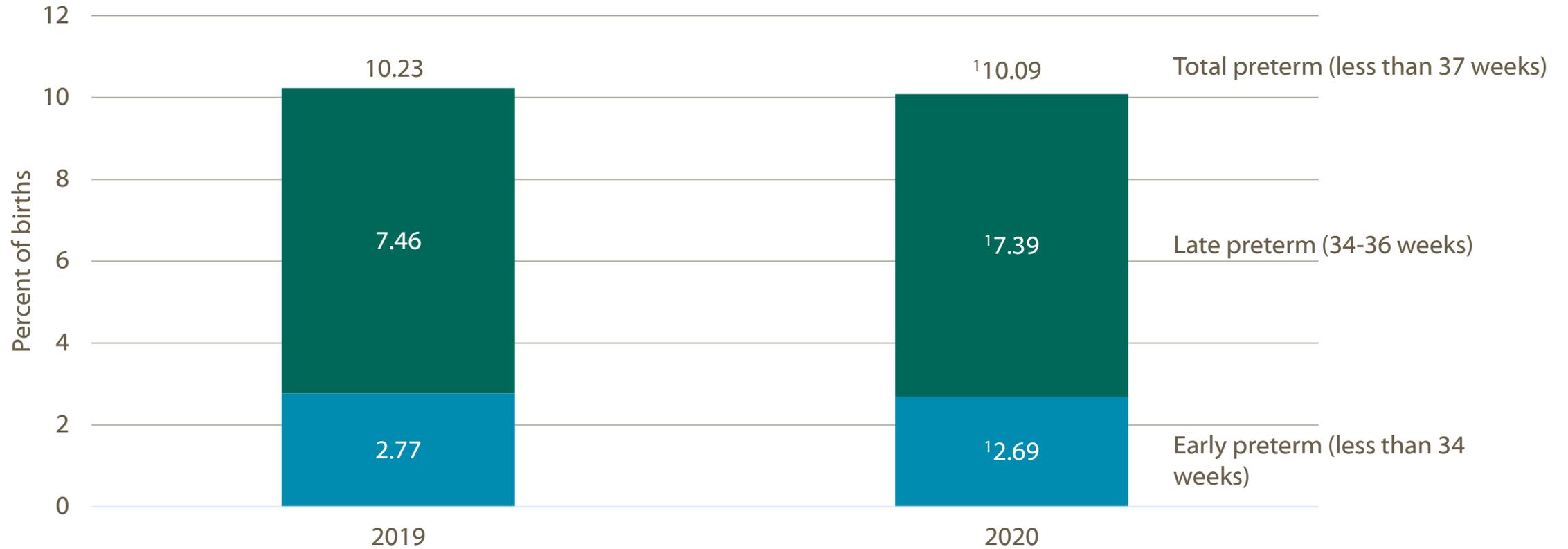


¹Significantly different than 2019.

NOTE: Low-risk cesarean is defined as singleton, term (37 or more weeks of gestation based on the obstetric estimate), cephalic cesarean deliveries to women having a first birth.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

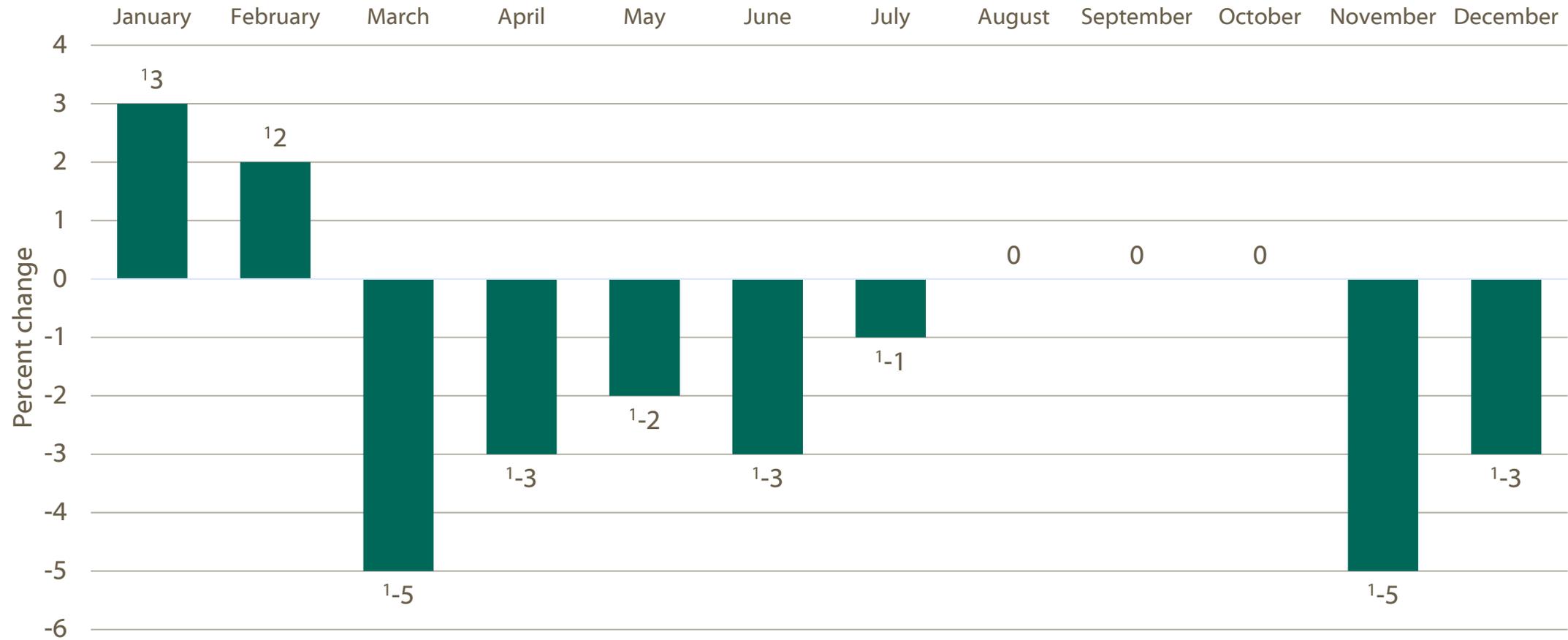
Preterm births: 2019 and 2020



¹Significantly different than 2019.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

Percent change in total preterm births, by month: 2019–2020

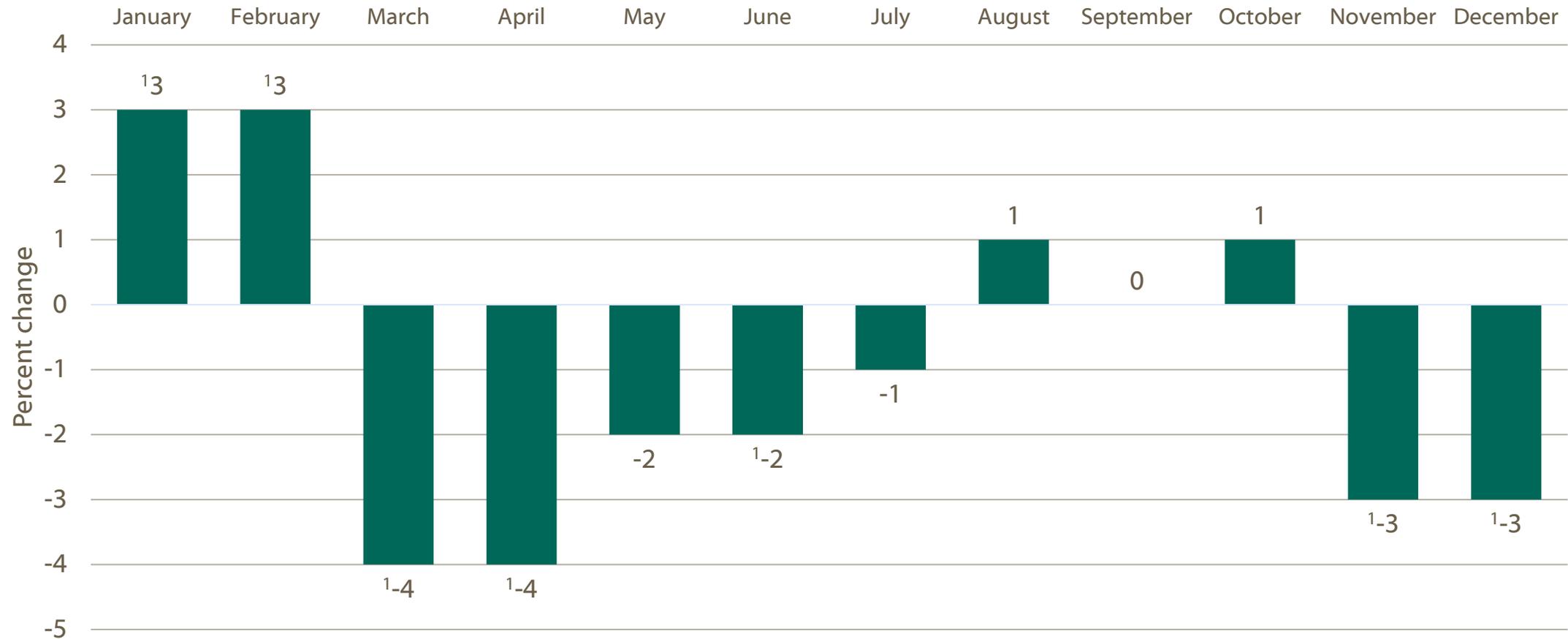


¹Significantly different than 2019.

NOTE: Preterm is less than 37 completed weeks of gestation based on the obstetric estimate.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

Percent change in late preterm births, by month: 2019–2020

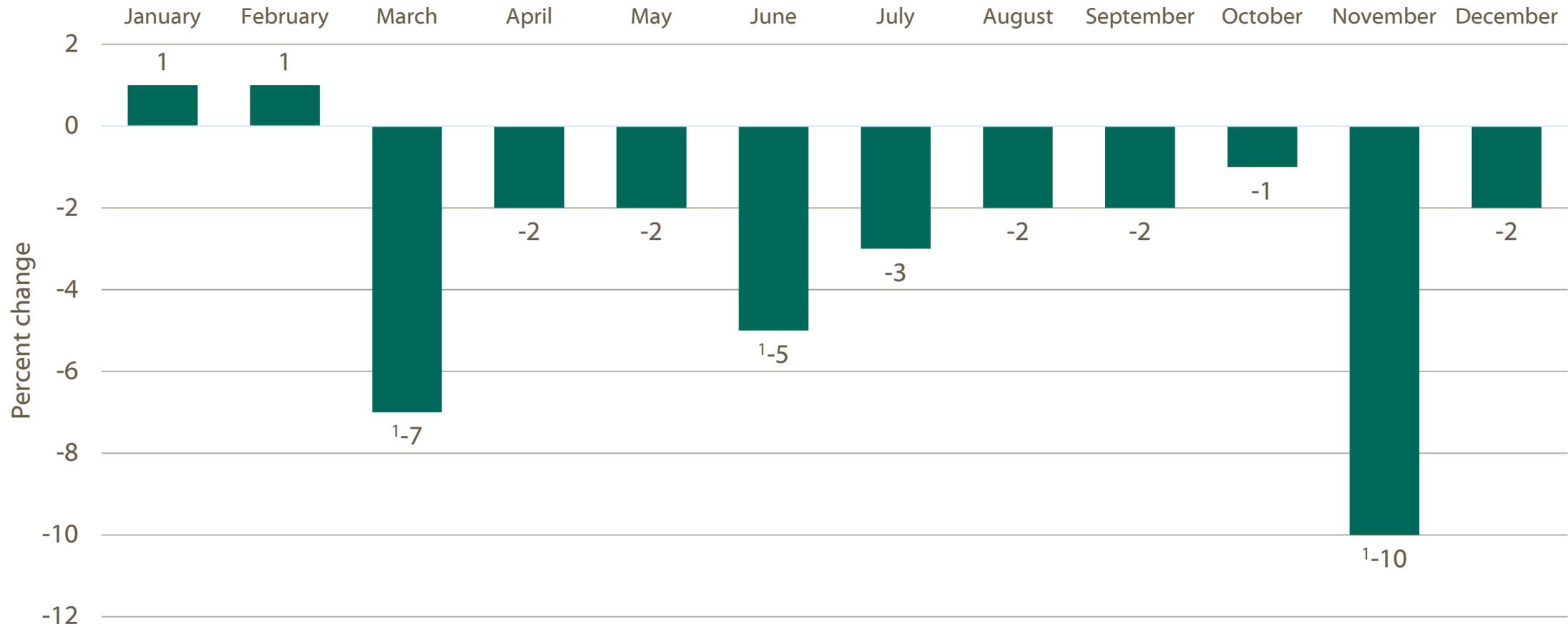


¹Significantly different than 2019.

NOTE: Late preterm is 34 to 36 completed weeks of gestation based on the obstetric estimate.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

Percent change in early preterm births, by month: 2019–2020



¹Significantly different than 2019.

NOTE: Early preterm is less than 34 completed weeks of gestation based on the obstetric estimate.

SOURCE: <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>

Summary: U.S. provisional birth data overall

- The number of births and the general fertility rate for the United States both declined 4% from 2019 to 2020
 - From 2014 to 2020, these measures had declined by an average 2% a year
- From 2019 to 2020, the number of births declined for each month
 - Larger declines in births were seen in the second half of 2020 compared with the first half of 2020
 - The largest drops occurred in August, October, November, and December
- Births declined in all states and DC in the second half of 2020 (declines in 7 states were not significant)
 - The largest declines for the second half of 2020 were seen in California, Hawaii, New Mexico, New York and West Virginia

Summary: U.S. provisional birth data by race and Hispanic-origin group

- Births and general fertility rates declined for each race and Hispanic origin group from 2019 to 2020
- The number of births declined in both the first and second six months of 2020 for almost all race and Hispanic-origin groups
 - Declines were larger in the second half of 2020 for nearly all groups

Summary: U.S. provisional birth estimates for selected maternal and infant outcomes

- Overall and low-risk cesarean delivery rates were up slightly in 2020 (31.8% and 25.9%); both rates have generally declined since 2009
 - Overall and low-risk cesarean delivery rates increased or were stable for all months March 2020 through December 2020
- The preterm birth rate declined to 10.09% in 2020, after rising 7% from 2014 to 2019
 - Declines from 2019 were seen in the percentages of both early and late preterm births
 - Preterm birth rates declined or were stable each month from March 2020 through December 2020

New York City Birth Data

Births to New York City residents occurring outside the city

Changes in Births to NYC Residents Occurring Outside NYC, by Race and Hispanic Origin of the Mother

2018–2019 and 2019–2020

Vital Statistics Rapid Release

Report No. 013 ■ May 2021

Changes in Births to New York City Residents Occurring Outside New York City, by Race and Hispanic Origin of the Mother: 2018–2019 and 2019–2020

Elizabeth C.W. Gregory, M.P.H., Michelle J.K. Osterman, M.H.S., and Claudia P. Valenzuela, M.P.H.

Abstract

Objectives—New York City was an early epicenter of the COVID-19 outbreak in the United States, with cases peaking in early April for January–December 2020. This report describes changes between 2019 and 2020 in the percentage of New York City residents giving birth outside of New York City by race and Hispanic origin of the mother, and makes comparisons with changes occurring between 2018 and 2019.

Methods—Data are based on 2018 and 2019 final and 2020 provisional birth certificate data for births to residents of New York City. Changes in the percentage of out-of-city births occurring from 2018 to 2019 and from 2019 to 2020 are computed for each month and compared.

Results—From 2019 to 2020, the percentage of births to New York City residents occurring outside of the City increased for all months from March through November, ranging from a 15% increase for September to a 70% increase for April. Out-of-city births peaked in April (10.2%) and May (10.3%) at more than one and one-half times the 2019 levels (6.0% and 6.2%, respectively). Among non-Hispanic white women, the percentage of out-of-city births was nearly two and one-half times higher in 2020 than in 2019 in April (15.6% versus 6.6%) and May (15.8% versus 6.5%). Increases were less pronounced for births to non-Hispanic black and Hispanic residents; the percentage of out-of-city births for each group increased in only two months in 2020. In contrast, few

statistically significant changes were observed between 2018 and 2019 in the percentage of out-of-city births for New York City residents overall, or residents of the three largest race and Hispanic-origin groups.

Keywords: out-of-city births • provisional data • National Vital Statistics System

Introduction

New York City (NYC or City) was an early epicenter of the COVID-19 outbreak in the United States, with the introduction of COVID-19 into NYC likely occurring during early to mid-February 2020 (1). During January–December 2020, the 7-day average of confirmed and probable COVID-19 cases peaked in early April, declined and plateaued at a low from June to October, and then began increasing again (2). Between March 1 and May 1, approximately 5% of NYC residents relocated from the City, with a higher percentage of residents leaving from the wealthiest neighborhoods compared with the rest of NYC (3). The residents from wealthier neighborhoods were more likely to be white, have higher incomes, have a college degree, and have the ability to work from home than residents of the City as a whole (3). Included in those leaving NYC were pregnant women who gave birth elsewhere. Reasons that pregnant women left NYC included concerns about the increased spread of COVID-19 in the City, the accompanying strain placed on the health care system, and a brief ban

on the presence of support persons during labor and delivery in some hospital systems (4–6). This report presents the percentages of NYC residents giving birth outside of NYC by race and Hispanic origin of the mother by month for 2020 and compares these figures with percentages for the same month in 2019. Comparisons are also made with changes occurring from 2018 to 2019.

Methods

The birth certificate data shown in this report are collected via the National Vital Statistics System. For 2020 births to NYC residents, findings are based on provisional birth certificate data, representing 99.87% of births occurring in the United States. Comparisons are made with final 2018 and 2019 births. Detailed information on reporting completeness and criteria may be found elsewhere (7–9).

Out-of-city births are defined as those that occurred to women who resided in NYC but gave birth in a different jurisdiction. Birth certificates are filed in the jurisdiction where the birth occurred, but include information collected from the mother on her place of residence (10). Births are typically shown by state of residence in National Center for Health Statistics reports; state of residence was missing for 0.01% of births occurring in the United States in 2020. Births were included in the analysis if a woman reported that her place of residence was NYC, regardless of where the birth took place.

Background

- New York City was an early epicenter of the COVID-19 outbreak in the United States
 - Cases peaked in NYC in early April, 2020
- Between March 1 and May 1, approximately 5% of residents relocated from NYC, with a higher percentage of residents leaving from the wealthiest neighborhoods
- Among those leaving NYC were pregnant women who gave birth elsewhere
 - Reasons for leaving included
 - concerns with the increased spread of COVID-19
 - the accompanying strain placed on the health care system
 - a brief ban on non-healthcare personnel being in the room during labor and delivery in some hospital systems

Objectives

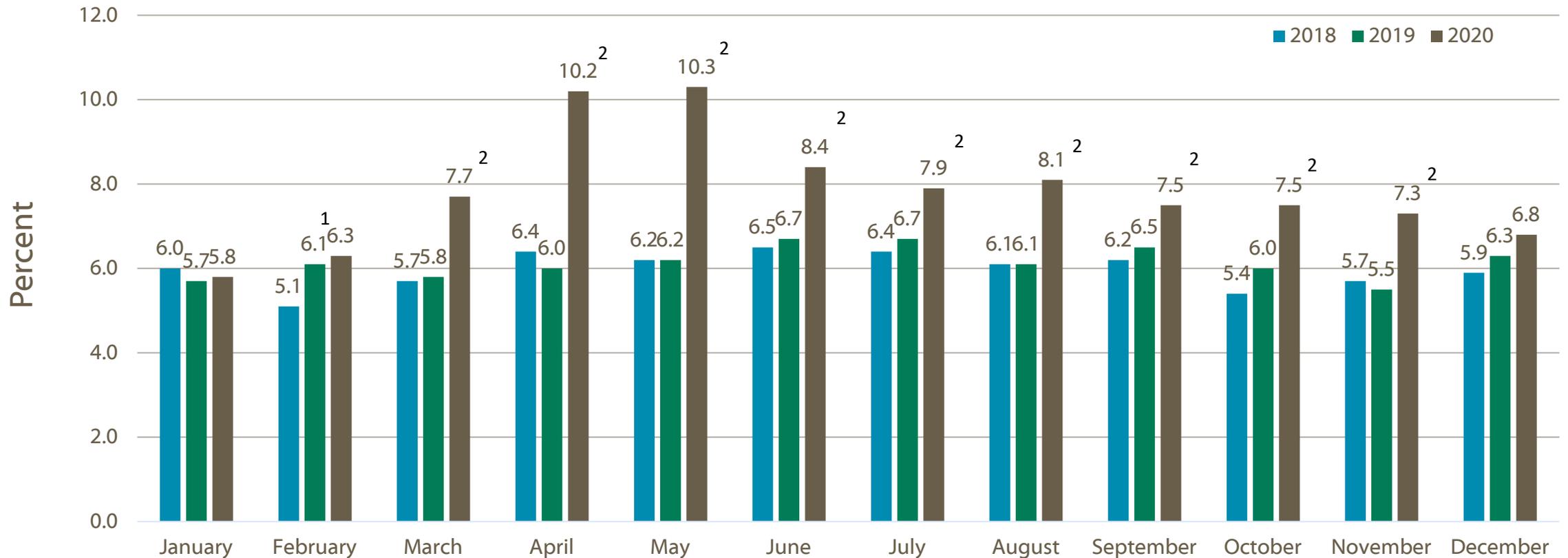
- Describe changes between 2019 and 2020 in the percentage of NYC residents giving birth outside of the city by race and Hispanic origin of the mother



Methods

- Birth certificate data collected via the National Vital Statistics System
- Findings based on 2018 and 2019 final and 2020 provisional birth certificate data for births to NYC residents, regardless of where the birth took place
- Out-of-city births defined as those that occurred to women who resided in NYC but gave birth in a different jurisdiction

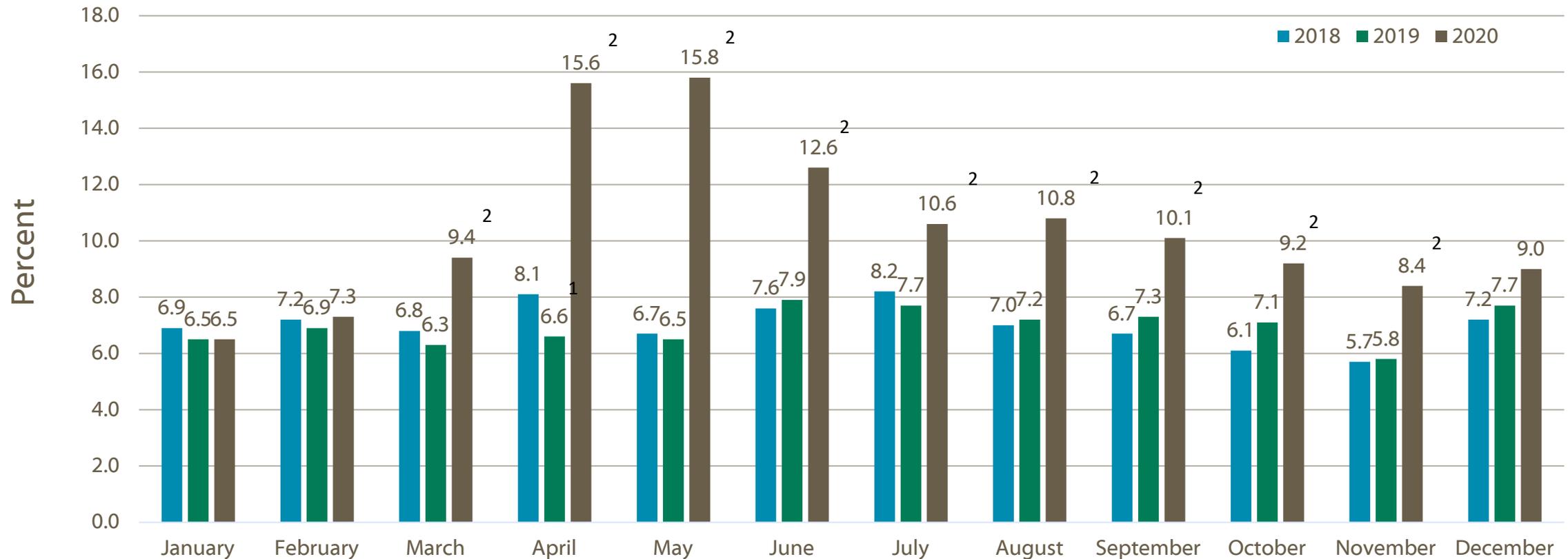
Births to all New York City residents that occurred outside of the city: 2018, 2019 and 2020



¹Significant increase from 2018 to 2019 ($p < 0.05$).

²Significant increase from 2019 to 2020 ($p < 0.05$).

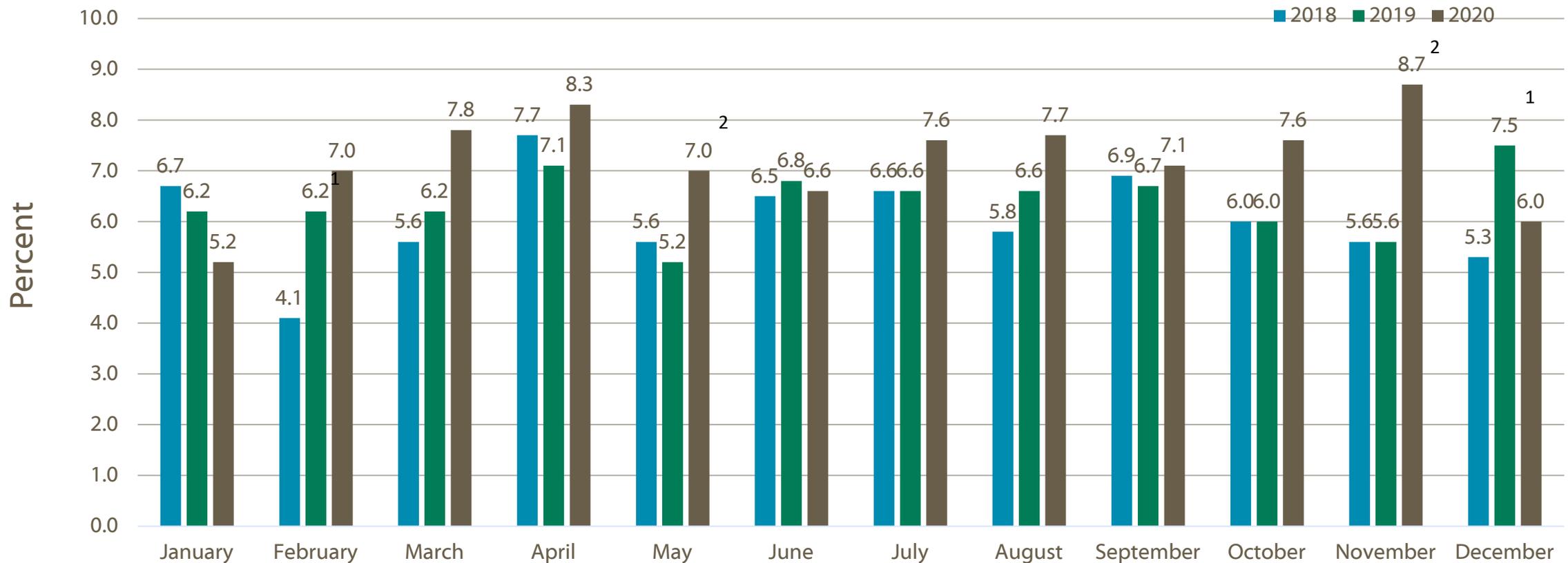
Births to non-Hispanic white New York City residents that occurred outside of the city: 2018, 2019 and 2020



¹Significant decrease from 2018 (p<0.05).

²Significant increase from 2019 (p < 0.05).

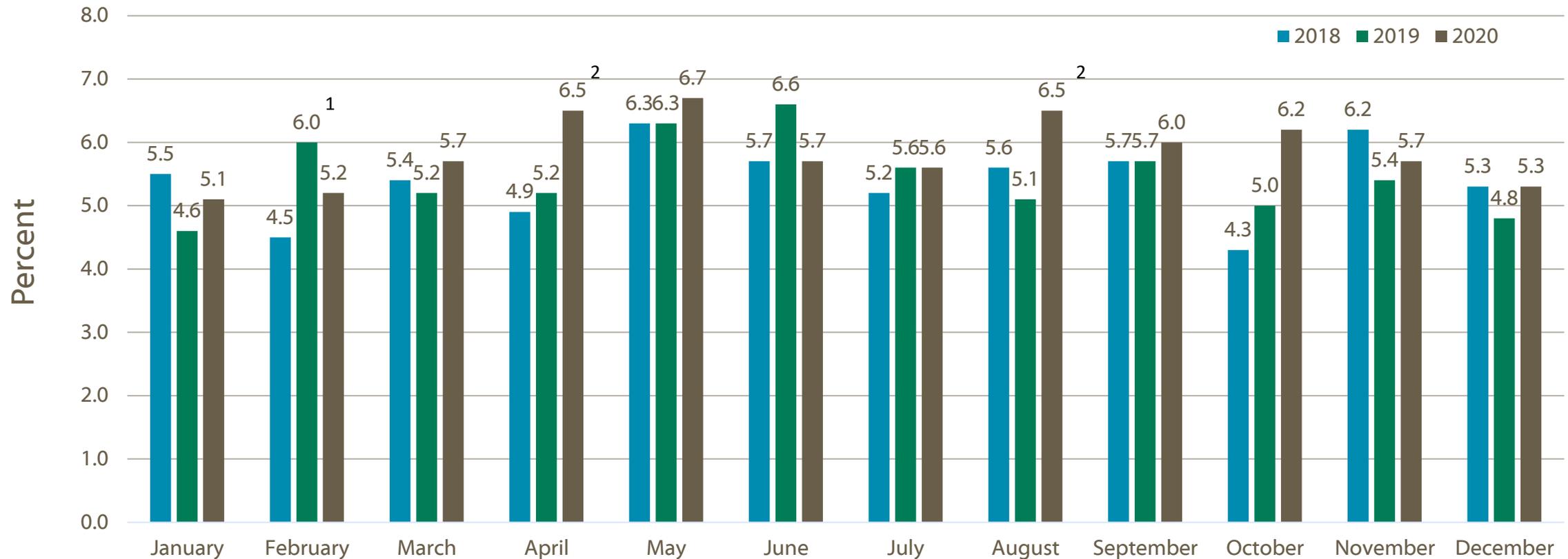
Births to non-Hispanic black New York City residents that occurred outside of the city: 2018, 2019 and 2020



¹Significant increase from 2018 ($p < 0.05$).

²Significant increase from 2019 ($p < 0.05$).

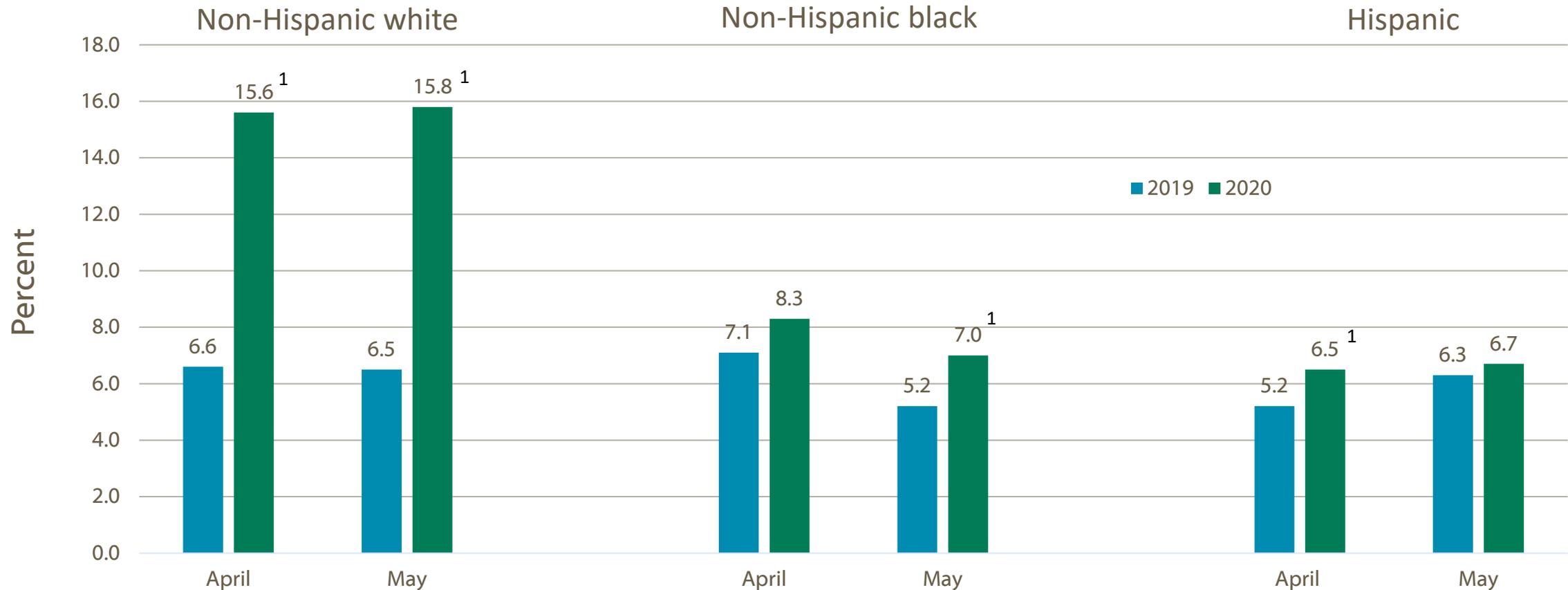
Births to Hispanic New York City residents that occurred outside of the city: 2018, 2019 and 2020



¹Significant increase from 2018 ($p < 0.05$).

²Significant increase from 2019 ($p < 0.05$).

Births to New York City residents that occurred outside of New York City by race and Hispanic origin: April and May 2019 and 2020



¹Significant increase from 2019 (p<0.05).

Summary: births to NYC residents occurring outside the city in 2020

- For 2018 and 2019, the percentage of out-of-city births was essentially unchanged for most months for all NYC residents and for residents of each of the three largest race and Hispanic origin groups
- From 2019 to 2020, the percentage of NYC residents giving birth outside of the city increased overall for all months March through November
 - Births outside the city peaked in April and May
- The timing of the increases in these out-of-city births corresponds with the height of the early COVID-19 pandemic in NYC

Summary: births to NYC residents occurring outside the city in 2020 (cont.)

- The overall rise in out-of-city births was largely the result of increases among non-Hispanic white women
 - The percentage of these out-of-city births more than doubled in April and May 2020
 - The percentage of these births remained at least 30% higher than the previous year through November
- In contrast, out-of-city births increased in only two months among non-Hispanic black women (May and November) and Hispanic women (April and August)

Reports on 2020 Births

- *Births: Provisional Data for 2020*
 - <https://www.cdc.gov/nchs/data/vsrr/vsrr012-508.pdf>
- *Declines in Births by Month: United States, 2020*
 - <https://www.cdc.gov/nchs/data/vsrr/vsrr014-508.pdf>
- *Provisional Birth Estimates for Coronavirus Disease 2019 (COVID-19): Provisional Estimates for Selected Maternal and Infant Outcomes by Month, 2018-2020*
 - <https://www.cdc.gov/nchs/covid19/technical-notes-outcomes.htm>
- *Changes in Births to New York City Residents Occurring Outside New York City, by Race and Hispanic Origin of the Mother: 2018–2019 and 2019–2020*
 - <https://www.cdc.gov/nchs/data/vsrr/vsrr013-508.pdf>

Questions

- Please submit your questions via the chat window in the Zoom application
- The facilitator will address questions as time allows
- Questions not answered may be forwarded to paoquery@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

