

Births: Preliminary Data for 2004

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Abstract

Objectives—This report presents preliminary data for 2004 on births in the United States. U.S. data on births are shown by age, race, and Hispanic origin of mother. Data on marital status, tobacco use, prenatal care, cesarean delivery, preterm births, and low birth-weight (LBW) are also presented.

Methods—Data in this report are based on 99.1 percent of births for 2004. The records are weighted to independent control counts of all births received in State vital statistics offices in 2004. Comparisons are made with 2003 data.

Results—The crude birth rate declined 1 percent to 14.0 births per 1,000 population. The fertility rate, however, rose slightly to 66.3 births per 1,000 women aged 15–44 years. Birth rates for teenagers 15–19 years declined modestly. The rate in 2004 was 41.2 births per 1,000 females aged 15–19 years, 1 percent lower than in 2003. Rates declined 1 percent each for teenagers 15–17 and 18–19 years. The rate for 10–14 year-olds increased slightly. The birth rate for women aged 20–24 years declined 1 percent to 101.8, a record low for the Nation. The rate for women aged 25–29 years remained essentially unchanged at 115.5 per 1,000. The birth rate for women aged 30–34 years rose less than 1 percent to 95.5 per 1,000, whereas the rates for women aged 35–39 and 40–44 years increased 3 to 4 percent each. The rate for women aged 45–49 years rose to 0.6 per 1,000. Childbearing by unmarried women rose to a record high of almost 1.5 million births in 2004, a 4-percent increase from 2003. The proportion of all births to unmarried women increased to 35.7 percent. Smoking during pregnancy declined slightly in 2004, to 10.2 percent of mothers in the 40-State reporting area. There was no improvement in timely receipt of prenatal care. In 2004, 83.9 percent of mothers in the 41-State reporting area began care in the first trimester. A record high cesarean delivery rate was reported in 2004, at 29.1 percent of all births, a 6-percent increase from 2003. The primary cesarean rate rose 8 percent, whereas the rate of vaginal birth after cesarean delivery declined 13 percent. Preterm and LBW rates each increased in 2004. More than 500,000 infants were born preterm, a rate of 12.5 percent. The LBW rate increased to 8.1 percent.

Keywords: births • birth rates • maternal and infant health • vital statistics

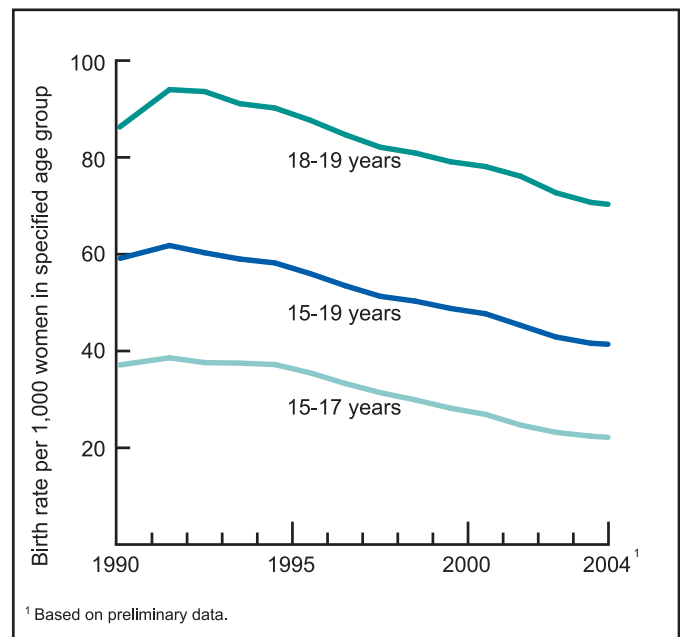


Figure 1. Birth rates for teenagers: United States, 1990–2004

Introduction

This report presents preliminary data on births based on 99.1 percent of vital records occurring in 2004. The preliminary report series includes detailed tabulations from the preliminary natality file. For most measures, trends in the preliminary reports for 1995–2003 births were confirmed by the final vital statistics for each year. Much of the data in this report was initially released in two reports by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) in the *Health E-Stat* series (1,2). This report brings the two initial releases together and includes State-specific data as well.

State-specific detailed tables for 2004 births based on preliminary data by maternal age under 20 years of age, marital status, cesarean

delivery, and low birthweight are available on the NCHS Web page (see "State-specific detailed tables" at <http://www.cdc.gov/nchs>).

Sources and Methods

The preliminary data in this series are based on records of births that occurred during 2004 and were received and had undergone quality control by CDC's NCHS as of May 25, 2005. Details of sources, methods, reporting areas for selected items, and other aspects of the preliminary 2004 birth file are presented in the "Technical Notes."

Results

Births and birth rates

Key findings, illustrated in text Tables A–C, Tables 1–4, and Figures 1–3, show:

- **The number of births and the fertility rate increased slightly, whereas the crude birth rate declined 1 percent in 2004.** There were 4.1 million births in 2004, nearly 1 percent more than in 2003 (Tables A, 1, 2, and 4). Births increased for Hispanic, Asian or Pacific Islander (API), and American Indian women, remained essentially unchanged for non-Hispanic black women, and decreased for non-Hispanic white women. The 2004 crude birth rate (14.0 births per 1,000 total population) was 1 percent lower than in 2003. The general fertility rate in 2004, however, was up slightly from the rate in 2003, to 66.3 births per 1,000 women age 15–44 years.
- **Teenage birth rates declined again in 2004, but at a much slower pace** than observed since the declines started after 1991 (Tables B, 1, 3, and Figure 1). The U.S. rate in 2004, another record low for the Nation, was 41.2 births per 1,000 females aged 15–19 years, 1 percent lower than in 2003, and 33 percent lower than the rate of 61.8 in 1991. Rates fell 2 to 3 percent for non-Hispanic white and non-Hispanic black teenagers and were unchanged for American Indians, Hispanics, and APIs. The number of births to teenagers increased very slightly in 2004. Rates declined modestly for teenagers 15–17 and 18–19 years, but increased slightly for ages 10–14 years.
- **Childbearing by women in their early twenties showed a decline.** The birth rate for women aged 20–24 years decreased 1 percent, to 101.8 births per 1,000 women in 2004, the lowest rate ever reported. The rate for women aged 25–29 years was essentially unchanged in 2004 (115.5), but remained the highest rate among the age groups (Table 1).
- **Among race and Hispanic origin groups,** the rates for women aged 20–24 years fell 1 and 2 percent for non-Hispanic black and non-Hispanic white women, respectively, but increased 1 percent for Hispanic women. The rates for American Indian and API women were essentially unchanged in 2004. Rates for women aged 25–29 years decreased only for non-Hispanic white women. The rate for Hispanic women rose by 1 percent and was essentially unchanged for the remaining groups (Table 1).
- **Births to older women continue to increase.** From 2003 to 2004, the birth rate for women aged 30–34 years increased slightly (less than 1 percent), whereas the rate for women aged 35–39 years rose by 4 percent. The birth rate for women 40–44 years increased 3 percent, to 9.0, and the rate for women aged 45–49 years increased in 2004 to 0.6 births per 1,000 women (Table 1).
- **First birth rates for women aged 35–39 and 40–44 years showed sizable increases.** In 2004, the first birth rate was 26.4 first births per 1,000 women aged 15–44 years, down slightly from 26.5 births in 2003 (see Table 3 for 2004 data). Changes by maternal age were small, except for rates for women aged 35–39 and 40–44 years, which increased from 2003 and 2004, by 3 and 5 percent, respectively. The rate for women aged 45–49 years remained unchanged.
- **The total fertility rate (TFR) rose slightly in 2004** to 2,048.5 compared with 2,042.5 in 2003 (Table A). The TFR summarizes the potential impact of current fertility patterns on completed family

Table A. Total births and percentage of births with selected demographic characteristics, by race and Hispanic origin of mother: United States, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States. Figures for 2004 are based on weighted data rounded to the nearest individual. Birth rates are live births per 1,000 population in specified group. Fertility rates are live births per 1,000 women aged 15–44 years in specified group. Total fertility rates are sums of birth rates for 5-year age groups in specified group multiplied by 5]

| Race and Hispanic origin of mother | Number | | Birth rate | | Fertility rate | | Total fertility rate | | Percent of births to unmarried mothers | |
|--|-----------|-----------|------------|------|----------------|------|----------------------|---------|--|------|
| | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 |
| All races and origins ¹ | 4,115,590 | 4,089,950 | 14.0 | 14.1 | 66.3 | 66.1 | 2,048.5 | 2,042.5 | 35.7 | 34.6 |
| Non-Hispanic white ² | 2,304,181 | 2,321,904 | 11.7 | 11.8 | 58.5 | 58.5 | 1,852.5 | 1,856.5 | 24.5 | 23.6 |
| Non-Hispanic black ² | 576,105 | 576,033 | 15.7 | 15.9 | 66.7 | 67.1 | 2,010.5 | 2,027.5 | 69.2 | 68.5 |
| American Indian total ^{2,3,4} | 43,931 | 43,052 | 14.0 | 13.8 | 58.9 | 58.4 | 1,735.0 | 1,731.5 | 62.3 | 61.3 |
| Asian or Pacific Islander total ^{2,3} | 229,352 | 221,203 | 16.8 | 16.8 | 67.2 | 66.3 | 1,900.5 | 1,873.0 | 15.5 | 15.0 |
| Hispanic ⁵ | 944,993 | 912,329 | 22.9 | 22.9 | 97.7 | 96.9 | 2,820.5 | 2,785.5 | 46.4 | 45.0 |

¹Includes data for women of unknown Hispanic origin.

²Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single race categories of the 1977 OMB standards for comparability with other States; see "Technical Notes."

³Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."

⁴Includes births to Aleuts and Eskimos.

⁵Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion, see "Technical Notes."

Table B. Birth rates for women under age 20 years, by age, race, and Hispanic origin: United States, 1991, 2003, and 2004, and percentage change in rates, 1991–2004 and 2003–04

[Data for 2004 are based on a continuous file of records received from the States. Rates per 1,000 women in specified group]

| Age and race and Hispanic origin of mother | Year | | | Percent change, 2003–2004 | Percent change, 1991–2004 |
|--|-------|-------|-------|---------------------------|---------------------------|
| | 2004 | 2003 | 1991 | | |
| 10–14 years | | | | | |
| All races and origins ¹ | 0.7 | 0.6 | 1.4 | 17 | -50 |
| Non-Hispanic white ² | 0.2 | 0.2 | 0.5 | 0 | -60 |
| Non-Hispanic black ² | 1.6 | 1.6 | 4.9 | 0 | -67 |
| American Indian total ^{2,3,4} | 0.9 | 1.0 | 1.6 | -10 | -44 |
| Asian or Pacific Islander total ^{2,4} | 0.2 | 0.2 | 0.8 | 0 | -75 |
| Hispanic ⁵ | 1.3 | 1.3 | 2.4 | 0 | -46 |
| 15–19 years | | | | | |
| All races and origins ¹ | 41.2 | 41.6 | 61.8 | -1 | -33 |
| Non-Hispanic white ² | 26.8 | 27.4 | 43.4 | -2 | -38 |
| Non-Hispanic black ² | 62.7 | 64.7 | 118.2 | -3 | -47 |
| American Indian total ^{2,3,4} | 52.5 | 53.1 | 84.1 | -1 | -38 |
| Asian or Pacific Islander total ^{2,4} | 17.4 | 17.4 | 27.3 | 0 | -36 |
| Hispanic ⁵ | 82.6 | 82.3 | 104.6 | 0 | -21 |
| 15–17 years | | | | | |
| All races and origins ¹ | 22.1 | 22.4 | 38.6 | -1 | -43 |
| Non-Hispanic white ² | 12.0 | 12.4 | 23.6 | -3 | -49 |
| Non-Hispanic black ² | 36.8 | 38.7 | 86.1 | -5 | -57 |
| American Indian total ^{2,3,4} | 30.1 | 30.6 | 51.9 | -2 | -42 |
| Asian or Pacific Islander total ^{2,4} | 8.9 | 8.8 | 16.3 | 1 | -45 |
| Hispanic ⁵ | 49.7 | 49.7 | 69.2 | 0 | -28 |
| 18–19 years | | | | | |
| All races and origins ¹ | 70.0 | 70.7 | 94.0 | -1 | -26 |
| Non-Hispanic white ² | 48.8 | 50.0 | 70.6 | -2 | -31 |
| Non-Hispanic black ² | 103.3 | 105.3 | 162.2 | -2 | -36 |
| American Indian total ^{2,3,4} | 86.8 | 87.3 | 134.2 | -1 | -35 |
| Asian or Pacific Islander total ^{2,4} | 29.9 | 29.8 | 42.2 | 0 | -29 |
| Hispanic ⁵ | 133.4 | 132.0 | 155.5 | 1 | -14 |

¹Includes data for women of unknown Hispanic origin.
²Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single race categories of the 1977 OMB standards for comparability with other States; see "Technical Notes."
³Includes births to Aleuts and Eskimos.
⁴Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."
⁵Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion, see "Technical Notes."

size to estimate the average number of births that a hypothetical group of 1,000 women would have over their lifetimes. The TFR by race and Hispanic origin increased for only two groups in 2004, API and Hispanic women, which rose 1 percent each (Table A). The TFR for non-Hispanic black and non-Hispanic white women fell between 2003 and 2004 and the rate for American Indian women was essentially unchanged.

- **Crude birth rates (CBR) vary considerably among States** ranging, in 2004, from 10.6 births per 1,000 total population in Maine and Vermont to 21.2 in Utah (Table 4). Compared with 2003, birth rates in 2004 were little changed for most States with just 10 States declining significantly (Colorado, Connecticut, Illinois, Kentucky, Maryland, Massachusetts, Michigan, New Jersey,

Table C. Number and percentage of births to unmarried women, all ages and women under 20 years: United States, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States. Figures for 2004 are based on weighted data rounded to the nearest individual]

| Age of mother | Number | | Percent | |
|----------------|-----------|-----------|---------|------|
| | 2004 | 2003 | 2004 | 2003 |
| All ages | 1,470,152 | 1,415,995 | 35.7 | 34.6 |
| Under 20 years | 348,934 | 343,670 | 82.6 | 81.6 |
| Under 15 years | 6,614 | 6,469 | 97.4 | 97.1 |
| 15–19 years | 342,320 | 337,201 | 82.4 | 81.3 |
| 15–17 years | 120,972 | 120,571 | 90.3 | 89.7 |
| 18–19 years | 221,348 | 216,630 | 78.7 | 77.3 |

NOTE: For information on the relative standard errors of the data and further discussion, see "Technical Notes."

New York, and Rhode Island) and only one State (Virginia) and the District of Columbia increasing.

- Like the CBR **most States saw little change in their fertility rates** from 2003 with significant increases in just five States and the District of Columbia and only New Jersey declining. Fertility rates like CBRs vary considerably among States with rates tending to increase, moving from the Northeast to the South and West (see Table 4 and Figure 3). Rates were lowest in Vermont and highest in Utah.
- **Childbearing by unmarried women reached a record high** of almost 1.5 million births in 2004, up 4 percent from 2003 (Table C and Figure 3). More than 4 in 5 births to teenagers were non-marital (Table C). Over half of births to women in their early twenties and nearly 3 in 10 births to women aged 25–29 years were to unmarried women (tabular data not shown). In 2004, 35.7 percent of all births were to unmarried women, and the percentages increased for all age, race, and Hispanic origin subgroups (Table A). The birth rate increased 3 percent to 46.1 births per 1,000 unmarried women aged 15–44 years.

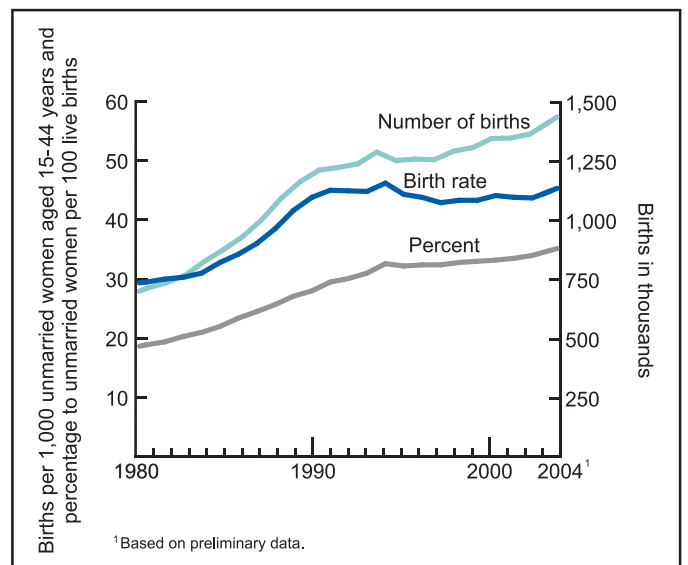


Figure 2. Number of births, birth rate, and percentage of births to unmarried women: United States, 1980–2004

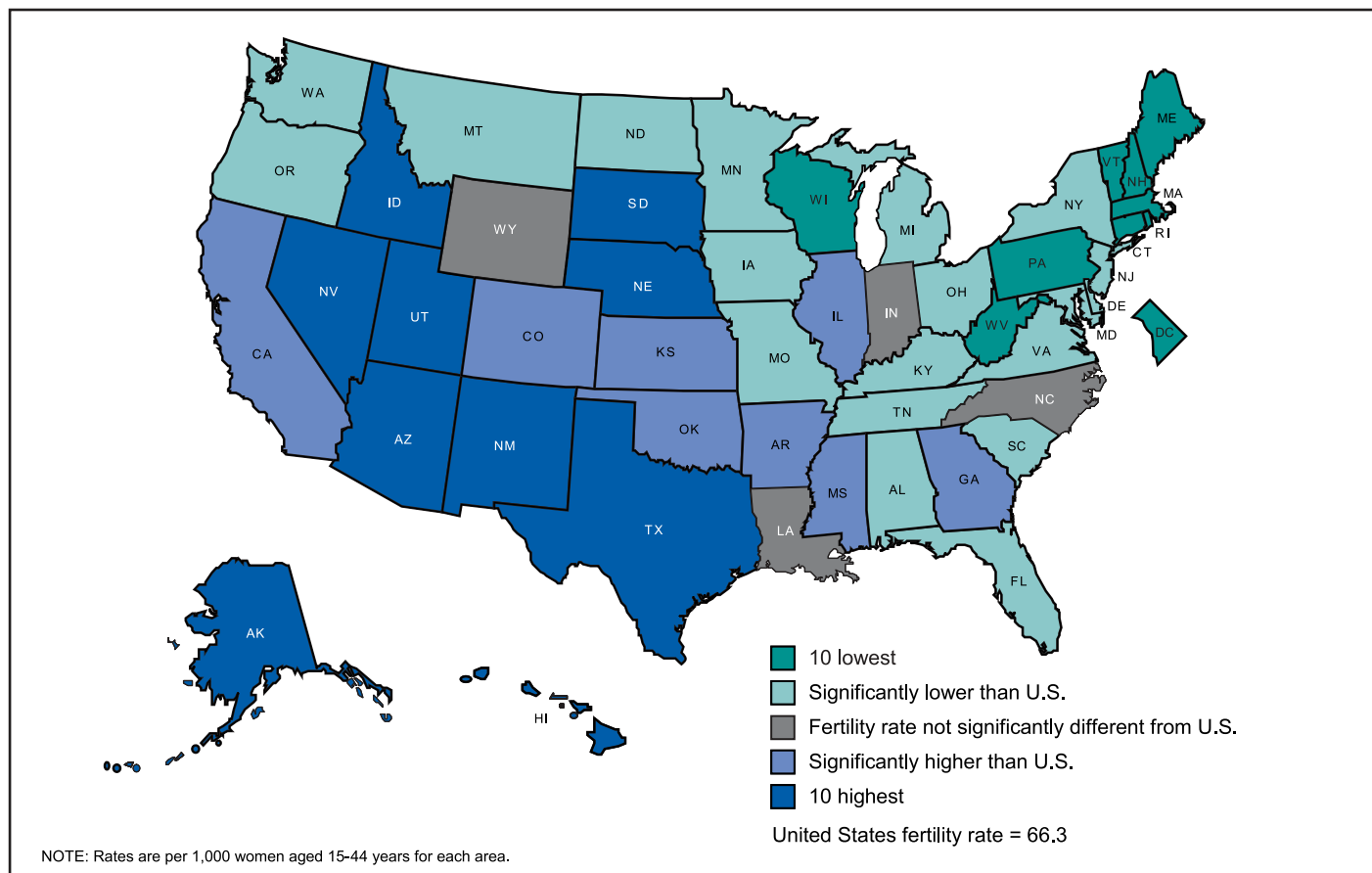


Figure 3. Fertility rate by State, 2004 preliminary

Maternal and infant health birth characteristics

Key findings, illustrated in text Tables D–F and Figures 4 and 5, show:

- Tobacco use during pregnancy declined slightly in 2004.** For the 40-State reporting area (see “Technical Notes”), 10.2 percent of all mothers smoked during pregnancy in 2004, compared with 10.4 in 2003. Tobacco use among pregnant women has been on the decline since at least 1989 (3). American Indian mothers continued to have the highest rates of smoking during pregnancy, 18.2 percent in 2004. Hispanic mothers were the only group with a significant decline in prenatal smoking, down from 2.7 to 2.6 percent for 2003–04. See Table D.
- No improvement in timely receipt of prenatal care was seen in 2004.** Based on the 41-State reporting area for which comparable trend data were available, 83.9 percent of all mothers began prenatal care in the first trimester of pregnancy, a level essentially unchanged from the previous year (Table D). The percentage of women beginning care within the first 3 months of pregnancy had been increasing fairly steadily for 1990–2003 (3). The percentage of women who did not begin care until the last trimester of pregnancy or with no care at all increased slightly, from 3.56 to 3.59 percent between 2003 and 2004. Late or no care had been on the decline since 1990. In 2004 as in previous years, levels of timely prenatal care varied widely by race and Hispanic origin.
- The cesarean delivery rate rose 6 percent in 2004 to 29.1 percent of all births, the highest rate ever reported in the United States (3,4).** The rate has increased by over 40 percent since 1996. For 2003–04 the primary cesarean rate rose 8 percent, and the rate of vaginal birth after cesarean delivery (VBAC) dropped 13 percent. The primary rate has climbed 41 percent and the VBAC rate has fallen 67 percent since 1996. See Table E and Figure 4. There may be small discontinuities in rates of primary cesarean delivery and VBAC in 2003 and 2004 due to changes in data collection resulting from implementation of the 2003 revision of the U.S. Standard Certificate of Live Birth in nine States; see “Technical Notes.” However, for the majority of reporting areas for 2003–04 there appears to be a strong upward trend in the primary rate and a sharp downturn in VBAC.
- More than one-half million infants were born preterm in 2004, the highest number reported since comparable national data on gestational age have been available (1981) (3).** The preterm birth rate, or the percentage of infants delivered at less than 37 completed weeks, rose 2 percent for 2003–04 to 12.5 percent, or one of every eight live-born infants (Table F, Figure 5). The preterm birth rate has climbed 18 percent since only 1990. Levels were up among both very preterm (less than 32 weeks) and moderately preterm (32–36 weeks) births. Overall preterm rates increased for non-Hispanic white and Hispanic births, but were not significantly changed for non-Hispanic black, American Indian or API births.

Table D. Trimester of pregnancy prenatal care began and smoking status during pregnancy: 41 States, the District of Columbia, and New York City, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States]

| Race and Hispanic origin of mother | Trimester of pregnancy prenatal care began ¹ | | | | Smoker ² | |
|--|---|------|--------------------------|------|---------------------|------|
| | 1st trimester | | 3rd trimester or no care | | 2004 | 2003 |
| | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 |
| All races and origins ³ | 83.9 | 84.0 | 3.6 | 3.6 | 10.2 | 10.4 |
| Non-Hispanic white ⁴ | 88.9 | 89.1 | 2.2 | 2.1 | 13.8 | 13.8 |
| Non-Hispanic black ⁴ | 76.5 | 76.2 | 5.7 | 5.9 | 8.4 | 8.4 |
| American Indian total ^{4,5,6} | 69.9 | 70.6 | 7.9 | 7.7 | 18.2 | 18.2 |
| Asian or Pacific Islander total ^{4,5} | 85.6 | 85.4 | 3.0 | 3.1 | 2.2 | 2.2 |
| Hispanic ⁷ | 77.4 | 77.3 | 5.4 | 5.3 | 2.6 | 2.7 |

¹Excludes data from Florida, Idaho, Kentucky, New Hampshire, New York State (excluding New York City), Pennsylvania, South Carolina, Tennessee, and Washington; see "Technical Notes."²Excludes data from California, Florida, Idaho, Kentucky, New Hampshire, New York State (excluding New York City), Pennsylvania, South Carolina, Tennessee, and Washington; see "Technical Notes."³Includes data for women of unknown Hispanic origin.⁴Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single race categories of the 1977 OMB standards for comparability with other States; see "Technical Notes."⁵Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."⁶Includes births to Aleuts and Eskimos.⁷Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion; see Technical Notes.

Table E. Total births, total and primary cesarean delivery rate and rate of vaginal birth after previous cesarean, by race and Hispanic origin of mother: United States, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States. Figures for 2004 are based on weighted data rounded to the nearest individual]

| Race and Hispanic origin of mother | Number | Cesarean rate | | | | Rate of vaginal birth after previous cesarean ³ | | |
|--|-----------|--------------------|------|----------------------|------|--|------|------|
| | | Total ¹ | | Primary ² | | 2004 | 2003 | |
| | | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | |
| All races and origins ⁴ | 4,115,590 | 4,089,950 | 29.1 | 27.5 | 20.6 | 19.1 | 9.2 | 10.6 |
| Non-Hispanic white ⁵ | 2,304,181 | 2,321,904 | 29.2 | 27.6 | 21.1 | 19.5 | 9.3 | 10.7 |
| Non-Hispanic black ⁵ | 576,105 | 576,033 | 31.0 | 29.2 | 22.5 | 20.7 | 10.0 | 11.3 |
| American Indian total ^{5,6,7} | 43,931 | 43,052 | 25.1 | 24.1 | 16.5 | 15.8 | 13.1 | 14.1 |
| Asian or Pacific Islander total ^{5,6} | 229,352 | 221,203 | 28.4 | 26.6 | 21.2 | 19.9 | 10.3 | 12.4 |
| Hispanic ⁸ | 944,993 | 912,329 | 27.9 | 26.5 | 18.2 | 17.0 | 8.3 | 9.4 |

¹Percent of all births by cesarean delivery.²Number of primary cesareans per 100 live births to women who have not had a previous cesarean.³Number of vaginal births after previous cesarean delivery per 100 live births to women with a previous cesarean delivery.⁴Includes data for women of unknown Hispanic origin.⁵Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single race categories of the 1977 OMB standards for comparability with other States; see "Technical Notes."⁶Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."⁷Includes births to Aleuts and Eskimos.⁸Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: Due to changes in data collection from implementation of the 2003 revision of the U.S. Standard Certificate of Live Birth, there may be small discontinuities in rates of primary cesarean delivery and VBAC for 2003 and 2004. See "Technical Notes." For information on the relative standard errors of the data and further discussion; see "Technical Notes."

- **Infants were also more likely to be born low birthweight (LBW) (less than 2,500 grams) in 2004;** the LBW rate rose from 7.9 to 8.1 percent between 2003 and 2004 (**Table F, Figure 5**). The percentage of infants born LBW has risen 16 percent since 1990 (3). LBW levels increased for births to non-Hispanic white and Hispanic mothers for 2003–2004; increases for non-Hispanic black, American Indian, and API infants were not statistically

significant. Although recent increases in multiple births, which are at high risk of being born too early and too small, have strongly influenced recent upswings in preterm and LBW, rates have also been on the rise among infants delivered in singleton deliveries. Infants born preterm or LBW, especially those born very LBW or very preterm, are at greater risk of morbidity and early death than infants born at higher ages and birthweights (3,5).

Table F. Percentage of live births preterm and very preterm and percentage of live births low and very low birthweight, by race and Hispanic origin of mother: United States, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States]

| Race and Hispanic origin of mother | Preterm | | | | Low birthweight | | | |
|--|--------------------|------|---------------------------|------|--------------------|------|-----------------------------------|------|
| | Total ¹ | | Very preterm ² | | Total ³ | | Very low birthweight ⁴ | |
| | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 |
| All races and origins ⁵ | 12.5 | 12.3 | 2.00 | 1.97 | 8.1 | 7.9 | 1.47 | 1.45 |
| Non-Hispanic white ⁶ | 11.5 | 11.3 | 1.63 | 1.60 | 7.2 | 7.0 | 1.20 | 1.18 |
| Non-Hispanic black ⁶ | 17.9 | 17.8 | 4.04 | 3.99 | 13.7 | 13.6 | 3.14 | 3.12 |
| American Indian total ^{6,7,8} | 13.7 | 13.5 | 2.17 | 2.17 | 7.5 | 7.4 | 1.28 | 1.30 |
| Asian or Pacific Islander total ^{6,7} | 10.6 | 10.5 | 1.49 | 1.43 | 7.9 | 7.8 | 1.14 | 1.09 |
| Hispanic ⁹ | 12.0 | 11.9 | 1.76 | 1.73 | 6.8 | 6.7 | 1.19 | 1.16 |

¹Births of less than 37 completed weeks of gestation.
²Births of less than 32 completed weeks of gestation.
³Less than 2,500 grams (5lb 8oz).
⁴Less than 1,500 grams (3lb 4oz).
⁵Includes data women of unknown Hispanic origin.
⁶Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget (OMB) standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single race categories of the 1977 OMB standards for comparability with other States; see "Technical Notes."
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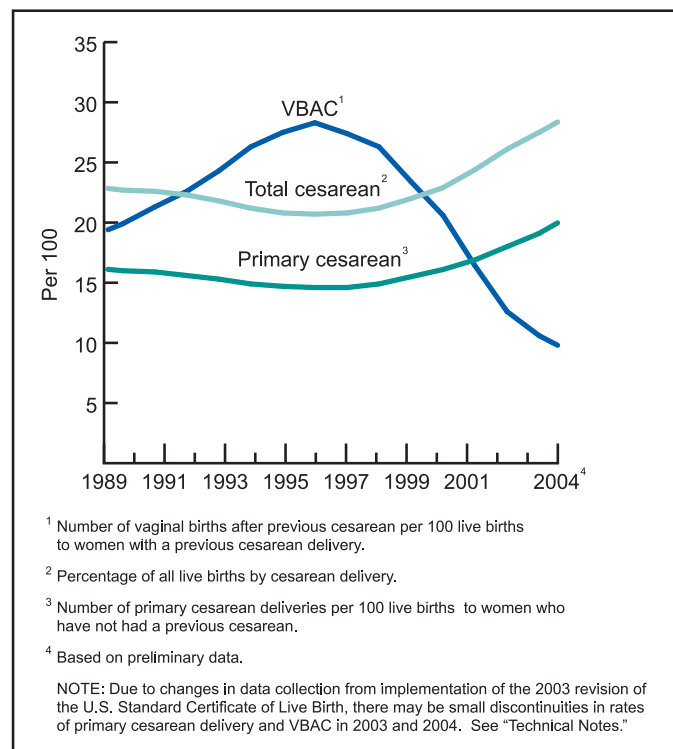


Figure 4. Total and primary cesarean rate and vaginal birth after previous cesarean (VBAC): United States, 1989–2004

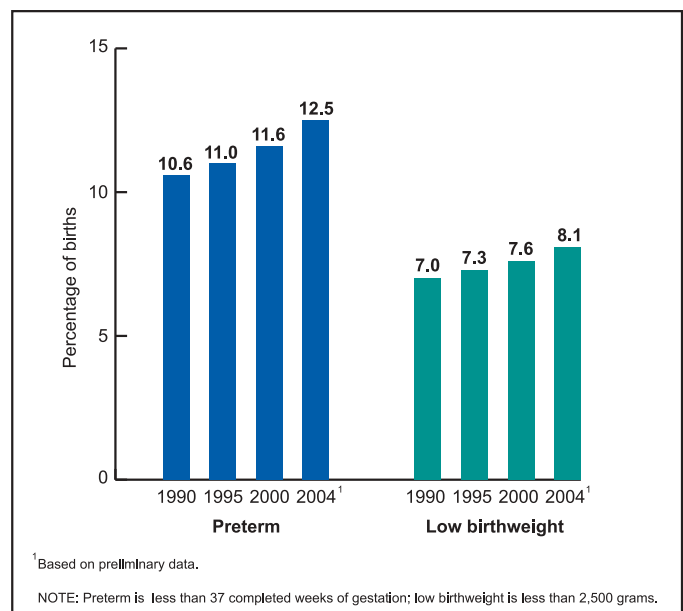


Figure 5. Percentage of infants born preterm and percentage born low birthweight: United States, 1990, 1995, 2000, and 2004

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Table 1. Births and birth rates, by age, race, and Hispanic origin of mother: United States, final 2003 and preliminary 2004

[Data for 2004 are based on a continuous file of records received from the States. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals. Rates per 1,000 women in specified age and race or Hispanic origin group]

| Age and race or Hispanic origin of mother | 2004 | | 2003 | |
|---|-----------|-------|-----------|-------|
| | Number | Rate | Number | Rate |
| All races | | | | |
| Total ¹ | 4,115,590 | 66.3 | 4,089,950 | 66.1 |
| 10-14 years | 6,789 | 0.7 | 6,661 | 0.6 |
| 15-19 years | 415,408 | 41.2 | 414,580 | 41.61 |
| 15-17 years | 133,987 | 22.1 | 134,384 | 22.4 |
| 18-19 years | 281,421 | 70.0 | 280,196 | 70.7 |
| 20-24 years | 1,034,834 | 101.8 | 1,032,305 | 102.6 |
| 25-29 years | 1,105,297 | 115.5 | 1,086,366 | 115.6 |
| 30-34 years | 967,008 | 95.5 | 975,546 | 95.1 |
| 35-39 years | 476,123 | 45.4 | 467,642 | 43.8 |
| 40-44 years | 103,917 | 9.0 | 101,005 | 8.7 |
| 45-54 years ² | 6,214 | 0.6 | 5,845 | 0.5 |
| White total ³ | | | | |
| Total ¹ | 3,229,814 | 66.2 | 3,225,848 | 66.1 |
| 10-14 years | 3,753 | 0.5 | 3,677 | 0.5 |
| 15-19 years | 297,931 | 37.8 | 298,347 | 38.3 |
| 15-17 years | 92,390 | 19.5 | 92,576 | 19.8 |
| 18-19 years | 205,541 | 65.2 | 205,771 | 66.2 |
| 20-24 years | 789,755 | 99.4 | 790,910 | 100.6 |
| 25-29 years | 882,586 | 118.9 | 871,496 | 119.5 |
| 30-34 years | 782,172 | 99.3 | 795,902 | 99.3 |
| 35-39 years | 385,620 | 46.5 | 379,773 | 44.8 |
| 40-44 years | 83,000 | 8.9 | 81,031 | 8.7 |
| 45-54 years ² | 4,997 | 0.5 | 4,712 | 0.5 |
| Non-Hispanic white | | | | |
| Total ¹ | 2,304,181 | 58.5 | 2,321,904 | 58.5 |
| 10-14 years | 1,492 | 0.2 | 1,399 | 0.2 |
| 15-19 years | 169,528 | 26.8 | 172,620 | 27.4 |
| 15-17 years | 45,478 | 12.0 | 46,803 | 12.4 |
| 18-19 years | 124,050 | 48.8 | 125,817 | 50.0 |
| 20-24 years | 518,597 | 82.1 | 522,275 | 83.5 |
| 25-29 years | 633,588 | 110.3 | 627,437 | 110.8 |
| 30-34 years | 606,165 | 97.4 | 626,315 | 97.6 |
| 35-39 years | 305,009 | 44.9 | 303,354 | 43.2 |
| 40-44 years | 65,689 | 8.3 | 64,600 | 8.1 |
| 45-54 years ² | 4,112 | 0.5 | 3,904 | 0.5 |
| Black total ³ | | | | |
| Total ¹ | 612,493 | 67.2 | 599,847 | 66.3 |
| 10-14 years | 2,806 | 1.6 | 2,726 | 1.6 |
| 15-19 years | 102,087 | 62.9 | 100,951 | 63.8 |
| 15-17 years | 36,592 | 36.9 | 36,855 | 38.2 |
| 18-19 years | 65,495 | 103.7 | 64,096 | 103.7 |
| 20-24 years | 199,171 | 126.9 | 196,268 | 126.1 |
| 25-29 years | 146,934 | 102.9 | 139,947 | 100.4 |
| 30-34 years | 98,604 | 67.6 | 97,529 | 66.5 |
| 35-39 years | 49,842 | 33.8 | 49,889 | 33.2 |
| 40-44 years | 12,364 | 7.9 | 11,895 | 7.7 |
| 45-54 years ² | 683 | 0.5 | 642 | 0.5 |

See footnotes at end of table.

Table 1. Births and birth rates, by age, race, and Hispanic origin of mother: United States, final 2003 and preliminary 2004—Con.

[Data for 2004 are based on a continuous file of records received from the States. Figures for 2004 are based on weighted data rounded to the nearest individual, so categories may not add to totals. Rates per 1,000 women in specified age and race or Hispanic origin group]

| Age and race or Hispanic origin of mother | 2004 | | 2003 | |
|--|---------|-------|---------|-------|
| | Number | Rate | Number | Rate |
| Non-Hispanic black | | | | |
| Total ¹ | 576,105 | 66.7 | 576,033 | 67.1 |
| 10–14 years | 2,708 | 1.6 | 2,642 | 1.6 |
| 15–19 years | 96,718 | 62.7 | 97,509 | 64.7 |
| 15–17 years | 34,694 | 36.8 | 35,530 | 38.7 |
| 18–19 years | 62,023 | 103.3 | 61,979 | 105.3 |
| 20–24 years | 187,797 | 126.2 | 189,020 | 128.1 |
| 25–29 years | 137,445 | 102.5 | 133,821 | 102.1 |
| 30–34 years | 92,338 | 67.2 | 93,346 | 67.4 |
| 35–39 years | 46,805 | 33.6 | 47,661 | 33.4 |
| 40–44 years | 11,652 | 7.8 | 11,419 | 7.7 |
| 45–54 years ² | 643 | 0.5 | 615 | 0.5 |
| American Indian total^{3,4} | | | | |
| Total ¹ | 43,931 | 58.9 | 43,052 | 58.4 |
| 10–14 years | 139 | 0.9 | 154 | 1.0 |
| 15–19 years | 7,699 | 52.5 | 7,690 | 53.1 |
| 15–17 years | 2,669 | 30.1 | 2,675 | 30.6 |
| 18–19 years | 5,030 | 86.8 | 5,015 | 87.3 |
| 20–24 years | 15,130 | 109.7 | 14,645 | 110.0 |
| 25–29 years | 10,726 | 92.8 | 10,524 | 93.5 |
| 30–34 years | 6,506 | 58.2 | 6,423 | 57.4 |
| 35–39 years | 2,984 | 26.7 | 2,906 | 25.4 |
| 40–44 years | 726 | 6.0 | 666 | 5.5 |
| 45–54 years ² | 22 | 0.2 | 44 | 0.4 |
| Asian or Pacific Islander total³ | | | | |
| Total ¹ | 229,352 | 67.2 | 221,203 | 66.3 |
| 10–14 years | 90 | 0.2 | 104 | 0.2 |
| 15–19 years | 7,691 | 17.4 | 7,592 | 17.4 |
| 15–17 years | 2,336 | 8.9 | 2,278 | 8.8 |
| 18–19 years | 5,355 | 29.9 | 5,314 | 29.8 |
| 20–24 years | 30,778 | 60.1 | 30,482 | 59.6 |
| 25–29 years | 65,052 | 108.7 | 64,399 | 108.5 |
| 30–34 years | 79,726 | 116.9 | 75,692 | 114.6 |
| 35–39 years | 37,676 | 62.1 | 35,074 | 59.9 |
| 40–44 years | 7,827 | 13.7 | 7,413 | 13.5 |
| 45–54 years ² | 512 | 1.0 | 447 | 0.9 |
| Hispanic⁵ | | | | |
| Total ¹ | 944,993 | 97.7 | 912,329 | 96.9 |
| 10–14 years | 2,364 | 1.3 | 2,356 | 1.3 |
| 15–19 years | 132,983 | 82.6 | 128,524 | 82.3 |
| 15–17 years | 48,644 | 49.7 | 46,955 | 49.7 |
| 18–19 years | 84,339 | 133.4 | 81,569 | 132.0 |
| 20–24 years | 279,566 | 165.2 | 273,311 | 163.4 |
| 25–29 years | 253,980 | 145.4 | 246,361 | 144.4 |
| 30–34 years | 177,330 | 103.8 | 169,054 | 102.0 |
| 35–39 years | 80,765 | 52.7 | 75,801 | 50.8 |
| 40–44 years | 17,215 | 12.4 | 16,172 | 12.2 |
| 45–54 years ² | 790 | 0.7 | 750 | 0.7 |

¹The total number includes births to women of all ages, 10–54 years. The rate shown for all ages is the fertility rate, which is defined as the total number of births, regardless of age of mother, per 1,000 women aged 15–44 years.

²The number of births shown is the total for women aged 45–54 years. The birth rate is computed by relating the number of births to women aged 45–54 years to women aged 45–49 years, because most of the births in this group are to women aged 45–49 years.

³Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single-race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes". Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."

⁴Includes births to Aleuts and Eskimos.

⁵Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion; see "Technical Notes."

Table 2. Live births by age of mother, live-birth order, and race and Hispanic origin of mother: United States, preliminary 2004

[Data are based on a continuous file of records received from the States. Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals]

| Live-birth order and race or Hispanic origin of mother | All ages | Age of mother | | | | | | | |
|---|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | Under 15 years | 15–19 years | 20–24 years | 25–29 years | 30–34 years | 35–39 years | 40–44 years | 45–54 years |
| All races | 4,115,590 | 6,789 | 415,408 | 1,034,834 | 1,105,297 | 967,008 | 476,123 | 103,917 | 6,214 |
| 1st child | 1,632,543 | 6,642 | 330,238 | 483,968 | 396,349 | 280,348 | 110,614 | 22,780 | 1,605 |
| 2d child | 1,320,853 | 110 | 70,540 | 350,739 | 370,771 | 342,181 | 155,797 | 29,224 | 1,491 |
| 3d child | 694,584 | 5 | 11,011 | 142,016 | 208,216 | 200,365 | 110,077 | 21,820 | 1,073 |
| 4th child and over | 449,049 | – | 1,508 | 53,679 | 125,228 | 139,856 | 97,329 | 29,453 | 1,996 |
| Not stated | 18,561 | 31 | 2,112 | 4,433 | 4,734 | 4,258 | 2,305 | 639 | 49 |
| White total ¹ | 3,229,814 | 3,753 | 297,931 | 789,755 | 882,586 | 782,172 | 385,620 | 83,000 | 4,997 |
| 1st child | 1,279,688 | 3,690 | 239,829 | 379,349 | 322,016 | 225,339 | 89,627 | 18,524 | 1,314 |
| 2d child | 1,052,421 | 48 | 48,912 | 271,256 | 302,428 | 279,146 | 126,228 | 23,181 | 1,220 |
| 3d child | 550,624 | 3 | 7,011 | 102,516 | 165,848 | 166,287 | 90,741 | 17,355 | 864 |
| 4th child and over | 333,906 | – | 881 | 33,619 | 88,892 | 108,245 | 77,246 | 23,463 | 1,559 |
| Not stated | 13,175 | 12 | 1,297 | 3,015 | 3,401 | 3,155 | 1,777 | 476 | 40 |
| Non-Hispanic white | 2,304,181 | 1,492 | 169,528 | 518,597 | 633,588 | 606,165 | 305,009 | 65,689 | 4,112 |
| 1st child | 949,284 | 1,473 | 140,914 | 263,956 | 257,595 | 191,091 | 77,066 | 16,025 | 1,165 |
| 2d child | 770,253 | 13 | 24,572 | 173,477 | 217,327 | 227,731 | 106,395 | 19,656 | 1,081 |
| 3d child | 370,960 | 1 | 3,060 | 61,167 | 104,762 | 118,225 | 69,496 | 13,533 | 715 |
| 4th child and over | 205,156 | – | 334 | 18,223 | 51,677 | 66,872 | 50,791 | 16,131 | 1,129 |
| Not stated | 8,528 | 5 | 648 | 1,774 | 2,227 | 2,247 | 1,261 | 344 | 22 |
| Black total ¹ | 612,493 | 2,806 | 102,087 | 199,171 | 146,934 | 98,604 | 49,842 | 12,364 | 683 |
| 1st child | 231,843 | 2,733 | 78,289 | 80,749 | 36,651 | 21,493 | 9,608 | 2,182 | 138 |
| 2d child | 176,898 | 58 | 18,955 | 65,597 | 45,460 | 29,802 | 13,842 | 3,064 | 122 |
| 3d child | 107,940 | 1 | 3,557 | 34,001 | 33,600 | 22,486 | 11,471 | 2,696 | 127 |
| 4th child and over | 91,867 | – | 576 | 17,680 | 30,312 | 24,104 | 14,589 | 4,317 | 288 |
| Not stated | 3,945 | 15 | 711 | 1,144 | 910 | 719 | 332 | 106 | 8 |
| Non-Hispanic black | 576,105 | 2,708 | 96,718 | 187,797 | 137,445 | 92,338 | 46,805 | 11,652 | 643 |
| 1st child | 217,735 | 2,635 | 74,068 | 75,485 | 34,068 | 20,214 | 9,060 | 2,075 | 130 |
| 2d child | 166,046 | 57 | 18,028 | 61,848 | 42,209 | 27,895 | 13,032 | 2,865 | 113 |
| 3d child | 101,424 | 1 | 3,413 | 32,356 | 31,461 | 20,893 | 10,644 | 2,534 | 121 |
| 4th child and over | 87,370 | – | 548 | 17,056 | 28,920 | 22,705 | 13,784 | 4,084 | 273 |
| Not stated | 3,530 | 15 | 660 | 1,053 | 787 | 631 | 285 | 93 | 6 |
| American Indian total ^{1,2} | 43,931 | 139 | 7,699 | 15,130 | 10,726 | 6,506 | 2,984 | 726 | 22 |
| 1st child | 15,260 | 132 | 5,902 | 5,703 | 2,135 | 946 | 369 | 69 | 4 |
| 2d child | 12,021 | 3 | 1,480 | 5,273 | 3,024 | 1,553 | 563 | 125 | 1 |
| 3d child | 7,853 | 1 | 243 | 2,776 | 2,670 | 1,436 | 597 | 126 | 4 |
| 4th child and over | 8,522 | – | 28 | 1,300 | 2,831 | 2,523 | 1,430 | 396 | 13 |
| Not stated | 276 | 3 | 45 | 78 | 66 | 48 | 25 | 10 | – |
| Asian or Pacific Islander total ¹ | 229,352 | 90 | 7,691 | 30,778 | 65,052 | 79,726 | 37,676 | 7,827 | 512 |
| 1st child | 105,752 | 88 | 6,217 | 18,167 | 35,546 | 32,570 | 11,010 | 2,005 | 149 |
| 2d child | 79,513 | 1 | 1,193 | 8,613 | 19,859 | 31,680 | 15,165 | 2,855 | 148 |
| 3d child | 28,168 | – | 200 | 2,723 | 6,098 | 10,156 | 7,269 | 1,644 | 78 |
| 4th child and over | 14,754 | – | 23 | 1,078 | 3,193 | 4,985 | 4,063 | 1,276 | 135 |
| Not stated | 1,165 | 1 | 59 | 196 | 357 | 335 | 170 | 47 | 1 |
| Hispanic ³ | 944,993 | 2,364 | 132,983 | 279,566 | 253,980 | 177,330 | 80,765 | 17,215 | 790 |
| 1st child | 337,936 | 2,316 | 102,612 | 119,258 | 65,112 | 33,806 | 12,322 | 2,382 | 130 |
| 2d child | 288,291 | 37 | 25,152 | 100,778 | 87,110 | 51,752 | 19,802 | 3,534 | 126 |
| 3d child | 183,867 | 3 | 4,086 | 42,708 | 62,653 | 48,927 | 21,514 | 3,842 | 133 |
| 4th child and over | 131,648 | – | 578 | 15,870 | 38,274 | 42,275 | 26,862 | 7,391 | 398 |
| Not stated | 3,251 | 8 | 556 | 952 | 830 | 569 | 266 | 66 | 3 |

– Quantity zero.

¹Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single-race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."²Includes births to Aleuts and Eskimos.³Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion, see "Technical Notes."

Table 3. Birth rates by age of mother, live-birth order, and race and Hispanic origin of mother: United States, preliminary 2004

[Data are based on a continuous file of records received from the States. Rates per 1,000 women in specified age and race or Hispanic origin group]

| Live-birth order and race or Hispanic origin of mother | Age of mother | | | | | | | | |
|---|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|
| | 15–44 years ¹ | 10–14 years | 15–19 years | 20–24 years | 25–29 years | 30–34 years | 35–39 years | 40–44 years | 45–49 years ² |
| All races | 66.3 | 0.7 | 41.2 | 101.8 | 115.5 | 95.5 | 45.4 | 9.0 | 0.6 |
| 1st child | 26.4 | 0.6 | 32.9 | 47.8 | 41.6 | 27.8 | 10.6 | 2.0 | 0.1 |
| 2d child | 21.4 | 0.0 | 7.0 | 34.6 | 38.9 | 33.9 | 14.9 | 2.5 | 0.1 |
| 3d child | 11.2 | * | 1.1 | 14.0 | 21.9 | 19.9 | 10.6 | 1.9 | 0.1 |
| 4th child and over | 7.3 | * | 0.2 | 5.3 | 13.1 | 13.9 | 9.3 | 2.6 | 0.2 |
| White total ³ | 66.2 | 0.5 | 37.8 | 99.4 | 118.9 | 99.3 | 46.5 | 8.9 | 0.5 |
| 1st child | 26.4 | 0.5 | 30.6 | 47.9 | 43.5 | 28.7 | 10.9 | 2.0 | 0.1 |
| 2d child | 21.7 | 0.0 | 6.2 | 34.3 | 40.9 | 35.6 | 15.3 | 2.5 | 0.1 |
| 3d child | 11.3 | * | 0.9 | 12.9 | 22.4 | 21.2 | 11.0 | 1.9 | 0.1 |
| 4th child and over | 6.9 | * | 0.1 | 4.2 | 12.0 | 13.8 | 9.4 | 2.5 | 0.2 |
| Non-Hispanic white | 58.5 | 0.2 | 26.8 | 82.1 | 110.3 | 97.4 | 44.9 | 8.3 | 0.5 |
| 1st child | 24.2 | 0.2 | 22.4 | 41.9 | 45.0 | 30.8 | 11.4 | 2.0 | 0.1 |
| 2d child | 19.6 | * | 3.9 | 27.6 | 37.9 | 36.7 | 15.7 | 2.5 | 0.1 |
| 3d child | 9.5 | * | 0.5 | 9.7 | 18.3 | 19.1 | 10.3 | 1.7 | 0.1 |
| 4th child and over | 5.2 | * | 0.1 | 2.9 | 9.1 | 10.8 | 7.5 | 2.0 | 0.1 |
| Black total ³ | 67.2 | 1.6 | 62.9 | 126.9 | 102.9 | 67.6 | 33.8 | 7.9 | 0.5 |
| 1st child | 25.6 | 1.6 | 48.6 | 51.8 | 25.8 | 14.8 | 6.6 | 1.4 | 0.1 |
| 2d child | 19.5 | 0.0 | 11.8 | 42.0 | 32.0 | 20.6 | 9.5 | 2.0 | 0.1 |
| 3d child | 11.9 | * | 2.2 | 21.8 | 23.7 | 15.5 | 7.8 | 1.7 | 0.1 |
| 4th child and over | 10.1 | * | 0.4 | 11.3 | 21.4 | 16.6 | 10.0 | 2.8 | 0.2 |
| Non-Hispanic black | 66.7 | 1.6 | 62.7 | 126.2 | 102.5 | 67.2 | 33.6 | 7.8 | 0.5 |
| 1st child | 25.4 | 1.6 | 48.4 | 51.0 | 25.6 | 14.8 | 6.6 | 1.4 | 0.1 |
| 2d child | 19.3 | 0.0 | 11.8 | 41.8 | 31.6 | 20.4 | 9.4 | 1.9 | 0.1 |
| 3d child | 11.8 | * | 2.2 | 21.9 | 23.6 | 15.3 | 7.7 | 1.7 | 0.1 |
| 4th child and over | 10.2 | * | 0.4 | 11.5 | 21.7 | 16.7 | 10.0 | 2.8 | 0.2 |
| American Indian total ^{3,4} | 58.9 | 0.9 | 52.5 | 109.7 | 92.8 | 58.2 | 26.7 | 6.0 | 0.2 |
| 1st child | 20.6 | 0.9 | 40.5 | 41.6 | 18.6 | 8.5 | 3.3 | 0.6 | * |
| 2d child | 16.2 | * | 10.1 | 38.4 | 26.3 | 14.0 | 5.1 | 1.0 | * |
| 3d child | 10.6 | * | 1.7 | 20.2 | 23.3 | 12.9 | 5.4 | 1.1 | * |
| 4th child and over | 11.5 | * | 0.2 | 9.5 | 24.7 | 22.7 | 12.9 | 3.3 | * |
| Asian or Pacific Islander total ³ | 67.2 | 0.2 | 17.4 | 60.1 | 108.7 | 116.9 | 62.1 | 13.7 | 1.0 |
| 1st child | 31.1 | 0.2 | 14.2 | 35.7 | 59.7 | 48.0 | 18.2 | 3.5 | 0.3 |
| 2d child | 23.4 | * | 2.7 | 16.9 | 33.4 | 46.6 | 25.1 | 5.0 | 0.3 |
| 3d child | 8.3 | * | 0.5 | 5.3 | 10.2 | 15.0 | 12.0 | 2.9 | 0.1 |
| 4th child and over | 4.3 | * | 0.1 | 2.1 | 5.4 | 7.3 | 6.7 | 2.2 | 0.3 |
| Hispanic ⁵ | 97.7 | 1.3 | 82.6 | 165.2 | 145.4 | 103.8 | 52.7 | 12.4 | 0.7 |
| 1st child | 35.0 | 1.3 | 64.0 | 70.7 | 37.4 | 19.9 | 8.1 | 1.7 | 0.1 |
| 2d child | 29.9 | 0.0 | 15.7 | 59.8 | 50.0 | 30.4 | 13.0 | 2.6 | 0.1 |
| 3d child | 19.1 | * | 2.5 | 25.3 | 36.0 | 28.7 | 14.1 | 2.8 | 0.1 |
| 4th child and over | 13.7 | * | 0.4 | 9.4 | 22.0 | 24.8 | 17.6 | 5.3 | 0.4 |

0.0 Quantity more than zero but less than 0.05.

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator.

¹The rate shown is the fertility rate, which is defined as the total number of births, regardless of age of mother, per 1,000 women aged 15–44 years.²The birth rate for ages 45–49 years is computed by relating births to women aged 45–54 years to women aged 45–49 years, because most of the births in this group are to women aged 45–49 years.³Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single-race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."⁴Includes births to Aleuts and Eskimos.⁵Includes all persons of Hispanic origin of any race; see "Technical Notes."

NOTE: For information on the relative standard errors of the data and further discussion, see "Technical Notes."

Table 4. Live births by race and Hispanic origin of mother, and birth and fertility rates: United States, each State and territory, preliminary 2004

[By place of residence. Data are based on a continuous file of records received from the States. Birth rates are total births per 1,000 total population; fertility rates are total births per 1,000 women aged 15–44 years. Figures are based on weighted data rounded to the nearest individual, so categories may not add to totals]

| Area | Number | | | | | | | Birth rate | Fertility rate |
|----------------------------|-----------|--------------------------|--------------------|--------------------------|--------------------------------------|--|-----------------------|------------|----------------|
| | All races | White total ¹ | Non-Hispanic white | Black total ¹ | American Indian total ^{1,2} | Asian or Pacific Islander total ¹ | Hispanic ³ | All races | All races |
| United States ⁴ | 4,115,590 | 3,229,814 | 2,304,181 | 612,493 | 43,931 | 229,352 | 944,993 | 14.0 | 66.3 |
| Alabama | 59,549 | 40,550 | 37,251 | 18,057 | 179 | 762 | 3,346 | 13.1 | 62.5 |
| Alaska | 10,338 | 6,588 | 5,132 | 397 | 2,588 | 765 | 877 | 15.8 | 74.4 |
| Arizona | 93,672 | 81,171 | 39,638 | 3,426 | 6,274 | 2,801 | 41,427 | 16.3 | 79.5 |
| Arkansas | 38,602 | 30,363 | 26,815 | 7,396 | 245 | 598 | 3,510 | 14.0 | 68.4 |
| California | 545,071 | 441,315 | 162,740 | 32,106 | 2,902 | 68,749 | 275,365 | 15.2 | 70.4 |
| Colorado | 68,520 | 62,514 | 41,204 | 2,929 | 597 | 2,480 | 21,746 | 14.9 | 68.8 |
| Connecticut | 42,099 | 34,454 | 27,135 | 5,279 | 250 | 2,116 | 7,598 | 12.0 | 58.8 |
| Delaware | 11,299 | 7,919 | 6,391 | 2,895 | 33 | 452 | 1,519 | 13.6 | 63.4 |
| District of Columbia | 7,932 | 2,302 | 2,008 | 5,392 | 9 | 229 | 998 | 14.3 | 58.2 |
| Florida | 218,034 | 157,701 | 107,763 | 52,758 | 740 | 6,834 | 55,407 | 12.5 | 64.1 |
| Georgia | 138,851 | 89,771 | 68,605 | 44,001 | 275 | 4,804 | 20,113 | 15.7 | 70.1 |
| Hawaii | 18,280 | 5,177 | 4,318 | 573 | 67 | 12,463 | 2,679 | 14.5 | 74.0 |
| Idaho | 22,527 | 21,710 | 18,293 | 109 | 399 | 309 | 3,241 | 16.2 | 77.2 |
| Illinois | 180,934 | 140,867 | 98,503 | 30,874 | 289 | 8,903 | 42,608 | 14.2 | 66.7 |
| Indiana | 86,733 | 75,418 | 67,915 | 9,655 | 116 | 1,543 | 7,257 | 13.9 | 66.7 |
| Iowa | 38,439 | 35,727 | 32,862 | 1,478 | 251 | 983 | 2,835 | 13.0 | 63.8 |
| Kansas | 39,581 | 35,089 | 29,195 | 2,837 | 498 | 1,156 | 5,472 | 14.5 | 69.6 |
| Kentucky | 54,451 | 48,665 | 46,713 | 4,878 | 95 | 813 | 2,177 | 13.1 | 62.2 |
| Louisiana | 65,399 | 37,144 | 35,218 | 26,732 | 426 | 1,096 | 1,954 | 14.5 | 66.7 |
| Maine | 13,945 | 13,382 | 13,144 | 225 | 116 | 222 | 180 | 10.6 | 52.4 |
| Maryland | 74,605 | 43,909 | 38,037 | 25,721 | 169 | 4,806 | 7,637 | 13.4 | 62.3 |
| Massachusetts | 78,566 | 64,031 | 55,708 | 8,720 | 165 | 5,650 | 9,847 | 12.2 | 56.5 |
| Michigan | 129,768 | 102,802 | 92,110 | 21,705 | 681 | 4,580 | 7,826 | 12.8 | 61.4 |
| Minnesota | 70,615 | 59,565 | 54,655 | 4,646 | 1,693 | 4,710 | 5,330 | 13.8 | 64.5 |
| Mississippi | 42,810 | 23,558 | 22,484 | 18,516 | 304 | 431 | 1,052 | 14.7 | 68.3 |
| Missouri | 77,780 | 64,152 | 60,472 | 11,455 | 383 | 1,790 | 3,844 | 13.5 | 64.3 |
| Montana | 11,525 | 9,827 | 9,307 | 53 | 1,520 | 125 | 374 | 12.4 | 62.8 |
| Nebraska | 26,331 | 23,703 | 19,660 | 1,573 | 449 | 606 | 3,446 | 15.1 | 72.6 |
| Nevada | 35,188 | 29,032 | 15,983 | 2,958 | 532 | 2,666 | 13,060 | 15.1 | 72.6 |
| New Hampshire | 14,566 | 13,767 | 12,885 | 256 | 24 | 519 | 461 | 11.2 | 53.4 |
| New Jersey | 114,916 | 84,139 | 59,691 | 19,730 | 172 | 10,875 | 27,312 | 13.2 | 64.0 |
| New Mexico | 28,386 | 23,856 | 8,854 | 502 | 3,618 | 410 | 15,163 | 14.9 | 71.9 |
| New York | 250,894 | 178,771 | 128,832 | 49,765 | 696 | 21,662 | 57,081 | 13.0 | 60.9 |
| North Carolina | 119,851 | 87,414 | 70,256 | 27,623 | 1,577 | 3,237 | 17,295 | 14.0 | 66.0 |
| North Dakota | 8,189 | 7,017 | 6,633 | 96 | 975 | 101 | 167 | 12.9 | 63.2 |
| Ohio | 149,154 | 121,516 | 116,498 | 23,910 | 312 | 3,418 | 5,737 | 13.0 | 62.8 |
| Oklahoma | 51,283 | 40,042 | 34,181 | 4,705 | 5,401 | 1,134 | 6,007 | 14.6 | 70.2 |
| Oregon | 45,693 | 41,251 | 32,480 | 1,057 | 875 | 2,510 | 8,836 | 12.7 | 61.8 |
| Pennsylvania | 145,768 | 117,754 | 108,494 | 22,081 | 337 | 5,597 | 11,686 | 11.7 | 58.5 |
| Rhode Island | 12,778 | 10,874 | 6,935 | 1,196 | 164 | 544 | 2,429 | 11.8 | 55.0 |
| South Carolina | 56,592 | 35,789 | 32,811 | 19,613 | 220 | 970 | 4,334 | 13.5 | 63.6 |
| South Dakota | 11,340 | 9,199 | 8,863 | 147 | 1,874 | 120 | 395 | 14.7 | 72.4 |
| Tennessee | 79,641 | 60,406 | 56,329 | 17,401 | 163 | 1,671 | 5,838 | 13.5 | 63.4 |
| Texas | 384,389 | 327,511 | 137,817 | 42,422 | 869 | 13,587 | 189,586 | 17.1 | 78.0 |
| Utah | 50,669 | 48,256 | 40,926 | 299 | 660 | 1,454 | 7,180 | 21.2 | 92.3 |
| Vermont | 6,565 | 6,383 | 6,237 | 58 | 12 | 112 | 75 | 10.6 | 51.8 |
| Virginia | 103,915 | 73,953 | 62,981 | 22,899 | 151 | 6,911 | 11,691 | 13.9 | 65.0 |
| Washington | 81,740 | 67,157 | 53,493 | 4,059 | 2,139 | 8,385 | 14,254 | 13.2 | 61.7 |
| West Virginia | 20,855 | 19,992 | 19,805 | 673 | 19 | 170 | 151 | 11.5 | 58.3 |
| Wisconsin | 70,154 | 59,998 | 54,246 | 6,601 | 1,109 | 2,446 | 5,888 | 12.7 | 60.7 |
| Wyoming | 6,807 | 6,359 | 5,674 | 55 | 318 | 75 | 699 | 13.4 | 66.5 |
| Puerto Rico | 51,099 | 46,325 | --- | 4,753 | --- | --- | --- | 13.1 | 59.8 |
| Virgin Islands | 1,413 | 281 | 94 | 1,060 | 71 | 1 | 258 | 13.0 | 62.6 |
| Guam | 3,419 | 273 | 238 | 32 | 6 | 3,108 | 51 | 20.6 | 92.1 |
| American Samoa | 1,714 | 4 | --- | --- | --- | 1,710 | --- | 29.6 | 132.4 |
| Northern Marianas | 1,358 | 20 | --- | --- | --- | 1,338 | --- | 17.4 | 43.6 |

--- Data not available. -- Quantity zero.

¹Race and Hispanic origin are reported separately on the birth certificate. Race categories are consistent with the 1977 Office of Management and Budget standards. See "Technical Notes" for States that reported multiple-race data in 2004. The multiple-race data for these States were bridged to the single-race categories of the 1977 Office of Management and Budget standards for comparability with other States; see "Technical Notes." Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see "Technical Notes."

²Includes births to Aleuts and Eskimos.

³Includes all persons of Hispanic origin of any race; see "Technical Notes."

⁴Excludes data for the territories.

NOTE: For information on the relative standard errors of the data and further discussion; see "Technical Notes."

Technical Notes

Nature and sources of data

Preliminary data for 2004 are based on a substantial proportion of vital records for that year. Data are based on a continuous receipt and processing of statistical records through May 25, 2005, by the National Center for Health Statistics (NCHS). NCHS receives the data from the States' vital registration systems through the Vital Statistics Cooperative Program. In this report U.S. totals include only events occurring within the 50 States and the District of Columbia. Data for Puerto Rico, the Virgin Islands, Guam, American Samoa, and Northern Marianas are included in tables showing data by State, but are not included in U.S. totals.

For 2004 individual records of births are weighted to independent counts of vital events occurring in each State. These State-specific counts serve as control totals and are the basis for the record weights in the preliminary file. If the number of records in the preliminary file is greater than the count received from the State, the State-specific number of records in the preliminary file is used instead, and the weight is set at 1.0.

Each birth record has one weight specific to the State where the birth occurred. Table I shows the percentage completeness of the preliminary file for each event by place of occurrence. The percentage completeness is obtained by dividing the number of records in the preliminary file by the control total and multiplying by 100. Although data by place of occurrence are used to compute the weights, all data in this report are tabulated by place of residence.

For selected variables in the natality file, unknown or not-stated values are imputed. Detailed information on reporting completeness and imputation procedures may be found in Technical Appendix of *Vital Statistics of the United States, Volume I, Natality* (6).

Comparability of items between the 1989 and 2003 U.S. Standard Certificates of Live Birth

This report includes data for nine States, Florida, Idaho, Kentucky, New Hampshire, New York (excluding New York City), Pennsylvania, South Carolina, Tennessee, and Washington, which implemented the 2003 revision of the U.S. Standard Certificate of Live Birth in either 2003 or 2004 (revised States or data), as well as data from the other 41 States, New York City and the District of Columbia, which collected and reported 2004 birth data based on the 1989 revision of the U.S. Standard Certificate of Live Birth (unrevised States or data). The 2003 revision is described in detail elsewhere (7–9). Because most States are still using the 1989 certificate, revised data in this report are combined with unrevised data where comparable. Data for revised States are excluded from the national figures for items where data are not comparable. The unrevised 41 States reporting area, New York City and the District of Columbia accounted for 80 percent of U.S. births in 2004. Differences in data items between the revisions included in this report are discussed below.

Data on **tobacco use during pregnancy** are excluded from this report for the nine States using the 2003 U.S. Standard Certificate of Live Birth as well as for California, which did not report tobacco use on the birth certificate. The 2003 certificate asks for the number of cigarettes smoked at different intervals before and during the

Table I. Total count of records and percentage completeness of preliminary file of live births: United States, each State and territory, preliminary 2004

[By place of occurrence]

| Area | Live births | |
|--|-------------------|----------------------|
| | Counts of records | Percent completeness |
| United States ¹ | 4,128,338 | 99.1 |
| Alabama | 58,422 | 100.0 |
| Alaska | 10,269 | 100.0 |
| Arizona | 93,875 | 100.0 |
| Arkansas | 37,865 | 100.0 |
| California | 546,000 | 100.0 |
| Colorado | 68,812 | 100.0 |
| Connecticut | 42,550 | 100.0 |
| Delaware | 12,080 | 100.0 |
| District of Columbia | 14,796 | 100.0 |
| Florida | 218,255 | 100.0 |
| Georgia | 140,120 | 100.0 |
| Hawaii | 18,297 | 100.0 |
| Idaho | 21,953 | 100.0 |
| Illinois | 177,603 | 99.1 |
| Indiana | 88,200 | 99.7 |
| Iowa | 38,528 | 100.0 |
| Kansas | 40,451 | 100.0 |
| Kentucky | 54,079 | 100.0 |
| Louisiana | 65,596 | 100.0 |
| Maine | 13,733 | 100.0 |
| Maryland | 70,561 | 100.0 |
| Massachusetts | 79,484 | 99.9 |
| Michigan | 128,585 | 100.0 |
| Minnesota | 70,608 | 100.0 |
| Mississippi | 41,550 | 96.2 |
| Missouri | 78,592 | 100.0 |
| Montana | 11,525 | 100.0 |
| Nebraska | 26,441 | 100.0 |
| Nevada | 34,767 | 99.8 |
| New Hampshire | 14,197 | 100.0 |
| New Jersey | 112,228 | 100.0 |
| New Mexico | 27,791 | 100.0 |
| New York | 252,171 | 99.8 |
| New York excluding New York City | 128,066 | 99.5 |
| New York City | 124,105 | 100.0 |
| North Carolina | 120,594 | 100.0 |
| North Dakota | 9,408 | 100.0 |
| Ohio | 149,787 | 99.9 |
| Oklahoma | 50,193 | 100.0 |
| Oregon | 46,470 | 100.0 |
| Pennsylvania | 146,500 | 82.1 |
| Rhode Island | 13,583 | 99.8 |
| South Carolina | 54,252 | 100.0 |
| South Dakota | 11,806 | 100.0 |
| Tennessee | 87,090 | 100.0 |
| Texas | 390,515 | 98.7 |
| Utah | 51,835 | 100.0 |
| Vermont | 6,261 | 99.8 |
| Virginia | 101,835 | 100.0 |
| Washington | 81,572 | 100.0 |
| West Virginia | 21,305 | 100.0 |
| Wisconsin | 69,021 | 100.0 |
| Wyoming | 6,327 | 99.9 |
| Puerto Rico | 51,211 | 92.9 |
| Virgin Islands | 1,520 | 100.0 |
| Guam | 3,432 | 99.7 |
| American Samoa | 1,713 | 100.0 |
| Northern Marianas | 1,355 | 100.0 |

¹Excludes data for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas.

NOTE: Percent completeness = $\frac{\text{Number of records in preliminary file}}{\text{Count of records}} \times 100$

pregnancy. This new format provides more detail on the timing of smoking, making it possible to determine if the mother stopped or reduced smoking during the pregnancy. In comparison, the 1989 standard certificate asked for "Tobacco use during pregnancy," "yes/no," and the average number of cigarettes smoked per day. The areas reporting whether or not the mother smoked during pregnancy based on the 1989 revision accounted for 67 percent of U.S. births in 2004.

This report also excludes **prenatal care** data for States using the 2003 U.S. Standard Certificate of Live Birth. The exclusion of data for these States from the U.S. totals was necessary because of changes in the wording of the prenatal care item on the 2003 certificate and also to likely changes in the sources of these data. The timing of the prenatal care item was modified to "Date of first prenatal visit" from "Month prenatal care began." In addition, the 2003 revision process resulted in the recommendation that information on prenatal care be gathered from the prenatal care or medical records, whereas the 1989 revision did not recommend a source for this data. Prenatal care and tobacco use data based on the 2003 revision will be presented in an upcoming report.

Despite substantive changes between the 1989 and 2003 revision of the birth certificate to the **method of delivery** item, data for all States are combined for national figures shown in this report. The total numbers and percentages of vaginal and cesarean deliveries appear to be very consistent between revisions. However, information on whether the delivery is a vaginal birth after previous cesarean (VBAC), primary cesarean, or repeat cesarean appears to be less comparable. This is because of wording and formatting changes designed to collect data on whether the mother had a previous cesarean delivery. In brief, data from States using the 2003 certificate show higher-than-expected VBAC and primary cesarean rates and lower-than-expected repeat cesarean rates. These changes appear to have only a small impact on national rates shown in this report. However, measures that incorporate these data to compare changes across revisions for individual States should be interpreted with caution.

Hispanic origin and race

Hispanic origin

Hispanic origin and race are reported separately on the birth certificate. Data shown by race (that is, American Indian or Alaskan Native, and Asian or Pacific Islander) include persons of Hispanic or non-Hispanic origin, and data for Hispanics include all persons of Hispanic origin of any race. Data are shown separately for non-Hispanic white and black women. Items asking for the Hispanic origin of the mother have been included on the birth certificates of all States and the District of Columbia, the Virgin Islands, and Guam since 1993 (6). Puerto Rico, American Samoa, and the Northern Marianas do not collect this information.

Single, multiple, and "bridged" race

The 2003 revision of the U.S. Standard Certificate of Live Birth allows the reporting of more than one race (multiple races) for each parent (7,9) in accordance with the standards issued by the Office of Management and Budget (OMB) in 1997 (10). Information on this change is presented in a recent report (3).

In 2004 multiple race was reported on the revised birth certificates of Florida, Idaho, Kentucky, New Hampshire, New York State (excluding New York City), Pennsylvania, South Carolina, Tennessee, and Washington, as well as on the unrevised certificates of California, Hawaii, Michigan, Minnesota, Ohio, and Utah (a total of 15 States). These 15 States, which account for 43.0 percent of births in the United States in 2004, reported 3 percent of the mothers as multiracial. Data from the vital records of the remaining 35 States, New York City, and the District of Columbia followed the 1977 (OMB) standards in which a single race is reported (11). In addition, these areas also report the minimum set of four races as stipulated in the 1977 standards compared with the minimum of five races for the 1997 standards (10,11). See section on "Population denominators" for more details.

In order to provide uniformity and comparability of the data during the transition period before all or most of the data are available in the new multiple-race format, it was necessary to "bridge" the responses of those who reported more than one race (multiple race) to one single race. The bridging procedure for multiple-race mothers and fathers is based on the procedure used to bridge the multiracial population estimates (see "Population denominators") (12,13). Multiple race is imputed to a single race (either AIAN, API, black, or white) according to the combination of races, Hispanic origin, sex, and age indicated on the birth certificate of the mother. The imputation procedure is described in detail elsewhere (14,15). Additional information on the processing and tabulation of data by race is presented in a recent report (3).

Marital status

National estimates of births to unmarried women are based on two methods of determining marital status. For 2003 and 2004, birth certificates in 48 States and the District of Columbia included a direct question about mother's marital status; in California and Nevada, the direct question is part of the electronic birth registration process but does not appear on certified or paper copies of the birth certificate. The question in most States is: "Mother married? (At birth, conception, or any time between) (Yes or no)". Marital status is inferred in Michigan and New York. A birth is inferred as nonmarital if the father's name is missing from the birth certificate or if a paternity acknowledgment was filed.

Method of delivery

Several rates are computed for method of delivery. The overall cesarean section rate or *total cesarean* rate is computed as the percentage of all births that were delivered by cesarean section. The *primary cesarean* rate is a measure that relates the number of women having a first cesarean delivery to all women giving birth who have never had a cesarean delivery. The denominator for this rate includes the sum of primary cesareans and vaginal births without previous cesarean. The rate for *vaginal birth after previous cesarean* (VBAC) delivery is computed by relating all VBAC deliveries to the sum of VBAC and repeat cesarean deliveries, that is, to women with a previous cesarean section. Also, see section on "The comparability of items between the 1989 and 2003 U.S. Standard Certificates of Live Birth."

Population denominators

Birth and fertility rates for 2004 shown in [Tables 1, 3, 4, A, and B](#) are based on populations estimated from the 2000 census, as of July 1, 2004. The population estimates have been provided by the U.S. Census Bureau (16) and are based on the 2000 census counts by age, race, and sex, which have been modified to be consistent with OMB racial categories as of 1977 and historical categories for birth data. The modification procedures are described in detail elsewhere (17).

Birth and fertility rates by State shown in [Table 4](#), are based on State-level population estimates projected from the 2000 census provided by the U.S. Census Bureau (16). Rates by State shown in this report may differ from rates computed on the basis of other population estimates. The rate for unmarried women shown in this report is based on distributions of the population by marital status as of March 2004 as reported by the U.S. Census Bureau in the March *Current Population Survey* (18), which have been adjusted to July 1, 2004, population levels (16) by the Division of Vital Statistics, NCHS (19,20). The nonmarital birth rate shown here for 2004 thus differs from those published by NCHS in the annual final reports, which are based on populations estimated from 3-year averages of the marital status distributions, rather than a single year as shown here (19,20). Population estimates for a single year are not an adequate basis for computing age-specific birth rates for unmarried women—these rates are available only in reports based on final data.

The populations used in this report were produced under a collaborative arrangement with the U.S. Census Bureau and are based on the 2000 census counts. Reflecting the new guidelines issued in 1997 by OMB, the 2000 census included an option for individuals to report more than one race as appropriate for themselves and household members (10). In addition, the 1997 OMB guidelines called for reporting of Asian persons separately from Native Hawaiians or other Pacific Islanders. In the earlier 1977 OMB guidelines, data for Asian or Pacific Islander persons were collected as a single group (11). Birth certificates currently report only one race for each parent in the categories specified in the 1977 OMB guidelines (see “Hispanic origin and race”). In addition, birth certificate data do not report Asians separately from Native Hawaiians or other Pacific Islanders. Thus, birth certificate data by race (the numerators for birth and fertility rates) currently are incompatible with the population data collected in the 2000 census (the denominators for the rates).

In order to produce birth and fertility rates by race, it was necessary to “bridge” the reported population data for multiple-race persons back to single-race categories. In addition, the 2000 census counts were modified to be consistent with the 1977 OMB racial categories, that is, to report the data for Asian persons and Native Hawaiians or other Pacific Islanders as a combined category Asian or Pacific Islanders (10,11). The procedures used to produce the “bridged” populations are described in separate publications (12,13). Beginning with births occurring in 2003, several States began reporting multiple-race data. Once all States revise their birth certificates to be compliant with the 1997 OMB standards, the use of “bridged” populations can be discontinued.

Readers should keep in mind that the population data used to compile birth and fertility rates by race and ethnicity shown in this report are based on special estimation procedures and are not actual counts. As a result, the estimation procedures used to develop these populations may contain some errors. Smaller populations, for example,

American Indians, are likely to be affected much more than larger populations by potential measurement error (12). Although the nature and magnitude of error is unknown, the potential for error should be kept in mind when evaluating trends and differentials. As more accurate information becomes available, further revisions of the estimates may be necessary.

Computing rates and percentages

Age and race of mother are imputed if they are not stated (0.04 percent and 0.1 percent, respectively, for 2004). In computing birth rates by live birth order, births with live birth order not stated are distributed in proportion to stated data. Percentages were computed using only events for which the characteristic is reported. The “Not stated” category is subtracted from the total before the percentage is computed for birthweight, prenatal care, smoking, and method of delivery. Birth rates for the Hispanic population are based only on events to persons reported as Hispanic. Rates for non-Hispanic white persons are based on the sum of all white events reported as non-Hispanic and white events with origin not stated; the process is identical for rates for non-Hispanic black persons. Hispanic origin is not imputed if it is not reported.

An asterisk (*) indicates that the figure does not meet standards of reliability or precision. In this report, three sets of criteria determine whether a figure meets these standards:

- The State-specific sample is complete enough to provide reliable estimates. A criterion of at least 75 percent of a State’s records for the 12-month period is used as a basis for providing State-specific estimates (see [Table I](#)).
- Reporting for any particular variable is at least 80 percent complete. (In this report, no data were suppressed based on this criterion.)
- A rate or percentage is based on at least 20 births in the numerator.

Rates based on fewer than 20 births have a relative standard error (RSE) of about 23 percent or more and, therefore, are considered highly variable. However, some birth rates (based on data files that are less than 100 percent complete and based on 20 to 31 births) may have RSEs of 23 percent or more but are still shown instead of asterisks. As a result, caution should be exercised in analyzing rates based on 20 to 31 events. Additional information on random variation in numbers of events, rates, ratios, and percentages may be found in “Reliability of estimates.”

Reliability of estimates

Because the preliminary estimates of births in this report are based on files that may not be complete, they are subject to sampling variability. The notion of the sample is reflected in the record weights that are used to adjust record counts to independent control totals. The lack of completeness of the vital statistics files is due to delays in receiving and processing the live-birth records.

In addition, the natality file is subject to nonsampling errors or biases. Records that were delayed and were not included in this report are assumed to have the same characteristics as the records that were included in this report. Seasonal bias may occur because file completeness is greater during the early part than during the later part of the 12-month period for which the data are processed and tabulated.

Even if the number of vital events in this report were 100 percent complete and not subject to sampling variability, the results might be affected by random variation. Thus, when the number of events is small and the probability of such an event is small, considerable caution must be observed in interpreting the data. Such infrequent events may be assumed to follow a Poisson probability distribution. The first column of Table II shows the estimated RSEs of a file that is nearly 100 percent complete. The estimated RSEs of the 2003 final data, the preliminary 2004 control totals, and the preliminary 2004 data (based on nearly 100 percent of a file) are shown in the first column of Table II.

Data based on a sample, that is, where the file is less than 100 percent complete, are affected by sampling variation as well as by random variation. The estimated RSEs in columns 2–6 of Table II for various levels of file completeness are measures of the sampling errors and the random errors of the estimates. The estimated RSEs in Table II were computed using this formula:

$$RSE = 100 \sqrt{\frac{1}{\bar{X}} + \frac{(1-f)(N-X)}{fX(N-\frac{1}{f})}}$$

where

f = the sampling fraction or the percentage of file completeness/100 from table I.

X = the estimated number of live births.

N = the total count of live births for the United States or any State. (NOTE: The RSEs shown in table II are based on $N = 4,000,000$. If N is smaller, the RSEs may be slightly smaller than those shown.)

RSEs may be used to compute 95 percent confidence intervals for the number of events (X), for a rate (R), or for a percent (P) and to compute statistical tests concerning the equality of two rates (R_1 and R_2) or two percents (P_1 and P_2).

For the number of live births, the 95 percent confidence interval may be computed as follows:

$$\text{Lower limit: } X_1 - 1.96 \cdot X_1 \cdot \frac{RSE(X_1)}{100}$$

$$\text{Upper limit: } X_1 + 1.96 \cdot X_1 \cdot \frac{RSE(X_1)}{100}$$

Table II. Relative standard errors for preliminary number of live births by percent of file completeness

[Relative standard errors are expressed as a percent of the estimate]

| Estimated number of live births | Percent of file completeness | | | | | |
|-----------------------------------|------------------------------|-------|-------|-------|-------|-------|
| | 100 | 95 | 90 | 80 | 70 | 60 |
| Relative standard error (percent) | | | | | | |
| 1.. | 100.0 | 102.6 | 105.4 | 111.8 | 119.5 | 129.1 |
| 5.. | 44.7 | 45.9 | 47.1 | 50.0 | 53.5 | 57.7 |
| 10.. | 31.6 | 32.4 | 33.3 | 35.4 | 37.8 | 40.8 |
| 20.. | 22.4 | 22.9 | 23.6 | 25.0 | 26.7 | 28.9 |
| 30.. | 18.3 | 18.7 | 19.2 | 20.4 | 21.8 | 23.6 |
| 40.. | 15.8 | 16.2 | 16.7 | 17.7 | 18.9 | 20.4 |
| 50.. | 14.1 | 14.5 | 14.9 | 15.8 | 16.9 | 18.3 |
| 60.. | 12.9 | 13.2 | 13.6 | 14.4 | 15.4 | 16.7 |
| 70.. | 12.0 | 12.3 | 12.6 | 13.4 | 14.3 | 15.4 |
| 80.. | 11.2 | 11.5 | 11.8 | 12.5 | 13.4 | 14.4 |
| 90.. | 10.5 | 10.8 | 11.1 | 11.8 | 12.6 | 13.6 |
| 100.. | 10.0 | 10.3 | 10.5 | 11.2 | 12.0 | 12.9 |
| 200.. | 7.1 | 7.3 | 7.5 | 7.9 | 8.5 | 9.1 |
| 300.. | 5.8 | 5.9 | 6.1 | 6.5 | 6.9 | 7.5 |
| 400.. | 5.0 | 5.1 | 5.3 | 5.6 | 6.0 | 6.5 |
| 500.. | 4.5 | 4.6 | 4.7 | 5.0 | 5.3 | 5.8 |
| 600.. | 4.1 | 4.2 | 4.3 | 4.6 | 4.9 | 5.3 |
| 700.. | 3.8 | 3.9 | 4.0 | 4.2 | 4.5 | 4.9 |
| 800.. | 3.5 | 3.6 | 3.7 | 4.0 | 4.2 | 4.6 |
| 900.. | 3.3 | 3.4 | 3.5 | 3.7 | 4.0 | 4.3 |
| 1,000.. | 3.2 | 3.2 | 3.3 | 3.5 | 3.8 | 4.1 |
| 2,000.. | 2.2 | 2.3 | 2.4 | 2.5 | 2.7 | 2.9 |
| 5,000.. | 1.4 | 1.5 | 1.5 | 1.6 | 1.7 | 1.8 |
| 10,000.. | 1.0 | 1.0 | 1.1 | 1.1 | 1.2 | 1.3 |
| 20,000.. | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 |
| 50,000.. | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 |
| 100,000.. | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 |
| 200,000.. | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 |
| 500,000.. | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 1,000,000.. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 2,000,000.. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 4,000,000.. | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

As a hypothetical example, assume the number of births, X_1 , is 70 from a file with 80 percent completeness. Then

$$\text{Lower limit: } 70 - 1.96 \cdot 70 \cdot \frac{13.4}{100} = 51.6$$

$$\text{Upper limit: } 70 + 1.96 \cdot 70 \cdot \frac{13.4}{100} = 88.4$$

This means that the chances are 95 times out of 100 that the confidence interval (51.6–88.4) will cover the “true” number of births.

For rates based on population estimates in the denominator, the 95 percent confidence interval may be computed as follows:

$$\text{Lower limit: } R_1 - 1.96 \cdot R_1 \cdot \frac{\text{RSE}(R_1)}{100}$$

$$\text{Upper limit: } R_1 + 1.96 \cdot R_1 \cdot \frac{\text{RSE}(R_1)}{100}$$

As a hypothetical example, assume the birth rate, R_1 , is 20.0, which is based on 70 births from a file with 80 percent completeness.

$$\text{Lower limit: } 20.0 - 1.96 \cdot 20.0 \cdot \frac{13.4}{100} = 14.7$$

$$\text{Upper limit: } 20.0 + 1.96 \cdot 20.0 \cdot \frac{13.4}{100} = 25.3$$

This means that the chances are 95 times out of 100 that the confidence interval (14.7–25.3) will cover the “true” rate.

For testing the equality of two rates, R_1 and R_2 , the following z-test may be used to define a significance test statistic:

$$z = \frac{R_1 - R_2}{\sqrt{R_1^2 \left(\frac{\text{RSE}(R_1)}{100} \right)^2 + R_2^2 \left(\frac{\text{RSE}(R_2)}{100} \right)^2}}$$

The two-tailed 0.95 critical value for a z statistic is 1.96. Therefore, if $|z|$ is greater than or equal to 1.96, the difference is significant at the 0.05 level. If $|z|$ is less than 1.96, then the difference would be considered not statistically significant at the 0.05 level.

As a hypothetical example, assume R_1 is the same as the above example for the current 12-month period and that R_2 , 15.0, is based on 50 births occurring in the prior 12-month period (which implies that the file is approximately 100 percent complete for R_2). The z-test may be determined as follows:

$$z = \frac{20.0 - 15.0}{\sqrt{(20.0)^2 \left(\frac{13.4}{100} \right)^2 + (15.0)^2 \left(\frac{14.1}{100} \right)^2}} = 1.46$$

Because $|z|$ is less than 1.96, there is not a statistically significant difference between the two rates at the 0.05 level of significance.

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Acknowledgments

This report was prepared under the general direction of Charles J. Rothwell, Director of the Division of Vital Statistics (DVS) and Stephanie J. Ventura, Chief of the Reproductive Statistics Branch (RSB). Nicholas F. Pace, Chief of the Systems, Programming, and Statistical Resources Branch (SPSRB), Steven J. Steimel, David P. Johnson, Candace M. Cosgrove, Annie Liu, Jaleh Mousavi, Manju Sharma, and Jordan A. Sacks provided computer programming support and statistical tables. Colleen S. Choi, Martha L. Munson, and Paul D. Sutton of RSB provided content review. Staff of the Data Acquisition and Evaluation Branch carried out quality evaluation and acceptance procedures for the State data files on which this report is based and were responsible for receipt and processing of the basic data file. The Registration Methods staff of DVS consulted with States vital statistics offices regarding the collection of birth certificate data. This report was edited by Demarius V. Miller, typeset by Jacqueline M. Davis, and graphics were produced by Nova contractor Erik Richardson of the Office of Information Services, Information Design and Publishing Staff.

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Suggested citation

Hamilton BE, Martin JA, Ventura SJ, Sutton PD, Menacker F. Births: Preliminary data for 2004. National vital statistics reports; vol 54 no 8. Hyattsville, Maryland: National Center for Health Statistics. 2005.

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**U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention
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3311 Toledo Road
Hyattsville, Maryland 20782

06-0074 (12/2005)
CS100782
T24333
DHHS Publication No. (PHS) 2006-1120

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