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Births: Preliminary Data for 2008

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Abstract

Objectives—This report presents preliminary data for 2008 on births in the United States. U.S. data on births are shown by age, live-birth order, race, and Hispanic origin of mother. Data on marital status, cesarean delivery, preterm births, and low birthweight are also presented.

Methods—Data in this report are based on 99.9 percent of births for 2008. The records are weighted to independent control counts of all births received in state vital statistics offices in 2008. Comparisons are made with preliminary 2007 data.

Results— • The preliminary number of 2008 US births was 4,251,095, down nearly 2 percent from the 2007 peak; the 2008 general fertility rate (68.7 per 1,000) also declined. The number and rate of births decreased for the three largest race and Hispanic origin groups in 2008. • The birth rate for US teenagers 15-19 fell 2 percent in 2008 to 41.5 per 1,000, reversing a brief two-year increase that had halted the long-term decline from 1991 to 2005. The birth rate for Hispanic teenagers declined to an historic low. • The birth rates for women in their twenties (the primary childbearing ages) fell 2 to 3 percent. • The birth rate for unmarried women declined about 2 percent to 52.0 per 1,000 aged 15-44, the first decline since 2001-02; however, the number and percent of births to unmarried women each increased to historic levels. • The cesarean delivery rate rose for the 12th straight year, to 32.3 percent of all births. • The percentage of births born preterm declined 3 percent, to 12.3 in 2008; declines were seen for most age and race and ethnic groups. • The rate of low birthweight was unchanged for 2007-08 at 8.2 percent; a small decline in low birthweight was reported for Hispanic black infants (from 13.8 to 13.7 percent).

Introduction

This report from the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) presents preliminary data on births and birth rates and selected maternal and infant health characteristics for the United States in 2008. The findings are based on 99.9 percent of registered vital records occurring in calendar year 2008, which

were received and processed by NCHS as of November 4, 2009. Trends in the preliminary reports for 1995-2006 births were confirmed by the final vital statistics for each year [1,2]. While comparisons to 2007 are based on preliminary data, all other comparisons are based on the final data for a year [1].

An upcoming release will include state-specific percentages of births to women under 20 years of age, unmarried women, cesarean deliveries, and preterm and low birthweight births.

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

Results

Births and birth rates

Key findings, illustrated in **Tables 1-7** and **Figures 1** and **2**, show:

- The 2008 preliminary estimate of **births** for the United States was 4,251,095, nearly 2 percent less than the record number of births ever registered in 2007 (4,317,119) (**Tables 1-3** and **Figure 2**) [1]. Births declined for nearly all race and Hispanic origin groups with decreases ranging from less than 1 percent for non-Hispanic black and Asian or Pacific Islander (API) women to 2 percent for non-Hispanic white and Hispanic women. Births for American Indian or Alaska Native (AIAN) women increased in 2008, by less than 1 percent.
- The 2008 preliminary **crude birth rate** (CBR) was 14.0 births per 1,000 total population, 2 percent less than the rate in 2007 (14.3). The 2008 preliminary **general fertility rate** (GFR) was 68.7 births per 1,000 women age 15-44 years, also below (1 percent) the rate in 2007 (69.5) (**Figure 1**) [1]. The rates for the three largest race and Hispanic origin groups declined, from less than 1 percent for non-Hispanic black and non-Hispanic white women to 3 percent for Hispanic women, but were essentially unchanged for AIAN and API women.
- The **birth rate for U.S. teenagers** dropped 2 percent in 2008 according to preliminary data. The decline reverses two consecutive years of increase that interrupted the 34 percent decline in teenage childbearing from 1991 to 2005 [1,2]. The rate in 2008 was 41.5 births per 1,000 teenagers 15-19 years, down from 42.5 in 2007 and 41.9 in 2006 (see **Figure 3** and **Tables 2-5**). The teenage birth rate had increased 5 percent during 2005-07 with most of the increase occurring 2005-06.
 - Rates declined for all age groups under 20 years, except the rate for the youngest teenagers, 10-14 years, which was unchanged, at 0.6 births per 1,000 women. The number of births to this age group fell 7 percent from 2007 to 2008, to 5,775, the fewest reported since 1954.

- The birth rate for teenagers 15-17 years declined 2 percent to 21.7 per 1,000. This rate had increased 4 percent from 2005 to 2007, interrupting the 45-percent decline reported for 1991-2005. The number of infants born to this age group declined 3 percent from 2007 to 2008, to 135,733.
- The birth rate for older teenagers dropped 4 percent in 2008, to 70.7 per 1,000 aged 18-19 years. The 6-percent increase in this rate during 2005-07 had temporarily halted the long-term decline of 26-percent from 1991 to 2005.
- The rate for Hispanic teenagers fell to 77.4 births per 1,000, the lowest rate ever reported for this group in the two decades for which rates are available. Rates fell for all race and Hispanic origin groups between 2007 and 2008, with statistically significant declines ranging from 2 percent (for non-Hispanic white and non-Hispanic black teenagers) to 5 and 6 percent for Hispanic and API teenagers.
- The 2008 preliminary **birth rate for women aged 20–24 years** was 103.1 births per 1,000 women, 3 percent less than the rate in 2007 (106.4) (**Tables 2, 3 and 4**). The *number of births* to women aged 20–24 years also declined from 2007 to 2008 (3 percent), whereas the population of women aged 20–24 years rose less than 1 percent. The 2008 **rate for women aged 25–29 years** was also less than the rate in 2007 (by 2 percent), 115.1 births per 1,000 women compared to 117.5. The number of births to women aged 25–29 years decreased less (1 percent) than the rate reflecting the impact of the 1 percent increase in the population of women aged 25–29 years.
- The preliminary **birth rate for women aged 30–34 years** in 2008 was 99.3 births per 1,000 women, a drop of less than 1 percent compared to 2007 (99.9). The number of births to women aged 30-34 years declined less than 1 percent in 2008. The **rate for women aged 35–39 years** also declined 1 percent in 2008, to 46.9 births per 1,000, from 47.5 in 2007. This is the first decline in the rate for women aged 35-39 years since 1978 [1,2]. The number of births to women aged 35-39 years decreased 2 percent from 2007 to 2008; the population of these women decreased 1 percent.
- The preliminary **birth rate for women aged 40–44 years** in 2008 increased 4 percent, to 9.9 births per 1,000 women, the highest rate since 1967 (10.6) [1,3]. The **rate for women aged 45–49 years** (which includes births to women aged 50-54 years) also increased in 2008, from 0.6 births per 1,000 in 2007 to 0.7 (**Tables 2, 3 and 4**). The number of births to women aged 40 or more increased in 2008, by 1 percent for women aged 40-44 years and 4 percent for women aged 45-54 years.
- The 2008 preliminary estimate of the **total fertility rate (TFR)** was 2,085.5 births per 1,000 women, 2 percent lower than the rate in 2007 (2,122.5) (**Table 1**). The TFR summarizes the potential impact of current fertility patterns on completed family size by estimating the average number of births that a hypothetical group of 1,000 women would have over their lifetimes, based on the age-specific birth rates observed in the given year.

The TFR for the U.S. in 2008 was below replacement after being above in 2006 and 2007. Replacement is the rate at which a given generation can exactly replace itself, generally considered to be 2,100 births per 1,000 women. The US rate had been below replacement from 1972 to 2005. The TFR by race and Hispanic origin declined for most groups in 2008, with decreases ranging from 1 percent for non-Hispanic black women to 3 percent for Hispanic women (**Table 1**). The rate increased for API women in 2008 (nearly 1 percent) and was essentially unchanged for AIAN women.

- The preliminary **first birth rate** for the U.S. in 2008 was 27.7 births per 1,000 women age 15-44 years, 1 percent lower than the rate in 2007 (27.9) (**Table 4**) [1]. Rates for women in most age groups either declined (with decreases ranging from 1 to 2 percent for women aged 15-29 and 35-39 years) or were unchanged from 2007 to 2008. The rate for women aged 40-44 years, however, increased in 2008 (from 2.0 births per 1,000 to 2.2), the only group to do so. The rates for second- and third-order births to women aged 15-44 years also declined in 2008 (by 1 and 2 percent, respectively); the rate was unchanged for fourth and higher-order births.
- Preliminary **crude birth rates (CBR) for states** in 2008 varied considerably, ranging from 10.2 births per 1,000 total population in Vermont to 20.3 in Utah (**Table 6**). From 2007 to 2008, birth rates decreased for 38 states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia and Wisconsin) and Puerto Rico, increased for only 1 states (Alaska) and 1 territory (Northern Marianas), and were essentially unchanged (i.e., not statistically different) for the remaining states, D.C., and American Samoa.

General fertility rates (GFR) for states in 2008 varied considerably too, ranging from 52.4 births per 1,000 women age 15-44 years in Vermont to 93.1 in Utah (**Table 6**). In 2008, fertility rates decreased for 19 states (Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, Nevada, New Jersey, Tennessee, Texas, Utah, and Virginia) and Puerto Rico, increased for only 3 states (Alaska, Hawaii, and Washington) and 1 territory (Northern Marianas), and were essentially unchanged for the remaining states and D.C.

- The **birth rate for unmarried women** declined almost 2 percent from 2007 to 2008. The rate per 1,000 unmarried women aged 15-44 years was 52.0 in 2008 compared with 52.9 in 2007, according to preliminary data (tabular data not shown).

- The decline in the **birth rate for unmarried women** for 2007-08 was the first reported since a slight decline 2001-02. The rate had increased 21 percent from 2002 (43.7) to 2007, following several years of relative stability.
- The other key measures of **childbearing by unmarried women** increased in the U.S. to historic levels in 2008, according to preliminary data [2,4,5]. The **total number of births** to unmarried women increased about 1 percent from 1,714,643 in 2007 to 1,727,950 in 2008 (**Table 7**). The 2008 total is up 27 percent from 2002 when the recent steady increases began. Births to unmarried women increased during 2007-08 within each age group 25 years and older, and declined for unmarried teenagers and women in their early twenties.
- The **proportion of all births to unmarried women** increased to 40.6 percent in 2008, up from 39.7 percent in 2007. This proportion increased for all race and Hispanic origin population groups except for Asian or Pacific Islander women (**Tables 1 and 7**).
- Teenagers accounted for 22 percent of all nonmarital births in 2008, continuing a steady decline in this measure over the last several decades. In 1975, teenaged mothers comprised 52 percent of nonmarital births [4,5].
- In 2008, more than 6 in 7 births to teenagers were nonmarital. Sixty-one percent of births to women aged 20-24 and one in three births to women aged 25-29 years were to unmarried women (**Table 7**).
- The percent of nonmarital births increased significantly in 39 states; changes in other states were not significant (see “State-specific detailed tables”).

Maternal and Infant Health Birth Characteristics

Key findings, illustrated in **Tables 8 and 9** and **Figures 3 and 4** show:

- The **cesarean delivery rate** rose to 32.3 percent in 2008, the twelfth consecutive year of increase (**Table 8**). The percentage of births delivered by cesarean has risen more than 50 percent since 1996; the pace of increase, however, has slowed somewhat in the last few years (**Figure 3**). Increases of 1-3 percent were seen among women of all age groups, and most race and ethnic groups: non-Hispanic white (1 percent), non-Hispanic black and Hispanic (2 percent each), and Asian or Pacific Islander (almost 4 percent).
- The **percentage of births born preterm** declined 3 percent in 2008, to 12.3 percent of all births (**Table 8**). This fairly sizable decrease follows a small decline in the preterm rate (infants delivered at less than 37 weeks of gestation per 100 births) between 2006 and 2007 (12.8 to 12.7 percent) [1]. The rate of preterm births had risen by more than 20 percent between 1990 and 2006 (**Figure 4**) [2].

- The downturn in preterm births for 2007-2008 was mostly among infants born late preterm, or at 34-36 weeks of gestation (down from 9.0 to 8.8 percent) (**Table 9**). The percentage of infants born at less than 34 weeks also declined, albeit modestly, from 3.63 to 3.56 percent.
- Declines in preterm rates were reported among most race and ethnic groups between 2007 and 2008; 3 percent for non-Hispanic white (from 11.5 to 11.1), 4 percent for non-Hispanic black (18.3 to 17.5 percent), 2 percent for Asian or Pacific Islander (10.9 to 10.7), and 2 percent for Hispanic infants (12.3 to 12.1). The decline among American Indian or Alaskan Native newborns (13.9 to 13.6 percent) was not statistically significant (**Table 8**).
- The 2008 **rate of low birthweight** (less than 2,500 grams or 5 lb, 8 oz) was 8.2 percent, unchanged from 2007 (**Table 8**). The percentage of infants born low birthweight (LBW) had been rising fairly steadily since the mid 1980s (6.7 percent in 1984) but declined slightly between 2006 and 2007 (from 8.3 to 8.2 percent) [1,2].
- The percentage of infants delivered at very low birthweight (VLBW, less than 1,500 grams or 3 lb, 4 oz), those newborns at the highest risk of early death or disability, declined very slightly for 2007-2008, from 1.48 to 1.46 percent. The 2008 level is the lowest reported since 2003 [2].
- Low birthweight among non-Hispanic black infants declined 1 percent between 2007 and 2008, from 13.8 to 13.7 percent. The non-Hispanic black VLBW rate dipped to 3.01 percent, the lowest level reported in more than a decade [2]. Rates of low and very low birthweight were essentially unchanged among the other race and Hispanic origin groups (**Table 8**).

References

1. Hamilton BE, Martin JA, Ventura SJ. Births: Preliminary data for 2007. National vital statistics reports, Web release; vol 57 no 12. Hyattsville, MD: National Center for Health Statistics. Released March 18, 2009. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_12.pdf.
2. Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2006. National vital statistics reports; vol 57 no 7. Hyattsville, MD: National Center for Health Statistics. 2009. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_07.pdf.
3. National Center for Health Statistics. Vital statistics of the United States, 2003, volume I, natality. Available from: <http://www.cdc.gov/nchs/products/vsus.htm#natab2003>.
4. Ventura SJ, Bachrach CA. Nonmarital childbearing in the United States, 1940-99. National vital Statistics reports; vol. 48 no. 16. Hyattsville, MD: National Center for Health Statistics. 2000. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr48/nvs48_16.pdf.
5. Ventura SJ. Changing patterns of nonmarital childbearing in the United States. NCHS data brief, no. 18. Hyattsville, MD: National Center for Health Statistics. 2009. Available from: <http://www.cdc.gov/nchs/data/databriefs/db18.pdf>.
6. National Center for Health Statistics. Detailed technical notes—2006—natality. U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. National Center for Health Statistics. Hyattsville, MD. Available from: <http://www.cdc.gov/nchs/births.htm>.
7. Hamilton BE, Martin JA, Ventura SJ. Births: Preliminary data for 2005. National vital statistics reports; vol 55 no 11. Hyattsville, MD: National Center for Health Statistics. 2006. Available from: http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55_11.pdf.
8. National Center for Health Statistics. U.S. Certificate of Live Birth. 2003. Available from: <http://www.cdc.gov/nchs/data/dvs/birth11-03final-ACC.pdf>.
9. National Center for Health Statistics. Report of the Panel to Evaluate the U.S. Standard Certificates and Reports. National Center for Health Statistics. 2000. Available from: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm and http://www.cdc.gov/nchs/data/dvs/panelreport_acc.pdf.
10. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. Federal Register 62FR58781-

58790. October 30, 1997. Available from:
<http://www.whitehouse.gov/omb/fedreg/ombdir15.html>.
11. Office of Management and Budget. Race and ethnic standards for federal statistics and administrative reporting. Statistical Policy Directive 15. May 12, 1977.
 12. Ingram DD, Parker JD, Schenker N, et al. United States Census 2000 with bridged race categories. National Center for Health Statistics. Vital Health Stat 2 (135). 2003. Available from:
http://www.cdc.gov/nchs/data/series/sr_02/sr02_135.pdf.
 13. Johnson D. Coding and editing multiple race. Presented at the 2004 Joint Meeting of NAPHSIS and VSCP. Portland, Oregon. June 6-10, 2004. Available from:
<http://www.naphsis.org/events/index.asp?bid=699>.
 14. Weed JA. Coding and editing multiple race. Presented at the 2004 Joint Meeting of NAPHSIS and VSCP. Portland, Oregon. June 6-10, 2004. Available from:
http://www.cdc.gov/nchs/data/dvs/Multiple_race_docu_5-10-04.pdf.
 15. Hamilton BE, Ventura SJ. Characteristics of births to single- and multiple-race women: California, Hawaii, Pennsylvania, Utah, and Washington, 2003. National vital statistics reports; vol 55 no 15. Hyattsville, MD: National Center for Health Statistics. 2007. Available from:
http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55_15.pdf.
 16. National Center for Health Statistics. Postcensal estimates of the resident population of the United States as of July 1, 2008, by year, state and county, age, bridged race, sex, and Hispanic origin (vintage 2008). File pcen_v2008_y08.txt (ASCII). Released September 2, 2009. Available from:
http://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#vintage2008.
 17. U.S. Census Bureau. 2008 population estimates for U.S. territories. International Data Base. Accessed March 4, 2010. Available from:
<http://www.census.gov/ipc/www/idb/>.
 18. U.S. Census Bureau. Unpublished data from the March 2008 current population survey. U.S. Census Bureau. 2008. Available from:
<http://www.census.gov/population/www/socdemo/hh-fam.html>.

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Technical Notes

Nature and sources of data

Preliminary data for 2008 are based on nearly all births for that year (99.9 percent, see **Table 10**). Levels for 46 of the 50 states and the District of Columbia were at 100.0 percent; levels for the remaining states were above 99 percent. Information on reporting for the 2007 preliminary data are available elsewhere [1]. Preliminary 2008 data are based on a continuous receipt and processing of statistical records through November 4, 2009, by the Centers for Disease Control and Prevention's (CDC) 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, Guam, American Samoa, and Northern Marianas are included in tables showing data by state, but are not included in U.S. totals (see **Table 6** and "State-specific detailed tables" at <http://www.cdc.gov/nchs>). Less than 50 percent of data for the Virgin Islands were available as of release of the 2008 preliminary file and data for this territory are not included in this report. Detailed information on reporting completeness and imputation procedures may be found in the "Detailed technical notes—2006—natality" [6].

To produce the preliminary estimates shown in this report, records in the file were weighted using independent control counts of all 2008 births by state of occurrence. Detailed information on weighting and the reliability of estimates also may be found elsewhere [7].

The 1989 and 2003 U.S. Standard Certificates of Live Birth

This report includes selected 2008 data on items which are collected on both the 1989 Revision of the U.S. Standard Certificate of Live Birth (unrevised) and 2003 Revision of the U.S. Standard Certificate of Live Birth (revised). The 2003 revision is described in detail elsewhere [1,8,9]. Twenty-seven states (California, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Michigan, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming) and Puerto Rico had implemented the revised birth certificate as of January 1, 2008. These twenty-seven revised states represent 65 percent of all 2008 births.

Data items exclusive to either the 1989 or the 2003 birth certificate revision are not shown in this report. A forthcoming report will present selected data exclusive to the 2003 revised certificate from the 2008 final data file.

Hispanic origin and race

Hispanic origin

Hispanic origin and race are reported separately on the birth certificate. Data shown by race (i.e., AIAN and API) include persons of Hispanic or non-Hispanic origin, and data for Hispanic origin include all persons of Hispanic origin of any race. Data for non-Hispanic persons are shown separately according to the race of the mother because there are substantial differences in fertility and maternal and infant health characteristics between Hispanic and non-Hispanic white 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, and on the birth certificate of Puerto Rico starting in 2005 [7]. 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 [8] in accordance with the revised standards issued by the Office of Management and Budget (OMB) in 1997 [10,11]. Information on this change is presented in several, recent reports [2,12].

In 2008, 30 states reported multiple-race: California, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Michigan, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Washington, and Wyoming, which used the 2003 revision of the U.S. Standard Certificate of Live Birth, as well as Hawaii, Minnesota, and Utah, which used the 1989 revision of the U.S. Standard Certificate of Live Birth. Puerto Rico, which revised its birth certificate in 2005, continued to report race according to the 1989 revision of the U.S. Standard Certificate of Live Birth (that is, as an open-ended question in which only one response is accepted). The 30 states accounted for 68 percent of U.S. births in 2008. Data from the vital records of the remaining 20 states and the District of Columbia are based on the 1989 revision of the U.S. Standard Certificate of Live Birth that follows the 1977 Office of Management and Budget (OMB) standard, allowing only a single race to be reported [10-12].

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 multiple-race population estimates (see “Population denominators”) [13,14]. Information detailing the processing and tabulation

of data by race is presented elsewhere [2,6]. A recent report describes multiple race birth data for 2003 [15].

Marital status

National estimates of births to unmarried women are based on two methods of determining marital status. For 2007 and 2008, birth certificates in 49 states and the District of Columbia included a direct question about mother's marital status (in two of these states, California and Nevada, a 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 New York. A birth is inferred as nonmarital if a paternity acknowledgment was filed or if the father's name is missing from the birth certificate (listed in respective priority-of-use order).

Population denominators

U.S. birth and fertility rates for 2008 shown in this report are based on population estimates based on the 2000 Census, as of July 1, 2008. These population estimates are available on the NCHS website [16]. The production of these population estimates is described in detail in a recent report [2].

Birth and fertility rates for the territories shown in this report are based on population estimates from U.S. Census Bureau's International Data Base [17]. Rates by territory may differ from rates computed on the basis of other population estimates. Rates for territories with smaller populations are more likely to be affected by differences in population base.

Information on the national estimates of births to unmarried women (i.e., methods of determining marital status) and the computation of the preliminary birth rates for unmarried women is presented elsewhere [2, 4]. The birth rates for unmarried women for 2007 and 2008 are estimated on the basis of population distributions by marital status provided by the U.S. Census Bureau as of March 2007 and 2008 and applied to the national population estimates as of July 1 of 2007 and 2008 [4,16,18]. Both population files are based on the 2000 census.

The nonmarital birth rates shown here for 2007 and 2008 thus differ 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 [4]. 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 for the U.S. 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 the OMB, the 2000 census

included an option for persons to report more than one race as appropriate for themselves and household members [10]. In order to produce birth and fertility rates by race, the bridging of the reported population data for multiple-race persons back to single-race categories was necessary. For detailed information on the revised OMB standards on race reporting and procedures used to produce the “bridged” populations, see “United States Census 2000 with Bridged Race Categories” [12].

Computing rates and percentages and Reliability of estimates

For information and further discussion on computing rates and percentages and the relative standard errors of the data, see Births: Preliminary Data for 2005 [7].

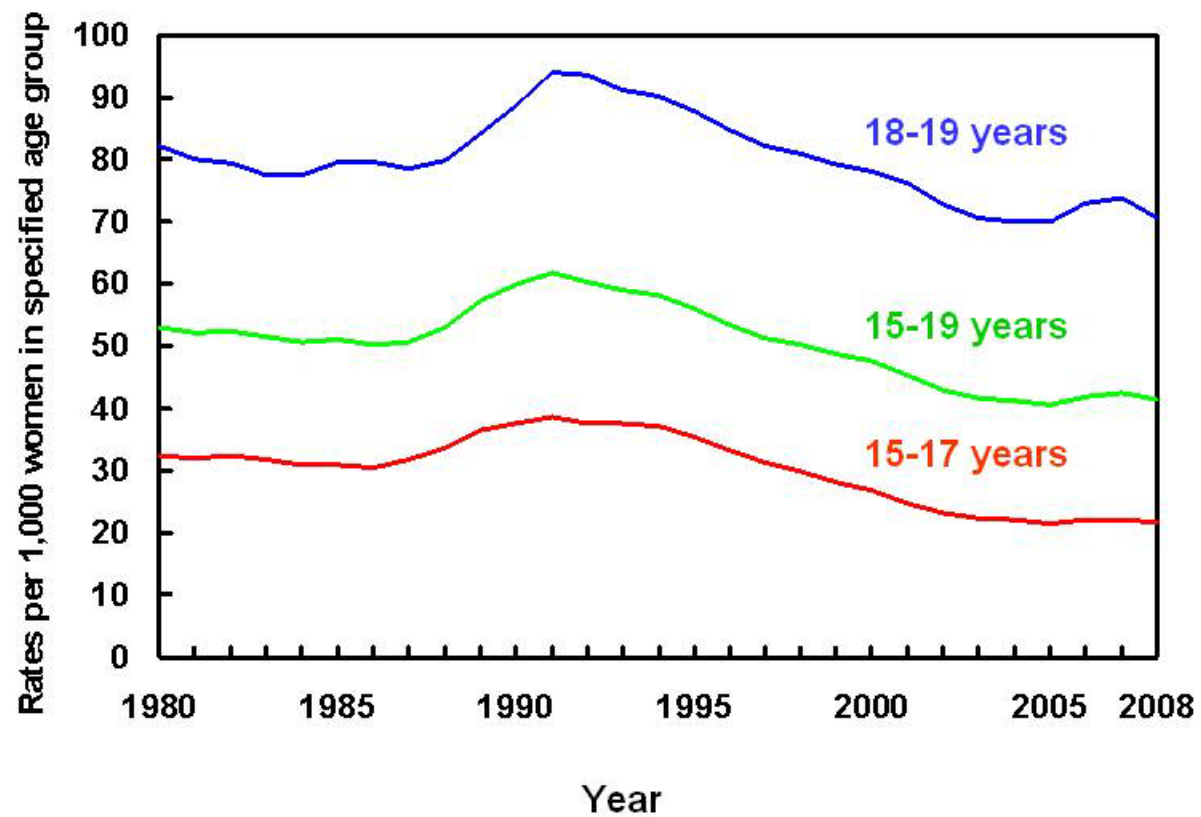
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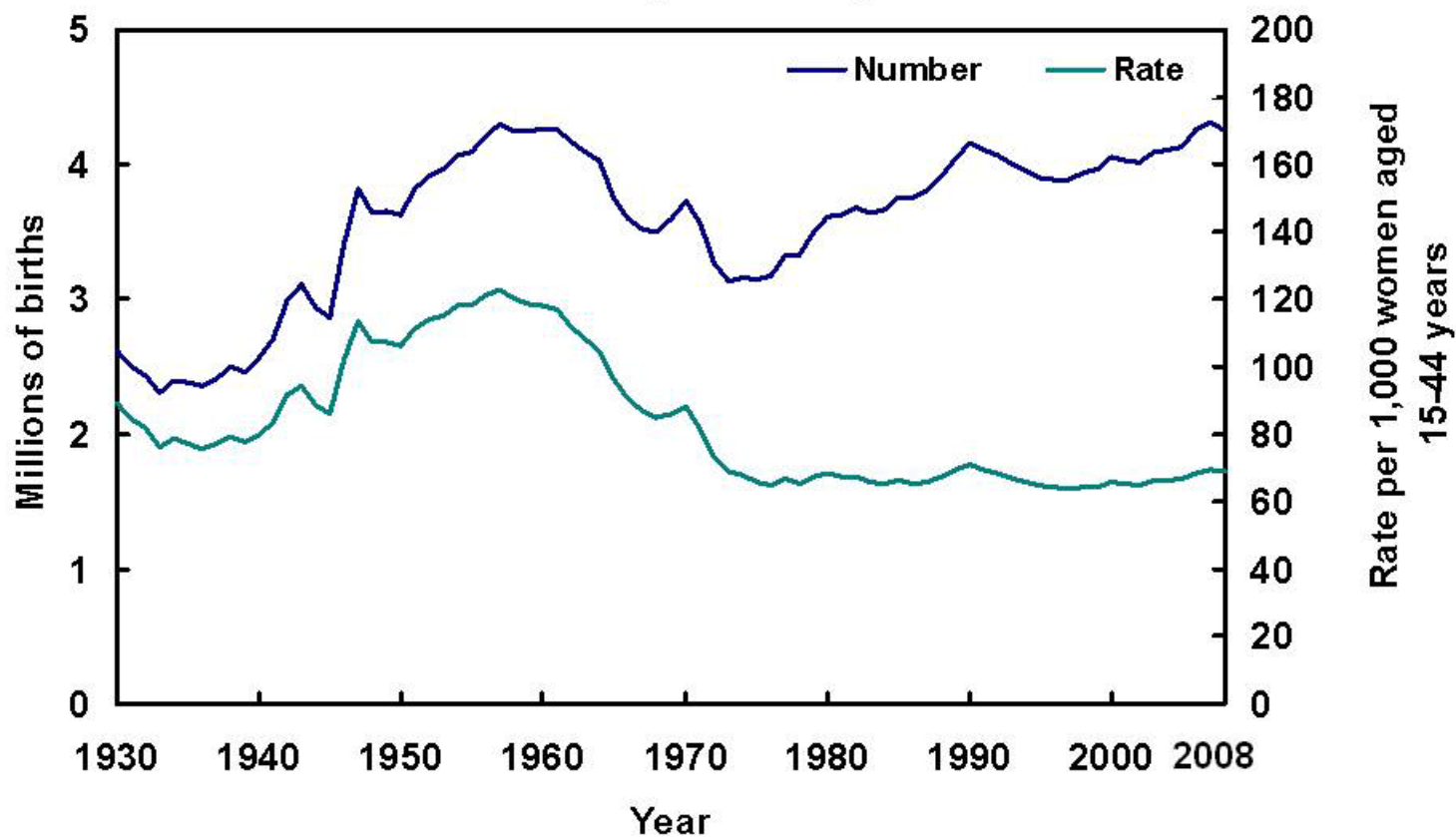
This report was prepared under the general direction of Charles J Rothwell, Director of the Division of Vital Statistics (DVS) and Stephanie J. Ventura, Chief of the Reproductive Statistics Branch (RSB). Nicholas F. Pace, Chief of the Systems, Programming, and Statistical Resources Branch (SPSRB), and Steve Steimel, Candace Cosgrove, Annie Liu, Jaleh Mousavi, Jordan Sacks, Bonita Gross and John Birken provided computer programming support and statistical tables. Yashodhara Patel of RSB also provided statistical tables. Steve Steimel and Candace Cosgrove of SPSRB prepared the natality file. Michelle Osterman 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. The Registration Methods staff of DVS consulted with state vital statistics offices regarding the collection of birth certificate data. This report was edited by Demarius V. Miller, CDC/CCHIS/NCHM/Division of Creative Services, Writer-Editor Services Branch, and typeset by Jacqueline M. Davis of CDC/CCHIS/NCHM/Division of Creative Services. Graphics were produced by _____, CDC/CCHIS/NCHM/Division of Creative Services, _____.

Figure 3. Birth rates for teenagers by age: United States, final 1980-2006 and preliminary 2007-2008



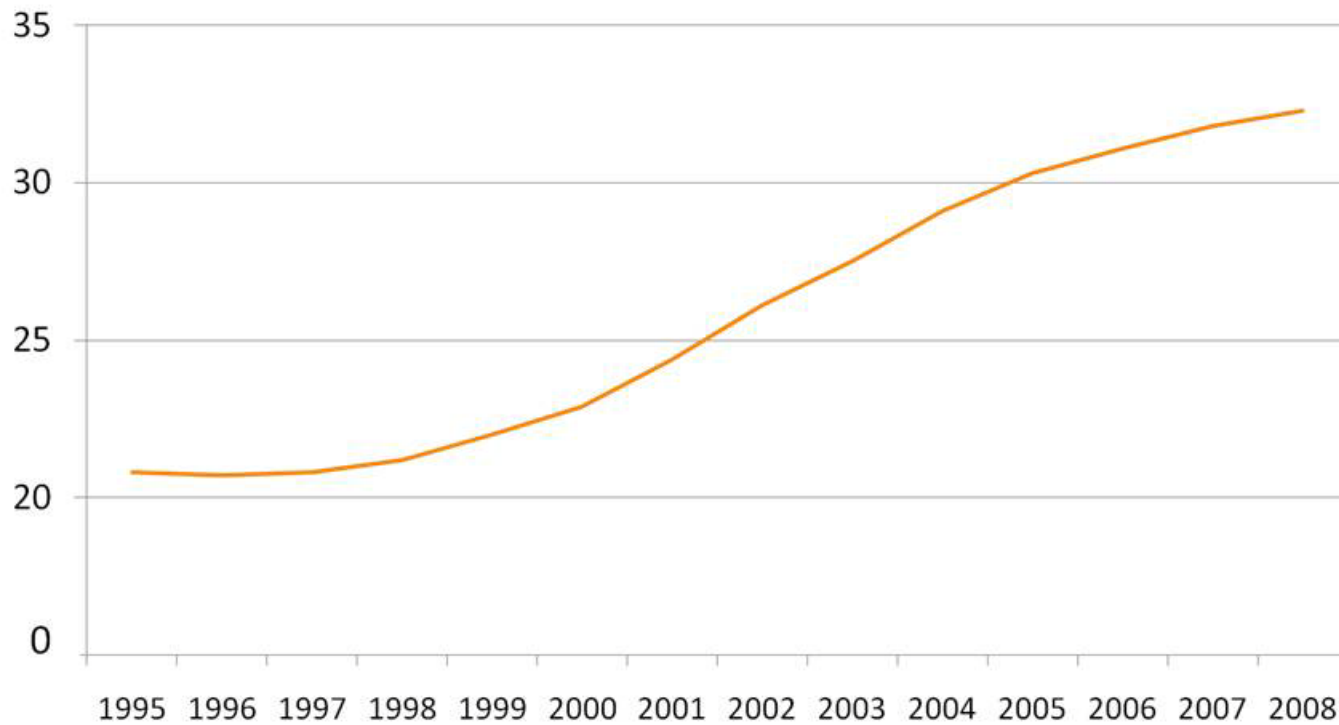
SOURCE: CDC/NCHS, National Vital Statistics System.

Figure 2. Live births and fertility rates: United States, final 1930-2006 and preliminary 2007-2008



NOTES: Beginning with 1959, trend lines are based on registered live births; trend lines for 1930-59 are based on live births adjusted for underregistration.
SOURCE: CDC/NCHS, National Vital Statistics System.

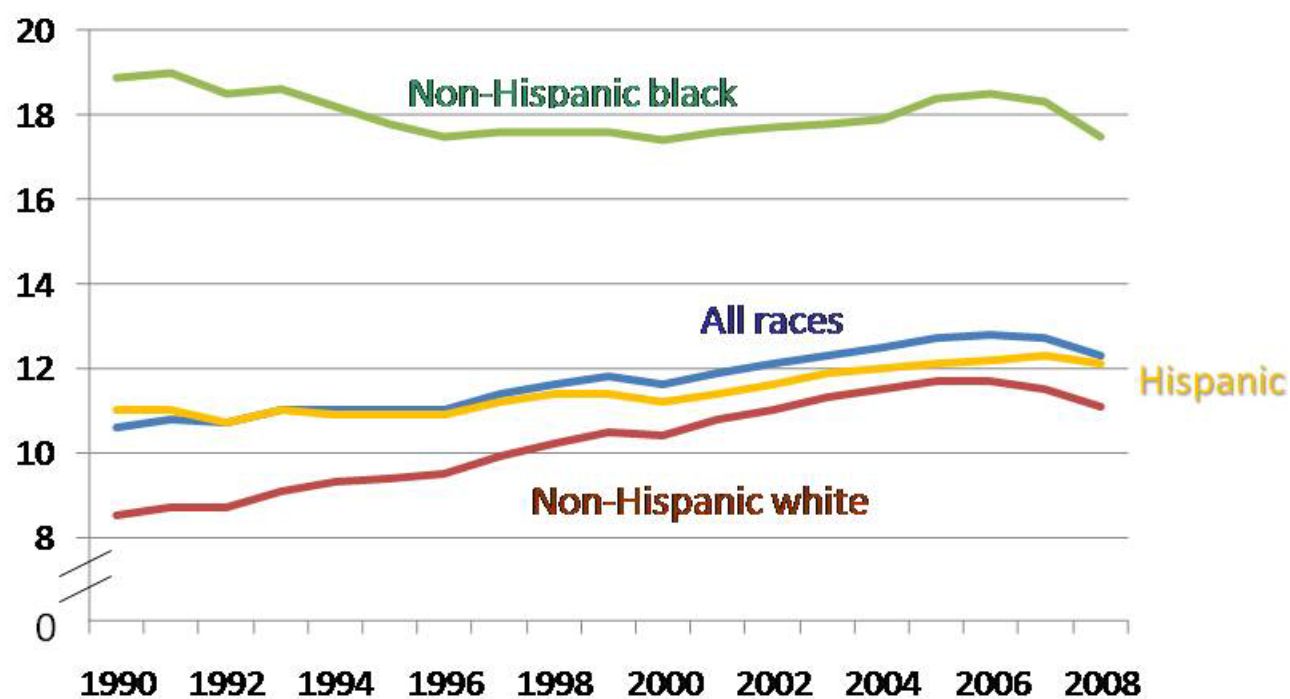
Figure 4. Cesarean Delivery Rate¹: United States,
final 1995-2006 and preliminary 2007-2008



¹The percentage of all births by cesarean delivery.

Source: CDC/NCHS, National Vital Statistics System

Figure 5. Preterm birth rates¹ by race and Hispanic origin of mother: United States, final 1990-2006 and preliminary 2007-2008



¹ Births <37 weeks of gestation per 100 total births.

Source: CDC/NCHS, National Vital Statistics System