




National Center for Health Statistics

Preliminary Births for 2004: Infant and Maternal Health

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This report from CDC's National Center for Health Statistics summarizes selected 2004 preliminary maternal and infant health birth data for the United States. An earlier report highlighted demographic results from the 2004 birth data (1). A report that includes both demographic and health characteristics of births as well as State-based preliminary 2004 data is in preparation. Key findings for this report, illustrated in [Tables 1–3](#)  [PDF – 30 KB] and in [Figures 1](#) and [2](#), show:

- **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 (2).** 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 1](#) and [Figure 1](#). 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. 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.
- **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 2](#)). The percentage of woman beginning care within the first 3 months of pregnancy had been increasing fairly steadily for 1990–03 (2). 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.
- **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 percent in 2003. Tobacco use among pregnant women has been on the decline since at least 1989 (2). 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 2](#).
- **More than a half million infants were born preterm in 2004, the highest number reported since comparable national data on gestational age have been available (1981) (2).** 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 3](#), [Figure 2](#)). 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 Asian or Pacific Islander births.
- **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 3](#), [Figure 2](#)). The percentage of infants born LBW has risen 16 percent since 1990 (2). LBW levels increased for births to non-Hispanic white and Hispanic mothers for 2003–04; increases for non-Hispanic black, American Indian, and Asian or Pacific Islander 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 low birthweight or very preterm, are at greater risk for morbidity and early death than infants born at higher ages and birthweights (3).

Technical Notes

Nature and sources of data

Preliminary data for 2004 are based on a substantial proportion of births for that year (99.1 percent). The data for 2004 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. Detailed information on reporting completeness and imputation procedures may be found in the Technical Appendix of Vital Statistics of the United States, 2003, "Nativity" (4).

To produce the preliminary estimates shown in this report, records in the file were weighted using independent control counts of all 2004 births by State of occurrence. Detailed information on weighting is available elsewhere (5). Detailed information on the reliability of estimates also may be found elsewhere (5).

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

This report includes preliminary 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, and the District of Columbia, which collected and reported 2003 and 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 (6,7). Where comparable, data from revised States are combined with data from the remaining 41 States and the District of Columbia. Where revised data are not comparable, revised data are excluded from this report. Where data for only a portion of the year are revised (Florida and New Hampshire implemented the 2003 revision during the course of the year, that is, after January 1, 2004), both revised and unrevised data for items that are not comparable for the State are excluded. The 41 States, New York City, and the District of Columbia reported based on the 1989 revision accounted for 80 percent of U.S. births in 2004. Comparable data on tobacco were available for a 40 State reporting area plus New York City and the District of Columbia, accounting for 67 percent of all births. More detailed information on revised and unrevised data will be presented in a subsequent report based on the file birth file. Comparability of selected data items is discussed below.

Data from the nine revised States (New York State excluding New York City) on prenatal care and tobacco use during pregnancy are excluded from this report. See "Births: Final Data for 2003" for information on the revised prenatal care and tobacco questions (2). 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 revisions 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 VBAC, primary cesarean, or repeat cesarean may be less comparable. This is because of wording and formatting changes designed to collect data on whether the mother had a previous cesarean delivery. The new format includes a direct question on whether the mother had had a previous cesarean delivery, whereas the old format did not. In brief, revised data 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 and data for all States are included in the national figures shown in this report. However, measures which incorporate these data to compare changes across revisions for individual States should be interpreted with caution.

Hispanic origin of mother

Race and Hispanic origin 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 Hispanic origin include all persons of Hispanic origin of any race. Data are shown separately for non-Hispanic white and black women.

Single, multiple, and bridged race of mother

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). Information on this change is presented in a recent report (2).

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). Data from the vital records of the

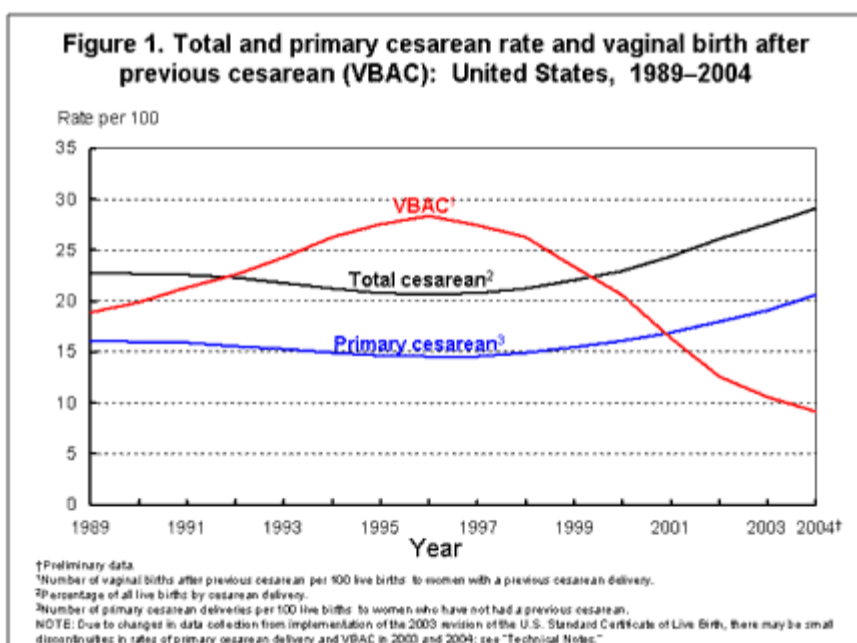
remaining 35 States, the District of Columbia, and New York City are based on the 1989 revision of the U.S. Standard Certificate of Live Birth, which follows the 1977 Office of Management and Budget (OMB) standard, allowing only a single race to be reported (7,9,10).

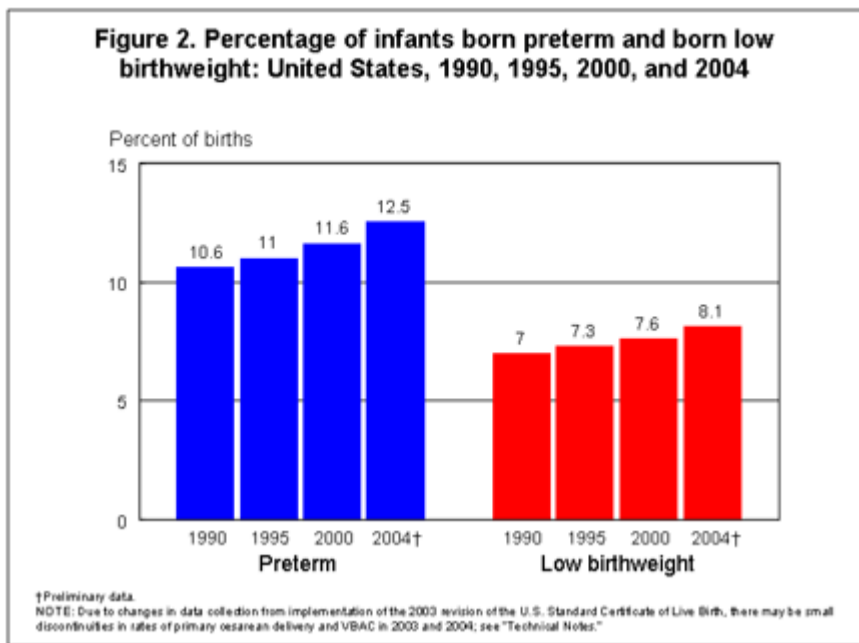
In order to provide uniformity and comparability of the data during the transition period, before all or most of the data are available in the new multiple race format, it was necessary to “bridge” the responses of those who reported more than one race (multiple race) to one, single race. Information on the processing and tabulation of data by race is presented in a recent report (2).

References

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Figures





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