

BIRTHS

On July 1, 2005 Vermont implemented a revised birth certificate based on the 2003 revision of the U.S. Standard Certificate of Live Birth. Substantial changes which affected trends in data are explained in more detail throughout this text. Comparisons to U.S. white rates are made when possible, but in some cases comparisons can only be made to rates for the states which revised their birth certificates in 2007, or earlier. In those cases, comparisons will be made to the “revised states”.

In 2007, 6,514 babies were born to Vermont residents. This represents an increase of four births from 2006. Until 2002, the number of babies born to Vermont residents had declined every year since 1989. The crude birth rate in 2007 is 10.5 per 1,000 Vermont residents, the same as in 2004. The U.S. white birth rate for 2006 was 13.7 (2007 not available). Comparisons are made to the U.S. white rate because 95.7 percent of Vermont resident births were to white mothers in 2007 ([Table B-5](#)). The Vermont birth rate peaked in 1955 at 24 per 1,000 residents; it then dropped for two decades, remained relatively stable from the late 1970's through the 1980's, slowly and steadily decreased through the 1990's, and has continued a slow decline through this decade.

FERTILITY

Although the crude birth rate is based on the total population, a better measure of birth patterns is the fertility rate which is based on the population of women ages 15 through 44, the peak child-bearing years. The 2007 Vermont fertility rate was 53.1 per 1,000 women ages 15 through 44 ([Table B-8](#)), a slight increase from the 2006 rate of 52.1. The U.S. white fertility rate was 68.0 in 2006 (2007 not available). The fertility rate in Vermont peaked in 1960 at 126, declined through the 1960's and 1970's, leveled off slightly in the 1980's, steadily declined through the early 90's, and has remained fairly stable since 1995. Age-specific fertility rates have generally declined among the younger age groups (<30), and increased among the older age groups, with the largest increase among 30-34 year olds.

FIGURE 4
AGE-SPECIFIC FERTILITY RATES, SELECTED YEARS 1980-2007

AGES/ YEAR	1980	1990	2000	2007
TOTAL	63.3	60.6	49.7	53.1
15 – 19	38.5	34.1	23.4	22.2
20 – 24	102.4	93.9	74.1	73.6
25 – 29	113.0	114.6	102.1	106.1
30 – 34	60.2	79.5	84.0	90.1
35 – 44	12.5	19.6	21.3	23.9

Just about half of all births (51.9 %) in 2007 were to women in their twenties ([Table B-7](#)), up slightly from 49.4 percent in 2000. Women age 30 and over accounted for 40.5 percent of births, down from both 43.4 in 2006 and 43.9 percent in 2000. Women age 15 through 19 accounted for 7.6 percent of births, up from 7.2 in 2006, and down from 8.0 percent in 2000.

BIRTH WEIGHT

The median birth weight for all resident births in 2007 was 3,429 grams (approximately 7 pounds, 9 ounces).

Low birth weight infants are those born weighing less than 2,500 grams (5 pounds 8 ounces). They are much more likely than heavier babies to suffer short and long term disabilities, and to die in infancy. In 2007, 6.2 percent of Vermont resident births were low birth weight ([Table B-15](#)) and 1.0 percent were very low birth weight (less than 1,500 grams or 3 pounds 5 ounces). The U.S. white low birth weight rate for 2006 was 7.2 percent (2007 not available). The Vermont low birth weight rate remains above the *Healthy Vermonters 2010* goal of 5.0 percent and the very low birth weight rate is slightly above the *Healthy Vermonters 2010* goal of 0.9 percent.

Low birth weight rates vary by age groups ([Table B-15](#)): in Vermont, the low birth weight rate among women under age 20 was 7.0 percent, compared to 6.2 percent of births among women age 20-29 and 6.0 percent of births among women age 30 and older.

Infant birth weight is also positively associated with maternal weight gain: mothers who do not gain adequate weight during pregnancy are more likely to deliver low birth weight infants. On the other hand, there are risks associated with gaining too much weight including delivery complications, maternal and infant obesity. Although the weight gained by 20.2 percent of Vermont mothers in 2007 fell below the range recommended by the Institute of Medicine, 46.6 percent gained above the recommended range ([Table B-29](#)). Please refer to [Appendix B](#) for further information on the guidelines.

The single most important preventable risk factor for low birth weight is smoking during pregnancy. The low birth weight rate among women who smoked cigarettes during their pregnancy was 11.3 percent compared to 5.0 percent among women who did not smoke during pregnancy ([Table B-26](#)). The rate of women who reported smoking during pregnancy in 2007 was 18.6 percent, up slightly from 17.3 percent in 2006, and higher than 18.1 percent for non-Hispanic white mothers in the revised states for 2006 (2007 not available). Among those who smoked before pregnancy or during the first trimester, 28.8 percent quit.

PRENATAL CARE

Early, comprehensive, and high quality prenatal care is essential for a healthy pregnancy and birth. Through prenatal care, pregnant women are screened for medical conditions and counseled on nutrition, behavioral risks (such as using tobacco and alcohol), and domestic violence.

In 2007, 83.4 percent of the babies were born to mothers who began prenatal care in the first three months of pregnancy ([Table B-20](#)), a decrease from 83.7 percent in 2006 (which was at the *Healthy Vermonters 2010* goal). The calculation for month prenatal care began was changed in 2005 with the implementation of the new birth certificate. Analysis by the Vermont Department of Health shows that change in calculation for month prenatal care began reduces the rate of entry into first trimester prenatal care by about 7 percent. Please refer to [Appendix B](#) for more information. In general, the percentage of women receiving first trimester prenatal care has steadily increased since 1987. Vermont's rate in 2007 was higher than the 76.2 percent experienced by non-Hispanic white mothers in the revised states in 2006 (2007 not available).

The proportion of births in 2007 to Vermont mothers who delayed care to the third trimester or received no prenatal care was 2.5 percent, less than the 2.6 percent in 2006. The proportion of women receiving late or no prenatal care in 2006 was 5.2 percent for non-Hispanic white mothers in the revised states (2007 not available). As in previous years, the age of the mother is closely associated with the time of entry to prenatal care with young women seeking care later than older women ([Table B-21](#)).

Based on the APNCU Index, in 2007, 87.0 percent of Vermont resident mothers received at least adequate prenatal care, ([Table B-30](#)). The percent of Vermont mothers who received inadequate care was 8.3. Teen mothers had the highest percent of inadequate care (15.8 percent) while mothers 30 and older had the highest percent of adequate plus intensive care (89.8 percent). U.S. rates for these measures are not available for comparison.

MEDICAL RISK FACTORS

Of those births with medical risk factors reported for the mother, the most common were previous pre-term births, gestational hypertension and gestational diabetes. The most common characteristics of labor and delivery were spinal anesthesia during labor, antibiotics received by mother during labor, induction of labor and augmentation of labor ([Table B-27](#)).

DELIVERIES

The format and wording of the Method of Delivery item was changed on the revised birth certificate, and preliminary analyses done by the National Center for Health Statistics indicate that “although data on total cesarean delivery appear very comparable, data on VBAC [vaginal birth after cesarean delivery], primary, and repeat cesarean deliveries are not directly comparable between revisions...”⁽¹⁾ Of babies born in Vermont hospitals in 2007, 27.8 percent were delivered by cesarean section ([Table B-25](#)) compared to 30.7 percent for U.S. white women in 2006 (2007 not available). The primary cesarean section rate was 19.8 percent in Vermont for 2007, lower than the 24.1 percent for non-Hispanic white mothers in the revised states in 2006 (2007 not available). Of mothers delivering in Vermont hospitals in 2007 who had a previous delivery by cesarean section, 17.6 percent had vaginal births, compared to 8.8 percent for non-Hispanic white mothers in the revised states in 2006 (2007 not available).

VERMONT RESIDENT PREGNANCIES

The pregnancy rate is derived by adding live births, fetal deaths and abortions. The pregnancy rates presented in this report underestimate the actual number of pregnancies for two reasons. First, Vermont resident abortions and fetal deaths that occur out of state are not reported to us. Second, by statute, fetal deaths prior to 20 weeks gestation are not reportable. Since residents of some counties may be more likely to use out-of-state services, the extent of these underestimates may differ among counties.

In 2007, the pregnancy rate in Vermont was 64.8 pregnancies per 1,000 women age 15 to 44 ([Table B-31](#)) an increase from 63.9 in 2006. Overall, the pregnancy rate peaked at 127.6 in 1960 then dropped steadily through the next four decades to a low of 60.3 in 2002 and has increased slightly over the past few years ([Table A-1](#)).

The 2007 teen pregnancy rate was 33.0 pregnancies per 1,000 women age 15 to 19 years ([Table B-31](#)), a slight increase from 32.8 in 2006. In general the teen pregnancy rate has been decreasing since 1991. In 2007, the highest pregnancy rate was seen in women 25 to 29 years of age at 123.3, followed by the 30 to 34 age group at 101.2. The lowest rate was for women age 35 to 44 at 27.8.

(1) Births: Final data for 2006. National vital statistics reports; Volume 57, Number 7. Hyattsville, MD: National Center for Health Statistics. January 7, 2009.