

## 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 19 states (including Vermont) who revised their birth certificates in 2006, or earlier. In those cases, comparisons will be made to the “revised states”.

In 2006, 6,510 babies were born to Vermont residents. This represents an increase of thirty-five births from 2005. Until 2002, the number of babies born to Vermont residents had declined every year since 1989. The crude birth rate in 2006 is 10.4 per 1,000 Vermont residents, the same as in 2004. The U.S. white birth rate for 2006 was 13.7. Comparisons are made to the U.S. white rate because 96.1 percent of Vermont resident births were to white mothers in 2006 (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 2006 Vermont fertility rate was 52.1 per 1,000 women ages 15 through 44 (Table B-8), a slight increase from the 2005 rate of 50.8. The U.S. white fertility rate was 68.0 in 2006. 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 5  
AGE-SPECIFIC FERTILITY RATES, SELECTED YEARS 1980-2006

AGES/ YEAR	1980	1990	2000	2006
<b>TOTAL</b>	<b>63.3</b>	<b>60.6</b>	<b>49.7</b>	<b>52.1</b>
15 – 19	38.5	34.1	23.4	20.8
20 – 24	102.4	93.9	74.1	69.2
25 – 29	113.0	114.6	102.1	99.4
30 – 34	60.2	79.5	84.0	94.3
35 – 44	12.5	19.6	21.3	25.5

Just about half of all births (49.4 %) in 2006 were to women in their twenties (Table B-7), up slightly from 48.0 percent in 2000. Women age 30 and over accounted for 43.4 percent of births, up from 42.8 in 2005, but down from 43.9 percent in 2000. Women age 15 through 19 accounted for 7.2 percent of births, up from 6.7 in 2005, and down from 8.0 percent in 2000.

## BIRTH WEIGHT

The median birth weight for all resident births in 2006 was 3,415 grams (approximately 7 pounds, 8 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 2006, 6.9 percent of Vermont resident births were low birth weight ([Table B-16](#)) and 1.4 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. 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-16](#)): in Vermont, the low birth weight rate among women under age 20 was 8.9 percent, compared to 6.8 percent of births among women age 20-29 and 6.6 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 20.5 percent of Vermont mothers in 2006 fell below the range recommended by the Institute of Medicine, 46.3 percent gained above the recommended range ([Table B-31](#)). 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 11.9 percent compared to 5.8 percent among women who did not smoke during pregnancy ([Table B-28](#)). The rate of women who reported smoking during pregnancy in 2006 was 17.3 percent, down slightly from 18.5 percent in 2005, and lower than 18.1 percent for non-Hispanic white mothers in the revised states. Among those who smoked before pregnancy or during the first trimester, 28.7 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 2006, 83.7 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 84.1 percent in 2005 (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 2006 was higher than the 76.2 percent experienced by non-Hispanic white mothers in the revised states.

The proportion of births in 2006 to Vermont mothers who delayed care to the third trimester or received no prenatal care was 2.6 percent, equal to the proportion in 2005. 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. 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-23](#)).

Based on the APNCU Index, in 2006, 87.8 percent of Vermont resident mothers received at least adequate prenatal care, ([Table B32](#)). The percent of Vermont mothers who received inadequate care was 8.0. 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 (91.1 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 gestational hypertension, previous pre-term births and gestational diabetes. The most common characteristics of labor and delivery were spinal anesthesia during labor, induction of labor, augmentation of labor and antibiotics received by mother during labor. ([Table B-29](#)).

## **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...”<sup>(1)</sup> Of babies born in Vermont hospitals in 2006, 26.6 percent were delivered by cesarean section ([Table B-27](#)) compared to 30.7 percent for U.S. white women in 2006. The primary cesarean section rate was 19.7 percent in Vermont for 2006, lower than the 24.1 percent for non-Hispanic white mothers in the revised states in 2006. Of mothers delivering in Vermont hospitals in 2006 who had a previous delivery by cesarean section, 19.3 percent had vaginal births, compared to 8.8 percent for non-Hispanic white mothers in the revised states in 2006.

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