

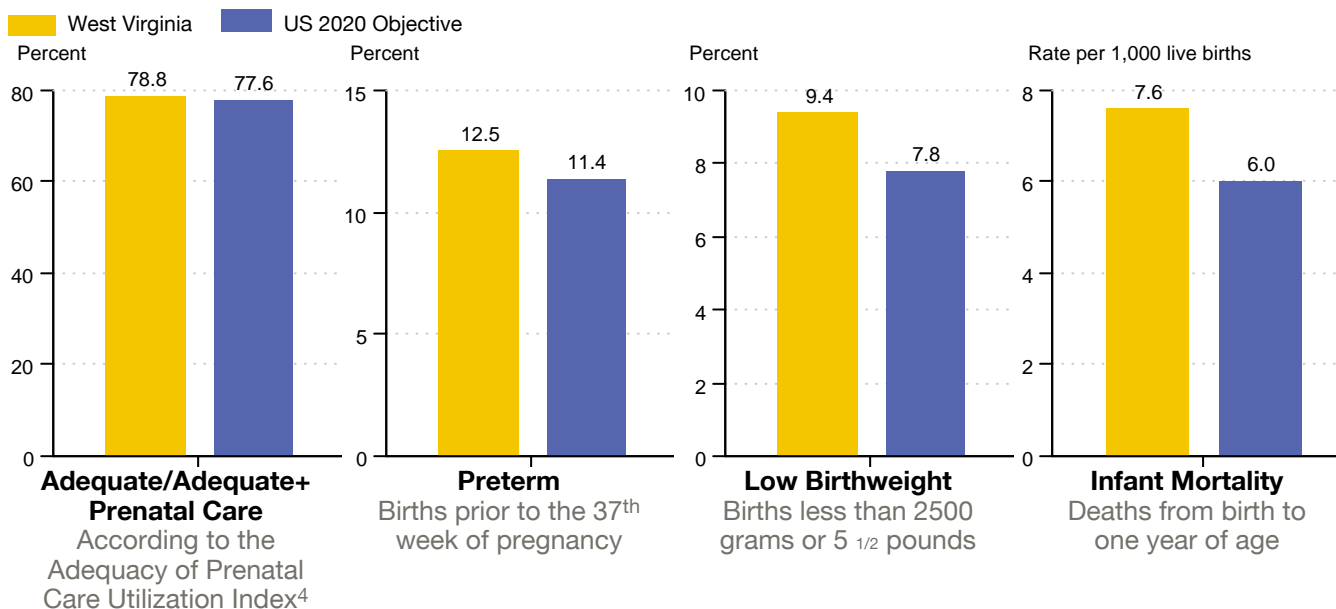
PERINATAL DATA SNAPSHOTS:

West Virginia
Maternal and Infant Health Overview

In an Average Week in West Virginia^{1, 2}

| | | | | | |
|-------------------------------|---|--|--------------------------------------|--|--|
| 400 babies are born | 42 babies are born to teen mothers (ages 15-19) | 143 babies delivered by cesarean section | 50 babies are born preterm | 38 babies are born low birthweight | 3 babies die before their first birthday |
|-------------------------------|---|--|--------------------------------------|--|--|

West Virginia and US Year 2020 Objectives^{1, 2}



Indicators, West Virginia

| | Number | Rate | | Number | Rate |
|--|--------|-------|-----------------------------------|--------|-------|
| Births ¹ | 20,825 | 61.5 | Preterm ¹ | 2,597 | 12.5% |
| Adequate/Adequate+ PNC ⁴ | 14,917 | 78.8% | Very Preterm ¹ | 383 | 1.8% |
| Early Prenatal Care ⁴ | 15,953 | 84.1% | Late Preterm ¹ | 1,892 | 9.1% |
| Uninsured Women (15-44 yrs) ³ | NA | 23.6% | Low Birthweight ¹ | 1,955 | 9.4% |
| Uninsured Children(<19 yrs) ³ | NA | 7.1% | Very Low Birthweight ¹ | 254 | 1.2% |
| C Section ¹ | 7,455 | 35.9% | Infant Mortality ² | 159 | 7.6 |

Footnotes

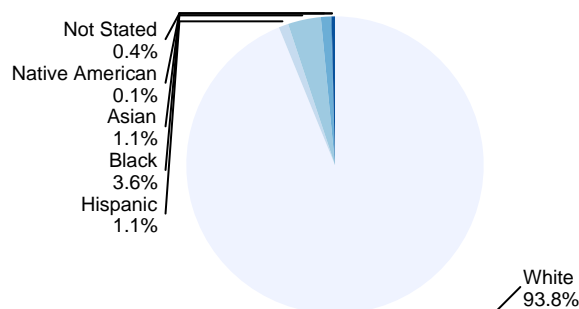
- Adequate/Adequate+ prenatal care (PNC) is measured using the Adequacy of Prenatal Care Utilization Index and takes into account timing of prenatal care, number of visits, and infant's gestational age.
- For more information on U.S. 2020 objectives, visit www.healthypeople.gov/2020.
- Birth rate is live births per 1,000 women aged 15-44 years.
- Early prenatal care is pregnancy-related care beginning in the first trimester (1-3 months).
- NA = Not Available.
- Very preterm is less than 32 completed weeks of pregnancy. Late preterm is between 34-36 weeks of pregnancy.
- Very low birthweight is less than 1500 grams (3 1/3 pounds).

Sources

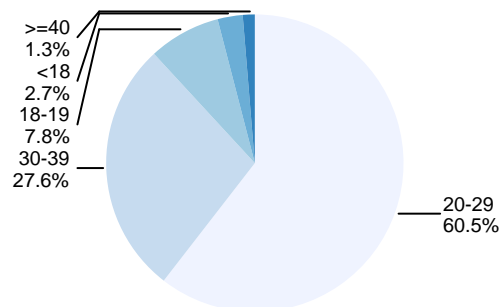
- National Center for Health Statistics, final natality data (2013).
- National Center for Health Statistics, period linked birth/infant death data (2013).
- US Census Bureau. Data prepared for the March of Dimes using the Current Population Survey Annual Social and Economic Supplements (2010-2012 Average).
- National Center for Health Statistics, final natality data (2010). Prenatal care data after 2010 are not available. Details available at: www.marchofdimes.org/peristats/calc/pnc.

Births by Maternal Characteristics, 2013¹

Maternal Race / Ethnicity



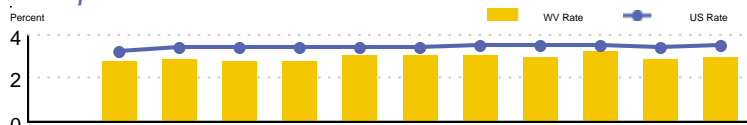
Maternal Age



Total live births = 20,825

Births by Plurality, 2003-2013^{1, 2}

Multiple Births

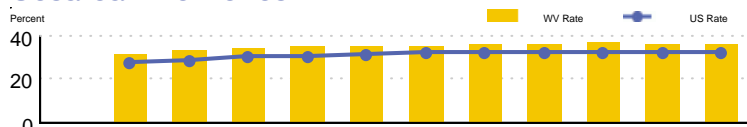


| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 2.8 | 2.9 | 2.8 | 2.8 | 3.1 | 3.1 | 3.1 | 3.0 | 3.3 | 2.9 | 3.0 |
| US Rate | 3.3 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.5 | 3.5 | 3.5 | 3.4 | 3.5 |

- In 2013, 3.0% of all live births were multiple births, and 97.0% were singleton births in West Virginia.
- Between 2003 and 2013, the percentage of multiple births in West Virginia increased more than 7%.
- An increase in multiple births is related to increasing maternal age and greater use of infertility treatment.
- Multiple births are associated with increased risks for adverse outcomes and pregnancy complications such as prematurity, low birthweight, gestational diabetes, and preeclampsia.

Births by Method of Delivery, 2003-2013¹

Cesarean Deliveries



| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 31.6 | 33.3 | 34.2 | 35.2 | 35.2 | 35.5 | 36.0 | 36.3 | 36.8 | 35.9 | 35.9 |
| US Rate | 27.5 | 29.1 | 30.3 | 31.1 | 31.8 | 32.3 | 32.9 | 32.8 | 32.8 | 32.8 | 32.7 |

- In West Virginia in 2013, 35.9% of live births were cesarean deliveries, and 64.1% were vaginal deliveries.
- Between 2003 and 2013, the percent of live births delivered by cesarean section in West Virginia increased nearly 14%.
- In West Virginia in 2010, the rate of vaginal births after a previous cesarean (VBAC) was 4.8% of live births among women who had a previous cesarean delivery.

Footnotes

- All race categories exclude Hispanics.
- Multiple births include twin, triplet, and higher order deliveries.

Sources

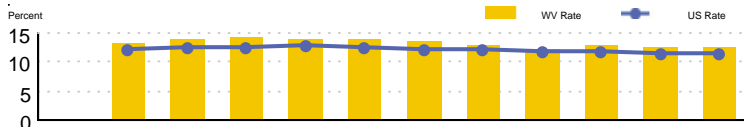
- 1 National Center for Health Statistics, final natality data.
- 2 Multiple Birth Fact Sheet by March of Dimes available at <http://www.marchofdimes.org/pregnancy/multiples-twins-triplets-and-beyond.aspx>.

PERINATAL DATA SNAPSHOTS:

West Virginia Trends in Birth Outcomes

Health Indicators¹⁻⁵

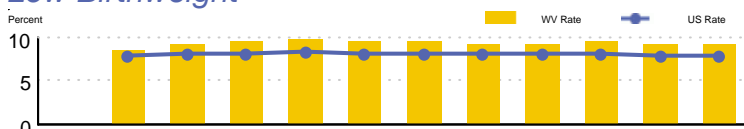
Preterm



| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 13.3 | 14.0 | 14.4 | 14.0 | 13.9 | 13.7 | 12.9 | 12.1 | 12.8 | 12.4 | 12.5 |
| US Rate | 12.3 | 12.5 | 12.7 | 12.8 | 12.7 | 12.3 | 12.2 | 12.0 | 11.7 | 11.5 | 11.4 |

- In 2013, 12.5% of infants (2,597 babies) were born preterm in West Virginia.
- Between 2003 and 2013, the rate of infants born preterm in West Virginia declined 6%.
- Approximately three-quarters of all preterm births occur spontaneously, and the remainder result from medical intervention.
- The most consistently identified risk factors for spontaneous preterm births include a history of preterm birth, current multifetal pregnancy, and some uterine and/or cervical abnormalities.

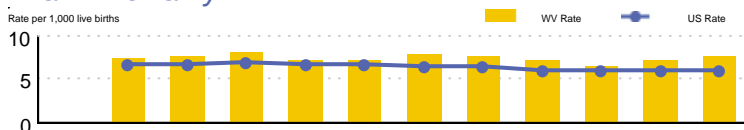
Low Birthweight



| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 8.6 | 9.3 | 9.6 | 9.7 | 9.5 | 9.5 | 9.2 | 9.2 | 9.6 | 9.2 | 9.4 |
| US Rate | 7.9 | 8.1 | 8.2 | 8.3 | 8.2 | 8.2 | 8.2 | 8.1 | 8.1 | 8.0 | 8.0 |

- In 2013, 9.4% of infants (1,955 babies) were born low birthweight in West Virginia.
- Between 2003 and 2013, the rate of infants born low birthweight in West Virginia increased more than 9%.
- Major risk factors for low birthweight include multifetal pregnancy, prematurity, smoking, inadequate maternal nutrition, and extremes of maternal age.

Infant Mortality



| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 7.5 | 7.6 | 8.2 | 7.1 | 7.3 | 7.8 | 7.7 | 7.3 | 6.6 | 7.2 | 7.6 |
| US Rate | 6.8 | 6.8 | 6.9 | 6.7 | 6.8 | 6.6 | 6.4 | 6.1 | 6.1 | 6.0 | 6.0 |

- In 2013, the infant mortality rate was 7.6 per 1,000 live births (159 babies) in West Virginia.
- Between 2003 and 2013, the infant mortality rate in West Virginia increased more than 1%.
- Some leading causes of infant mortality are birth defects, prematurity/low birthweight, and sudden infant death syndrome.

Health Indicators, West Virginia⁶

| | Maternal Race / Ethnicity | | | Maternal Age (years) | | | | Plurality | | All |
|------------------|---------------------------|--------------------|----------|----------------------|-------|-------|-------|-----------|----------|-------|
| | Non-Hispanic White | Non-Hispanic Black | Hispanic | <20 | 20-29 | 30-39 | ≥40 | Singleton | Multiple | |
| Preterm | 12.4% | 17.1% | 12.1% | 13.4% | 11.7% | 13.6% | 19.7% | 10.9% | 64.3% | 12.5% |
| Low Birthweight | 9.3% | 13.5% | 6.8% | 10.6% | 9.1% | 9.4% | 13.9% | 7.7% | 63.5% | 9.4% |
| Infant Mortality | 7.0 | 12.0 | NA | 10.5 | 6.8 | 6.1 | 12.1 | 6.4 | 28.5 | 7.1 |

Footnotes

- Preterm is less than 37 completed weeks gestation.
- Low birthweight is less than 2500 grams (5 1/2 pounds).
- Infant mortality rate is infant deaths per 1,000 live births.
- All race categories exclude Hispanics.
- Multiple births include twin, triplet, and higher order deliveries.
- NA = Not Available.

Sources

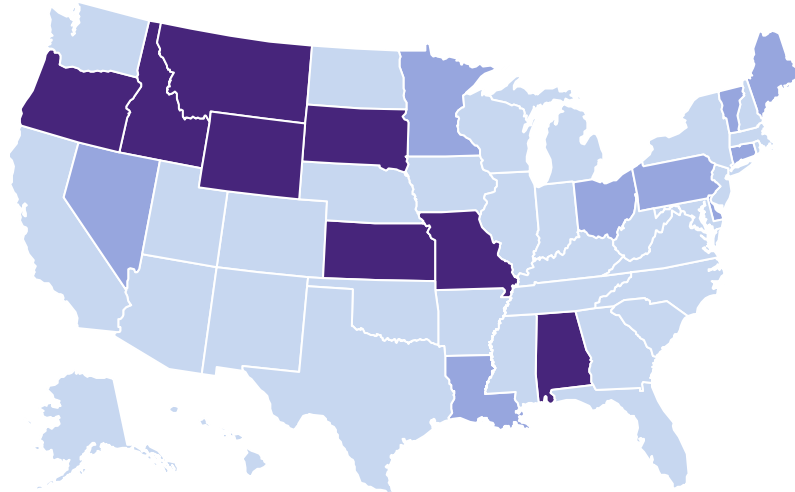
- 1 National Center for Health Statistics, final natality data.
- 2 Prematurity risk factors compiled by March of Dimes available at www.marchofdimes.org/pregnancy/preterm-labor-and-birth.aspx.
- 3 Iams JD. The epidemiology of preterm birth. Clin Perinatol. 2003;30:651-54.
- 4 Low Birthweight Fact Sheet by March of Dimes available at www.marchofdimes.org/baby/low-birthweight.aspx.
- 5 National Center for Health Statistics, final mortality data, 1990-1994 and period linked birth/infant death data, 1995-present.
- 6 National Center for Health Statistics, final natality data, (2011-2013 Average) and period linked infant birth/death data (2011-2013 Average).

PERINATAL DATA SNAPSHOTS:

United States
Birth Defects

Birth Defects Monitoring Program¹⁻³

- Operational Program (33)
- Planning Program (9)
- No program (9)

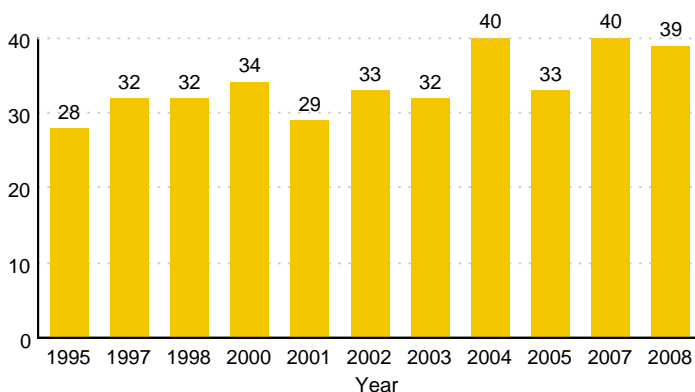


- In the United States, birth defects have been the leading cause of infant mortality for the past 20 years, accounting for 1 in 5 infant deaths.
- Each year at least 120,000 babies are born with major structural birth defects in the United States (about 3% of live births).
- Hospital costs for stays due to birth defects totaled \$2.6 billion for all birth defects and all ages. More than half of all hospital costs were related to cardiac and circulatory birth defects. Associated costs of physician care and other outpatient medical services are not included in this figure.
- Nearly three-quarters (33) of states and Puerto Rico have some type of birth defects surveillance program, while another nine are planning one. For more information on state birth defects surveillance programs, please visit the [National Birth Defects Prevention Network](#).

Folic Acid Knowledge and Behavior, United States⁴

Daily Use of Vitamin Containing Folic Acid

Percent of women ages 18-45



- Up to 70% of neural tube defects--birth defects of the brain and spinal cord--may be prevented if women consume 400 micrograms of folic acid daily, prior to and during the early weeks of conception.
- While 84% of women ages 18-45 surveyed in 2008 had heard of folic acid, only 11% of these women knew to take folic acid before pregnancy.
- In 2008, 39% of women surveyed reported taking a vitamin containing folic acid daily.

Footnotes

- Annual number of birth defects based on estimates from the Centers for Disease Control and Prevention.
- March of Dimes Folic Acid Surveys are nationally representative telephone surveys targeting approximately 2000 English-speaking women ages 18-45 each year. Margin of error is +/-3%.
- Folic acid data shown for all available years.

Sources

- 1 Centers for Disease Control and Prevention (2008).
- 2 National Center for Health Statistics, period linked birth/infant death data (2013).
- 3 Russo CA and Elixhauser, A. Hospitalizations for Birth Defects, 2004. HCUP Statistical Brief #24. January 2007. Agency for Healthcare Research and Quality.
- 4 March of Dimes Folic Acid Surveys, conducted by Gallup.

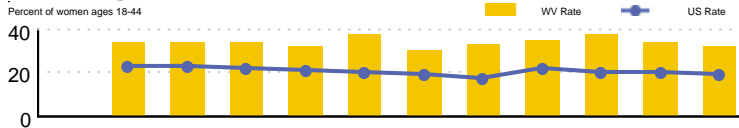
PERINATAL DATA SNAPSHOTS:

West Virginia Trends in Risk Indicators

Selected Risk Indicators 1-3

Women of childbearing age can take steps before and during pregnancy to improve birth outcomes. Some steps include adopting a healthy lifestyle that includes moderate exercise and a healthy diet; reducing stress; and avoiding exposure to smoking, alcohol, illegal drugs, and some medications that can harm a developing fetus. Women can also achieve a healthy weight before pregnancy to increase their chances of having a healthy baby. Examples of trends in smoking, binge alcohol use, and obesity are shown below.

Smoking

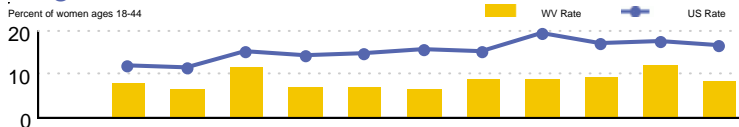


Note: Data after 2010 are not comparable to earlier years due to methodological changes. Details: see calculations page.

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 34.7 | 34.5 | 34.0 | 32.6 | 37.8 | 30.7 | 33.9 | 35.8 | 38.4 | 34.6 | 32.4 |
| US Rate | 22.8 | 23.5 | 22.4 | 21.2 | 20.0 | 19.6 | 17.6 | 22.5 | 20.8 | 20.5 | 19.2 |

- In West Virginia in 2014, 32.4% of women ages 18-44 reported smoking, compared to 19.2% overall in the U.S.
- Smoking is an important determinant of health status and a major contributor to prematurity and low birthweight.

Binge Alcohol Use

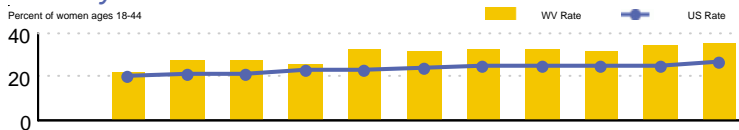


Note: Data after 2010 are not comparable to earlier years due to methodological changes. Details: see calculations page.

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 7.8 | 6.7 | 11.6 | 7.1 | 6.9 | 6.6 | 8.9 | 8.7 | 9.2 | 12.1 | 8.4 |
| US Rate | 12.0 | 11.4 | 15.5 | 14.6 | 14.8 | 15.7 | 15.4 | 19.5 | 17.4 | 17.6 | 16.9 |

- In West Virginia in 2014, 8.4% of women ages 18-44 reported binge drinking in the past month, compared to 16.9% overall in the U.S.
- Drinking alcohol during pregnancy particularly binge drinking can cause birth defects and mental retardation.

Obesity



Note: Data after 2010 are not comparable to earlier years due to methodological changes. Details: see calculations page.

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| WV Rate | 22.0 | 27.7 | 27.5 | 25.8 | 32.3 | 32.0 | 32.1 | 32.1 | 31.9 | 34.5 | 35.2 |
| US Rate | 20.2 | 21.4 | 21.7 | 23.6 | 23.7 | 24.4 | 25.1 | 24.9 | 25.1 | 25.2 | 27.2 |

- In West Virginia in 2014, 35.2% of women ages 18-44 were obese, compared to 27.2% overall in the U.S.
- Obesity increases the risk of poor pregnancy outcomes. Obesity can cause serious pregnancy-related medical complications such as hypertension and diabetes that contribute to prematurity and increase the likelihood of cesarean section.

Footnotes

- Smoking is defined as current smokers who have ever smoked >100 cigarettes.
- Binge alcohol use is defined as ≥ 4 drinks on at least 1 occasion in the past month beginning in 2006, and ≥ 5 drinks on at least 1 occasion in the past month prior to 2006.
- Obesity is defined as a Body Mass Index of 30 or more.
- Hawaii did not conduct BRFSS surveillance in 2004 and is not included in the U.S. rate for this year.

Sources

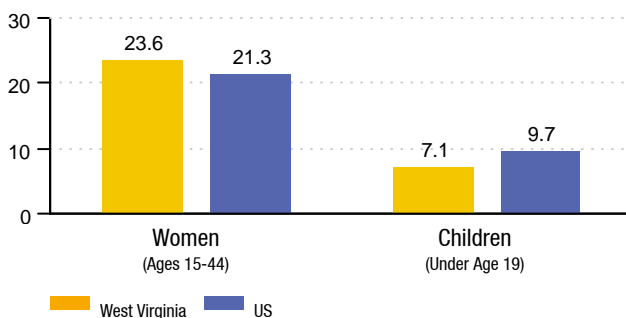
- 1 Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention.
- 2 Smoking during Pregnancy Fact Sheet by March of Dimes available at <http://www.marchofdimes.org/pregnancy/alcohol-during-pregnancy.aspx>.
- 3 Drinking Alcohol during Pregnancy Fact Sheet by March of Dimes available at <http://www.marchofdimes.org/pregnancy/alcohol-during-pregnancy.aspx>.
- 4 Maternal Obesity and Pregnancy Fact sheet by March of Dimes available at www.marchofdimes.org/pregnancy/overweight-and-obesity-during-pregnancy.aspx.

PERINATAL DATA SNAPSHOTS:

West Virginia
Health Insurance and Poverty

Uninsured Women and Children, 2010-2012 Average¹⁻³

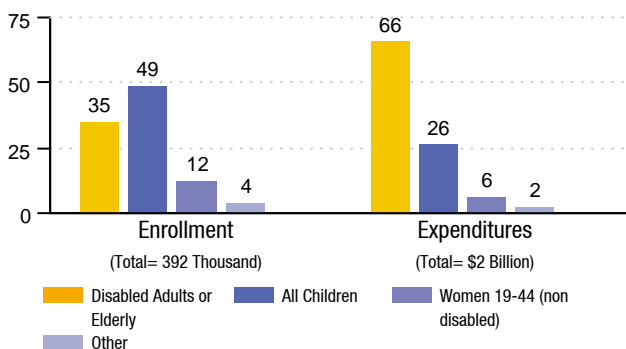
Percent



- Among West Virginia women ages 15-44, 23.6% (about 1 in 4) were uninsured compared with 21.3% of women in the U.S. (2010-2012 average).
- Among West Virginia children under age 19, 7.1% (about 1 in 14) were uninsured compared with 9.7% of children in the U.S. (2010-2012 average).
- An Institute of Medicine study concluded uninsured women receive fewer prenatal services and report greater difficulty in obtaining needed care than women with insurance.
- Health insurance status is the single most important influence in determining whether health care is accessible to children when they need it, according to another Institute of Medicine study.

Medicaid Enrollment and Expenditures, West Virginia, 2007^{4, 5}

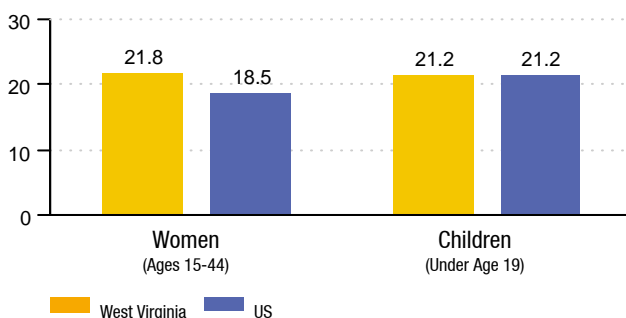
Percent



- Medicaid is a major public source of financing health care services provided to pregnant women, infants and children.
- While women ages 19-44 and children in West Virginia made up almost 61% of Medicaid enrollees in 2007, they accounted for only 32% of all Medicaid spending.
- In West Virginia, 50.0% of all live births were funded by Medicaid in 2003.

Poverty, 2010-2012 Average¹

Percent



- Persons in poverty are defined as those who make less than 100% of the poverty threshold established by the US Census Bureau. The poverty threshold for a family of three was \$17,163 in 2008, \$17,098 in 2009 and \$17,374 in 2010.
- About 1 in 5 women ages 15-44 in West Virginia (21.8%) lived in families with incomes below the poverty threshold (2010-2012 average) compared to 18.5% in the U.S.
- About 1 in 5 children under age 19 in West Virginia (21.2%) lived in families with incomes below the poverty threshold (2010-2012 average) compared to 21.2% in the U.S.

Footnotes

- The federal poverty thresholds shown here are used by the U.S. Census Bureau for statistical purposes. They differ from the federal poverty guidelines used to determine an individual's eligibility for Medicaid and S-CHIP. The federal poverty guidelines used for these programs can be found at aspe.hhs.gov/poverty/index.shtml.
- Medicaid enrollment and expenditure percentages may not total 100 percent due to rounding.

Sources

- 1 US Census Bureau. Data prepared for the March of Dimes using the Current Population Survey Annual Social and Economic Supplements (2010-2012 Average).
- 2 Institute of Medicine. 2002. Health Insurance Is a Family Matter. National Academy Press, Washington, D.C.
- 3 Institute of Medicine. 1998. America's Children: Health Insurance and Access to Care. National Academy Press, Washington, D.C.
- 4 Centers for Medicare and Medicaid Services, MSIS Statistical Report for Federal Fiscal Year (2007). Data prepared by March of Dimes.
- 5 Data collected by the National Governors Association, August 2010 - October 2010.