

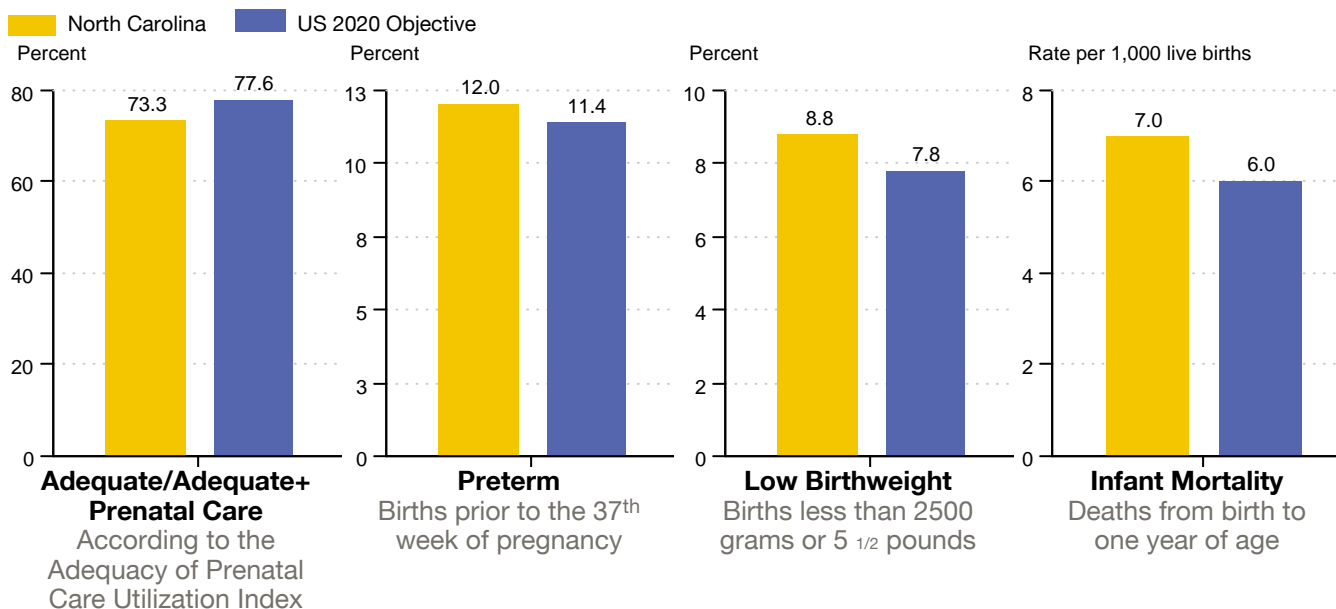
PERINATAL DATA SNAPSHOTS:

North Carolina
Maternal and Infant Health Overview

In an Average Week in North Carolina^{1, 2}

2,289 babies are born	173 babies are born to teen mothers (ages 15-19)	695 babies delivered by cesarean section	275 babies are born preterm	201 babies are born low birthweight	16 babies die before their first birthday
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North Carolina and US Year 2020 Objectives^{1, 2}



Indicators, North Carolina

	Number	Rate		Number	Rate
Births ¹	119,002	60.4	Preterm ¹	14,286	12.0%
Adequate/Adequate+ PNC ¹	85,527	73.3%	Very Preterm ¹	2,939	2.5%
Early Prenatal Care ¹	84,444	72.0%	Late Preterm ¹	9,330	7.8%
Uninsured Women (15-44 yrs) ³	NA	23.8%	Low Birthweight ¹	10,432	8.8%
Uninsured Children(<19 yrs) ³	NA	9.2%	Very Low Birthweight ¹	2,001	1.7%
C Section ¹	36,123	30.4%	Infant Mortality ²	832	7.0

Footnotes

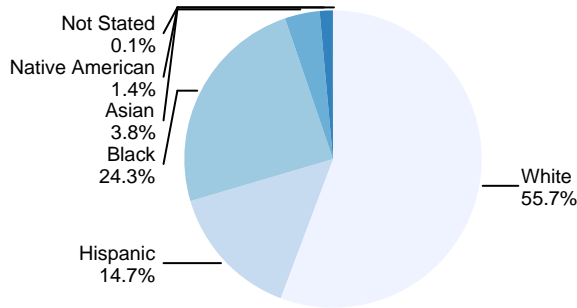
- Adequate/Adequate+ prenatal care (PNC) is measured using the Adequacy of Prenatal Care Utilization Index and takes into account timing of prenatal care, number of visits, and infant's gestational age.
- For more information on U.S. 2020 objectives, visit www.healthypeople.gov/2020.
- Birth rate is 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

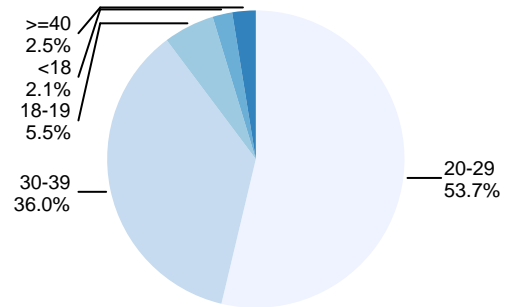
- National Center for Health Statistics, final natality data (2013).
- National Center for Health Statistics, period linked birth/infant death data (2013).
- US Census Bureau. Data prepared for the March of Dimes using the Current Population Survey Annual Social and Economic Supplements (2010-2012 Average).

Births by Maternal Characteristics, 2013¹

Maternal Race / Ethnicity



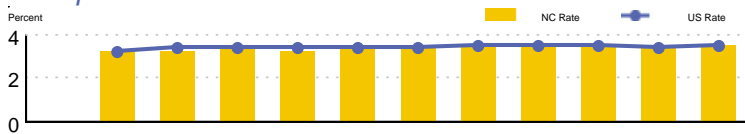
Maternal Age



Total live births = 119,002

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

Multiple Births

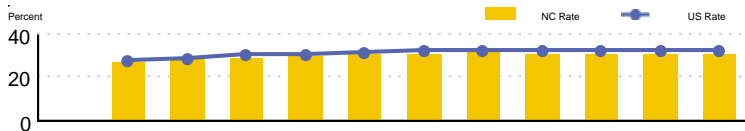


Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NC Rate	3.3	3.3	3.5	3.3	3.4	3.4	3.5	3.5	3.5	3.4	3.5
US Rate	3.3	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.4	3.5

- In 2013, 3.5% of all live births were multiple births, and 96.5% were singleton births in North Carolina.
- Between 2003 and 2013, the percentage of multiple births in North Carolina increased 6%.
- 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
NC Rate	27.4	28.4	29.3	29.9	30.7	30.8	31.2	31.0	30.4	30.6	30.4
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 North Carolina in 2013, 30.4% of live births were cesarean deliveries, and 69.6% were vaginal deliveries.
- Between 2003 and 2013, the percent of live births delivered by cesarean section in North Carolina increased 11%.
- In North Carolina in 2013, the rate of vaginal births after a previous cesarean (VBAC) was 13.2% 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

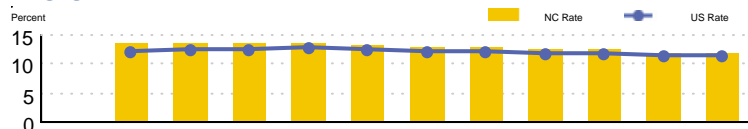
- 1 National Center for Health Statistics, final natality data.
- 2 Multiple Birth Fact Sheet by March of Dimes available at <http://www.marchofdimes.org/pregnancy/multiples-twins-triplets-and-beyond.aspx>.

PERINATAL DATA SNAPSHOTS:

North Carolina Trends in Birth Outcomes

Health Indicators¹⁻⁵

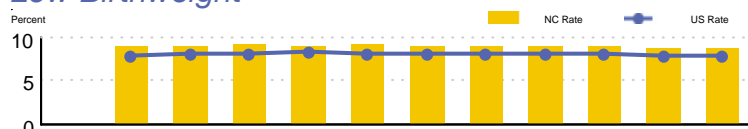
Preterm



Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NC Rate	13.6	13.5	13.7	13.6	13.3	12.9	13.0	12.7	12.6	12.0	12.0
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, 12.0% of infants (14,286 babies) were born preterm in North Carolina.
- Between 2003 and 2013, the rate of infants born preterm in North Carolina declined nearly 12%.
- 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.

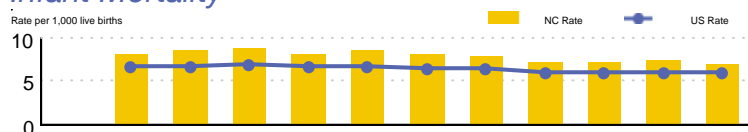
Low Birthweight



Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NC Rate	9.0	9.0	9.2	9.1	9.2	9.1	9.0	9.1	9.0	8.8	8.8
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, 8.8% of infants (10,432 babies) were born low birthweight in North Carolina.
- Between 2003 and 2013, the rate of infants born low birthweight in North Carolina declined more than 2%.
- 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
NC Rate	8.2	8.7	8.8	8.1	8.5	8.2	7.9	7.1	7.2	7.4	7.0
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 7.0 per 1,000 live births (832 babies) in North Carolina.
- Between 2003 and 2013, the infant mortality rate in North Carolina declined nearly 15%.
- Some leading causes of infant mortality are birth defects, prematurity/low birthweight, and sudden infant death syndrome.

Health Indicators, North Carolina⁶

	Maternal Race / Ethnicity			Maternal Age (years)				Plurality		All
	Non-Hispanic White	Non-Hispanic Black	Hispanic	<20	20-29	30-39	≥40	Singleton	Multiple	
Preterm	10.5%	16.6%	11.8%	14.2%	11.6%	12.2%	17.5%	10.6%	56.2%	12.2%
Low Birthweight	7.4%	13.6%	6.8%	10.2%	8.7%	8.6%	12.6%	7.1%	57.8%	8.9%
Infant Mortality	5.4	12.6	5.6	9.0	7.6	5.9	11.6	6.4	30.5	7.2

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.

Sources

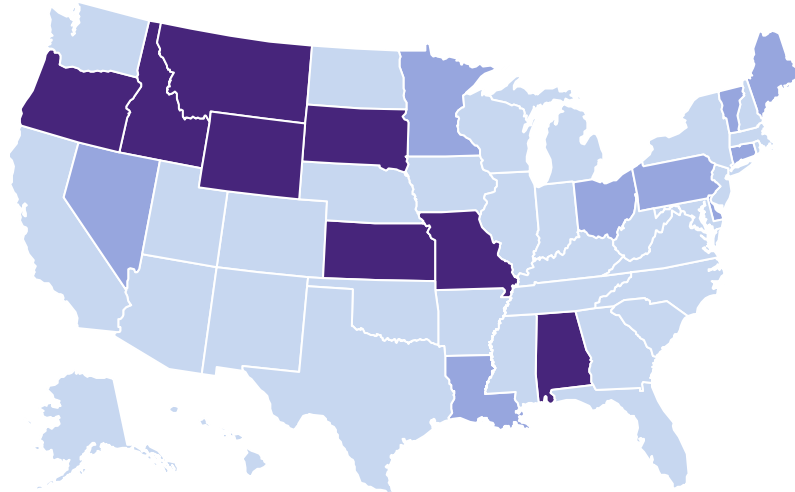
- 1 National Center for Health Statistics, final natality data.
- 2 Prematurity risk factors compiled by March of Dimes available at www.marchofdimes.org/pregnancy/preterm-labor-and-birth.aspx.
- 3 Iams JD. The epidemiology of preterm birth. Clin Perinatol. 2003;30:651-54.
- 4 Low Birthweight Fact Sheet 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)

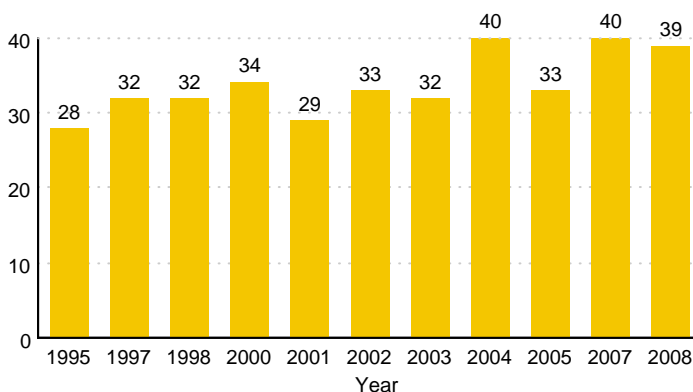


- In the United States, birth defects have been the leading cause of infant mortality for the past 20 years, accounting for 1 in 5 infant deaths.
- Each year at least 120,000 babies are born with major structural birth defects in the United States (about 3% of live births).
- Hospital costs for stays 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.

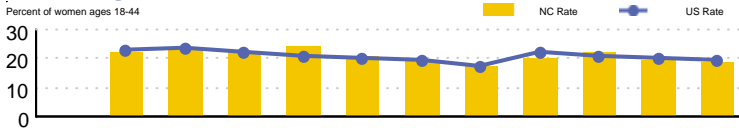
PERINATAL DATA SNAPSHOTS:

North Carolina 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

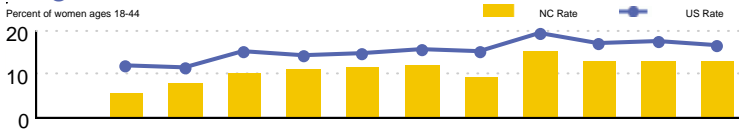


Note: Data after 2010 are not comparable to earlier years due to methodological changes. Details: see calculations page.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
NC Rate	22.4	23.5	22.6	24.1	20.6	19.6	17.4	20.4	22.4	19.5	19.1
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 North Carolina in 2014, 19.1% 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

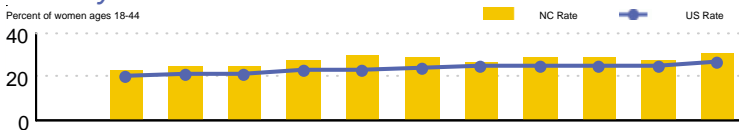


Note: Data after 2010 are not comparable to earlier years due to methodological changes. Details: see calculations page.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
NC Rate	5.8	7.9	10.0	11.0	11.7	12.3	9.4	15.2	13.0	13.2	12.8
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 North Carolina in 2014, 12.8% 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
NC Rate	23.0	24.8	25.2	28.1	29.4	28.6	26.7	28.8	28.9	28.2	30.9
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 North Carolina in 2014, 30.9% 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

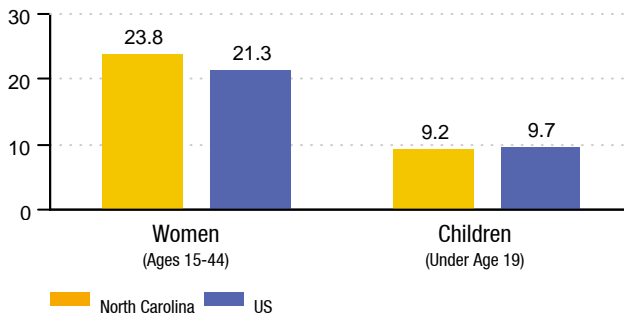
- 1 Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention.
- 2 Smoking during Pregnancy Fact Sheet by March of Dimes available at <http://www.marchofdimes.org/pregnancy/alcohol-during-pregnancy.aspx>.
- 3 Drinking Alcohol during Pregnancy Fact Sheet by March of Dimes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

North Carolina Health Insurance and Poverty

Uninsured Women and Children, 2010-2012 Average¹⁻³

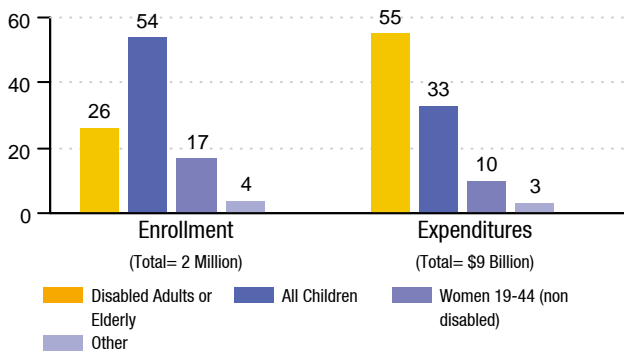
Percent



- Among North Carolina women ages 15-44, 23.8% (about 1 in 4) were uninsured compared with 21.3% of women in the U.S. (2010-2012 average).
- Among North Carolina children under age 19, 9.2% (about 1 in 11) 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, North Carolina, 2007^{4, 5}

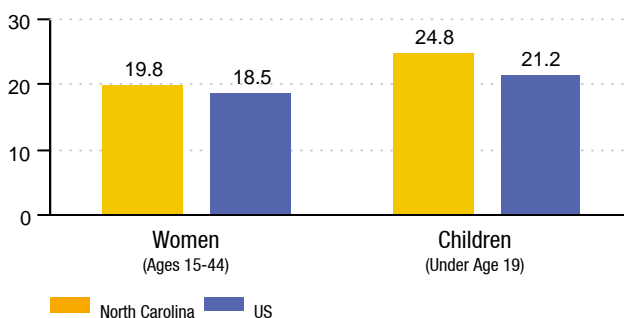
Percent



- 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 North Carolina made up almost 70% of Medicaid enrollees in 2007, they accounted for only 43% of all Medicaid spending.
- In North Carolina, 59.0% of all live births were funded by Medicaid in 2006.

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 North Carolina (19.8%) lived in families with incomes below the poverty threshold (2010-2012 average) compared to 18.5% in the U.S.
- About 1 in 4 children under age 19 in North Carolina (24.8%) 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.