



2011 Watauga County  
Community Health Assessment

Secondary Data – Demographics, Socioeconomic, Health

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**DEMOGRAPHIC AND SOCIOECONOMIC DATA**  
**WATAUGA COUNTY**

## Location and Geography

Watauga County is located in northwestern North Carolina, in the Blue Ridge Mountains. Watauga County is extremely mountainous, and all of the county's terrain is located within the Appalachian Mountain range. The highest point in the county is Calloway Peak, the highest peak of Grandfather Mountain (shared with the adjacent counties of Avery and Caldwell), which rises to 5,964 feet (1,818 meters) above sea level. The nearest metropolitan area is Winston-Salem, NC which is located 85 miles to the east. The county is 192 miles west of Raleigh, NC and 102 miles north of Charlotte, NC.

Watauga County is bounded on the north by Ashe County, east by Wilkes, south by Caldwell and Avery, and west by Tennessee's Johnson County.

There are 15 townships in Watauga County and four towns including Beech Mountain, Blowing Rock, Boone, and Seven Devils. Boone is the county seat.

The nearest interstate highway is I-40, located 40 miles south of the county. US Highway 321 runs east through Boone and then north towards Hickory. US Highway 421 runs south from Tennessee into Watauga County and then east through Boone, toward West Jefferson. NC Highway 194 runs south toward Banner Elk and north towards West Jefferson. NC Highway 105 runs south from Boone toward Linville and Grandfather Mountain.

The nearest airport offering commercial passenger service is Hickory Regional Airport, located 80 miles south in Hickory. Charlotte-Douglas International Airport is located 102 miles south of the county, and Piedmont Triad International Airport, is located 50 miles east in Greensboro, NC . Winston-Salem is the closest stop on any passenger railway system; the nearest Greyhound Lines stop is in Winston-Salem.

The physical area of Watauga County is approximately 313 square miles. Approximately 45% of Watauga County residents live within 10 miles of a full-time four-lane highway.

The elevation of the county ranges from 2,987 feet above sea level, to the highest peak of Grandfather Mountain which rises 9,964 feet above sea level. The climate in Watauga County is relatively mild, with an annual mean temperature of around 52.9 degrees. The average annual precipitation is around 44 inches.



# History

From the New River Notes, Historical and Genealogical Resources for the Upper New River Valley of NC and Virginia and The North Carolina State Encyclopedia websites:

The county was formed in 1849 from parts of Ashe County, Caldwell County, Wilkes County, and Yancey County. It was named for the Watauga River, whose name is said to be a Native American word meaning "beautiful water."

The earliest known visit to the area was by Bishop August Gottlieb Spangenberg who came in 1752 in search of land for Moravian colonists. Although the bishop was greatly impressed by the natural wonders of the region, for fear of Indian attack, the Moravians chose to settle farther east in piedmont North Carolina. Daniel Boone hunted here in the 1760's, spending time in a cabin located on what is now the campus of Appalachian State University. Settlers led by James Robertson followed the Wilderness Road through this area to Tennessee, as Boone had done before them.

There was occasional settlement of the region prior to the Revolutionary War, but there are only sparse records of white occupation until 1778. Most of the early settlers were of English and Scotch-Irish ancestry. They were followed by Germans, Dutch, Swedes, and a few French Huguenots.

In 1800 Jordan Council established Council Store beneath Howard's Knob in what is now the Town of Boone. The first court was ordered to be held at the home of George Council, at which time justices of the peace were to decide upon a place for the future courts until the courthouse was erected. Commissioners were named to select a site for a county seat "which site shall be between Reuben Hartley's and a point one-half mile west of Willis McGee's east and west direction, and between John Pennell's and Howard's Knob north and south direction." They were to acquire the land and lay out a town and erect the public buildings. In 1851 a superior court was established for Watauga, and it directed that court was to be held in the courthouse at Boone. Boone, named in honor of Daniel Boone, is the county seat.

Although travel in these rugged mountains was difficult and hazardous, the area became a haven from the heat and illness thought to be caused by the unfavorable climate of the lowlands, and many people built summer homes in what is now Blowing Rock as early as the 1850's. Improvement of the roads began in the 1920's and has continued with increasingly heavy traffic creating demands for new and improved roads.

## Population Characteristics

- In 2010 Watauga County had an estimated permanent population of 51,079 persons.
- Like the state as a whole, Watauga County's population is increasing, but at a faster rate. Between 2000 and 2010, the Watauga County population increased by 19.6%, while the average NC County population grew by more than 18% (Table 1).
- In 2000, the median age of Watauga County residents was 28.4 years, 8.2 years younger than the median age for the state, 36.6 (Table 1).
- The majority of Watauga County residents (94.5%) are white, with minorities making up 5.5% of the population in 2000. In NC minorities represent over 25% of the total population (Table 1).
- People over the age of 65 make up 12.4% of the Watauga County population, compared to 12.9% of the population statewide (Table 6).
- Children under the age of five were less numerous in Watauga County than statewide (Table 1), and represented a smaller proportion of the population: 3.8% vs. 6.6% (Table 6).

**Table 1. General Demographic Characteristics (years as noted)**

| County      | Total Population (2010) | % Pop Change 2000-2010 | 2010 Census |             |            |                   |                        |         |         |         |                                |
|-------------|-------------------------|------------------------|-------------|-------------|------------|-------------------|------------------------|---------|---------|---------|--------------------------------|
|             |                         |                        | No. Males   | No. Females | Median Age | No. Under 5 Years | No. 65 Years and Older |         | Race    |         | % Hispanic or Latino, Any Race |
|             |                         |                        |             |             |            |                   | Male                   | Female  | % White | % Other |                                |
| Watauga     | 51,079                  | 19.6                   | 24,488      | 25,591      | 28.4       | 1,947             | 2,849                  | 3,480   | 94.5    | 4.3     | 3.4                            |
| State Total | 9,535,483               | 18.5                   | 4,872,632   | 4,662,852   | 36.6       | 677,019           | 464,100                | 656,970 | 68.5    | 25.1    | 8.4                            |

US Census Bureau, 2010 Census, <http://factfinder2.census.gov>

- The population in Watauga County has grown every decade since 1990, but the rate of increase is expected to slow by 2020.

**Table 2. Population Growth Comparison (1990-2010)**

| County      | Number of Persons |           |                       |           |                       |
|-------------|-------------------|-----------|-----------------------|-----------|-----------------------|
|             | 1990              | 2000      | % Change<br>1990-2000 | 2010      | % Change<br>2000-2010 |
| Watauga     | 36,952            | 42,693    | 15.54                 | 51,079    | 19.6                  |
| State Total | 6,632,488         | 8,046,813 | 21.3                  | 9,535,483 | 18.5                  |

Source: Log Into North Carolina (LINC) database, <http://linc.state.nc.us>; some % change was calculated

**Table 3. Population Density (1990-2010)**

| County      | Persons per Square Mile |         |            |         |            |         |             |         |
|-------------|-------------------------|---------|------------|---------|------------|---------|-------------|---------|
|             | 1990                    |         | 2000       |         | 2010       |         | 2020 (Est.) |         |
|             | Population              | Density | Population | Density | Population | Density | Population  | Density |
| Ashe        | 22,209                  | 52.1    | 24,387     | 57.2    | 28,281     | 62.2    | 30,548      | 48.0    |
| State Total | 5,880,095               | n/a     | 6,632,448  | n/a     | 8,046,813  | n/a     | 9,315,141   | n/a     |

Source: Log Into North Carolina (LINC) database, <http://linc.state.nc.us>

- As detailed in Table 4, 94.5% of Watauga County residents are white, with minorities making up 7.7% of the population in 2010.
- Watauga County has a much lower proportion of African Americans (5.5%) than NC as a whole (21.5%). The proportion of Hispanic residents in the county (3.4%) – who may be of any race – is also lower than in the state as a whole (8.4%).

**Table 4. Population Distribution by Race/Ethnicity (2010)**

| County      | Number and Percent |           |      |           |      |                 |     |         |     |         |     |                 |     |
|-------------|--------------------|-----------|------|-----------|------|-----------------|-----|---------|-----|---------|-----|-----------------|-----|
|             | Total              | White     |      | Black     |      | Native American |     | Asian   |     | Other   |     | Hispanic Origin |     |
|             |                    | Number    | %    | Number    | %    | Number          | %   | Number  | %   | Number  | %   | Number          | %   |
| Watauga     | 51,079             | 48,269    | 94.5 | 868       | 1.7  | 153             | 0.3 | 460     | 0.9 | 716     | 1.4 | 1,737           | 3.4 |
| State Total | 9,535,483          | 6,531,805 | 68.5 | 2,050,129 | 21.5 | 123,961         | 1.3 | 209,781 | 2.2 | 219,316 | 2.3 | 800,981         | 8.4 |

Source US Census Bureau, 2010 Census, <http://quickfacts.census.gov/qfd/states/37/37009.html>

- In terms of both numbers (Table 5) and percent (Table 6) the largest age segment of the population in Watauga County is persons age 20-24, representing 22.4% of the Watauga County population compared to 6.9% of the NC population.
- Children ages 0-4 represent the smallest portion of the population in Watauga County, accounting for 3.8% of the local population compared to 6.6% statewide (Table 6).

**Table 5. Population Distribution by Age, Number (2010)**

| County      | Total Population | 0-4 Years | 5-19      | 20-24   | 25-34     | 35-44     | 45-54     | 55-64     | 65+       |
|-------------|------------------|-----------|-----------|---------|-----------|-----------|-----------|-----------|-----------|
| Watauga     | 51,079           | 1,947     | 9,926     | 11,464  | 5,243     | 4,669     | 5,744     | 5,757     | 6,329     |
| State Total | 9,535,483        | 632,040   | 1,926,640 | 661,573 | 1,246,593 | 1,327,151 | 1,368,646 | 1,138,761 | 1,234,079 |

Source US Census Bureau, 2010 Census, <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

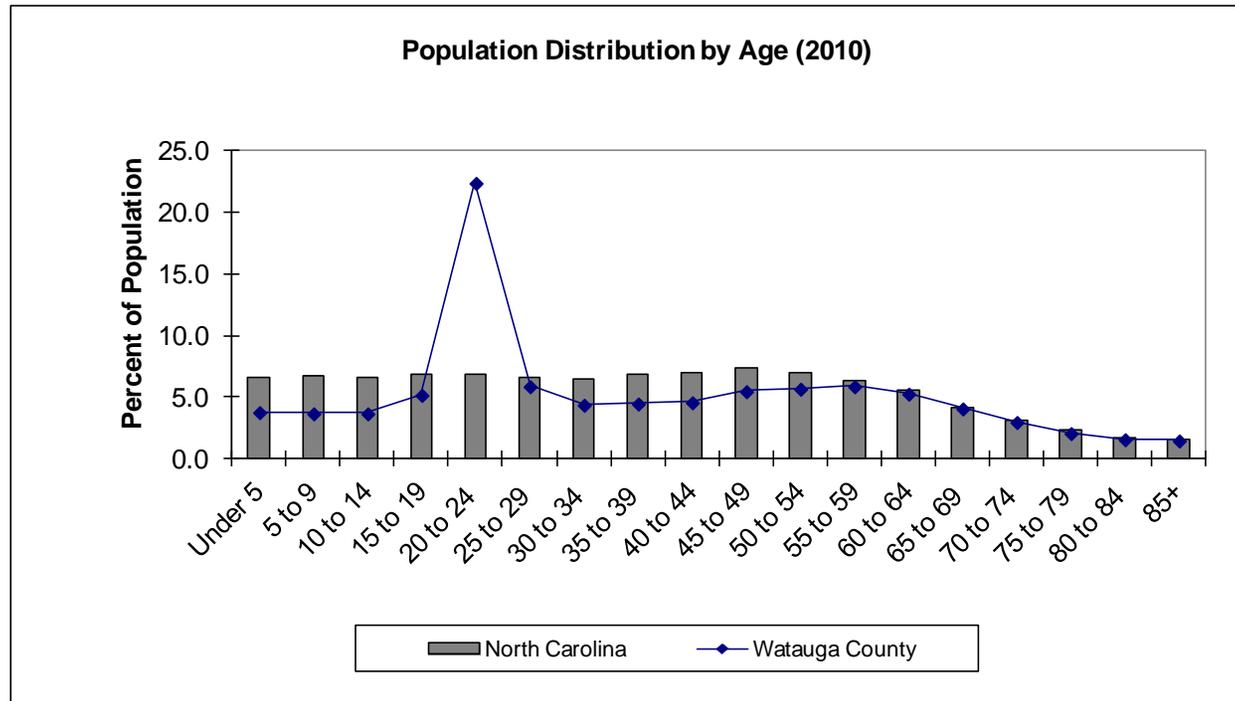
**Table 6. Population Distribution by Age, Percent (2010)**

| County      | Total Population | Percent of Total |      |       |       |       |       |       |      |
|-------------|------------------|------------------|------|-------|-------|-------|-------|-------|------|
|             |                  | 0-4 Years        | 5-19 | 20-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65+  |
| Watauga     | 51,079           | 3.8              | 19.4 | 22.4  | 10.3  | 9.1   | 11.2  | 11.3  | 12.4 |
| State Total | 9,535,483        | 6.6              | 20.2 | 6.9   | 13.1  | 13.9  | 14.4  | 11.9  | 12.9 |

Source US Census Bureau, 2010 Census, <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>  
 Calculated based on calculated US Census figures in the previous table

- The age distribution of the Watauga County population differs from the age distribution of the overall population in the state. Watauga County has significantly larger proportions than the state of people aged 20-24, and a smaller proportion of people aged 0-14 and 30-49. (Figure 1).

**Figure 1**



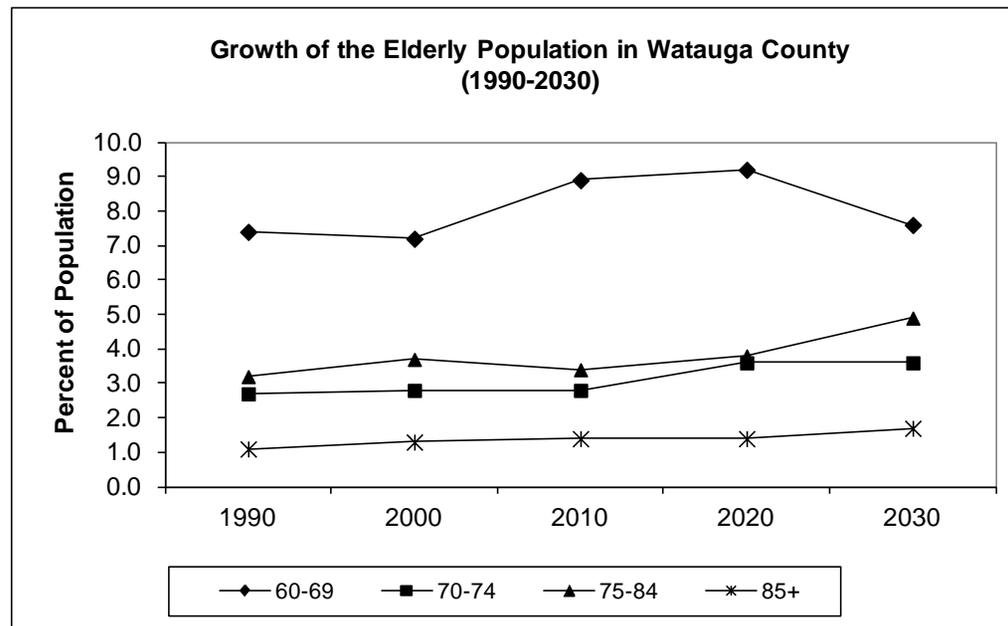
Source: US Census Bureau, 2010 Census, <http://factfinder2.census.gov>

# Older Adults

## Growth of the Elderly Population

- As demonstrated in Figure 2, the population of Watauga County adults over the age of 60 is increasing and is expected to continue to increase over the next 20 years, with the exception of the group aged 60-69, which is supposed to decrease by 17%.
- Though all segments of the elderly population are growing, the segment expected to grow the fastest in the 20 years between 2010 and 2030 is the group aged 75-84, which is predicted to grow by 44% over that period, from 3.4% to 4.9% of the total county population.

Figure 2



Sources: Log Into North Carolina (LINC) database, <http://linc.state.nc.us>. (Topic group: Population and Housing. Select: Population Ages: 60-64, 65-69, 70-74, 75-79, 80-84, 85 and over)

## Income

- According to data in Table 7, for the time period 2005-2009 Watauga County residents had a per capita income that was \$3,013 (14%) lower than the state average.
- In 2009 the median household income in Watauga County was \$5,723 (15%) lower than the state average.

**Table 7. Income (years as noted)**

| <b>County</b> | <b>Per Capita Personal Income (2005-2009)</b> | <b>Per Capita Income Difference from State</b> | <b>Median Household Income (2009)</b> | <b>Median Household Income Difference from State</b> |
|---------------|---|--|---------------------------------------|--|
| Watauga       | \$21,534                                      | -\$3,013                                       | \$38,031                              | -\$5,723   |
| State Total   | \$24,547                                      | n/a  | \$43,754                              | n/a  |

Source: US Census, People QuickFacts, <http://quickfacts.census.gov>

Table 8 lists the major employers in Watauga County, over half of which employed over 250 people during the period cited.

**Table 8. Major Employers in Watauga County, 2011**

| <b>Employer</b>                        | <b>Industry</b>                     | <b>Number Employed</b> |
|--|-------------------------------------|------------------------|
| Appalachian State University           | Education and Health Services       | 1,000+                 |
| Appalachian Regional Healthcare System | Education and Health Services       | 1,000+                 |
| Watauga County Board of Education      | Education and Health Services       | 500-999                |
| Samaritans Purse, Inc                  | Education and Health Services       | 500-999                |
| Watauga County                         | Public Administration               | 250-499                |
| Wal-Mart Associates, Inc.              | Trade, Transportation and Utilities | 250-499                |
| Mast General Store                     | Trade, Transportation and Utilities | 100-249                |
| Appalachian Ski Mountain, Inc.         | Leisure and Hospitality             | 100-249                |
| Town of Boone                          | Public Administration               | 100-249                |
| Glenbridge Health and Rehabilitation   | Education and Health Services       | 100-249                |

Source: Employment Security Commission of NC, Labor Market Information, Industry Information: North Carolina's Largest Employers. 10 Largest Employers by County. <http://esesc23.esc.state.nc.us/d4/ExportLargeEmployers.aspx>

## Unemployment

- In 2011 (January-August), an average 1,927 members of the Watauga County civilian labor force were unemployed.
- Unemployment rates in Watauga County have fluctuated historically, with the lowest unemployment rate (1.5) in 1999 and the highest rate (8.1) in 2009. The most recent (2011) Watauga County annual unemployment rate, 8.0, is lower than the state rate of 10.4 (Table 9).

**Table 9. Annual Unemployment Rate Trend (1999-2011 YTD)**

| County      | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 YTD |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|----------|
| Watauga     | 1.5  | 2.9  | 3.7  | 4.5  | 4.4  | 4.1  | 4.0  | 3.7  | 3.4  | 4.8  | 8.1  | 8.0  | 8.0      |
| State Total | 3.2  | 3.6  | 5.5  | 6.7  | 6.5  | 5.5  | 5.3  | 5.2  | 4.7  | 6.2  | 10.8 | 10.6 | 10.4     |

Source: NC Employment Security Commission, <http://eslmi40.esc.state.nc.us/ThematicLAUS/clfasp/CLFAASY.asp>

## Poverty

The *poverty rate* is the percent of the population (both individuals and families) whose money income (which includes job earning, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below the threshold established by the Census Bureau.

- The poverty rate in Watauga County has been consistently above the comparable state rate since 1990 (Table 10).
- The Watauga County poverty rate decreased from 1990 to 2000, but increased slightly from 17.9% in 2000 to 18.1% in 2010.

**Table 10. Annual Poverty Rate (1990-2010)**

| County      | 1990 | 2000 | 2010 |
|-------------|------|------|------|
| Watauga     | 21.5 | 17.9 | 21.2 |
| State Total | 13   | 12.3 | 16.2 |

Source: US Census bureau, <http://quickfacts.census.gov/qfd/states/37/37009.html>  
 USDA Economic Research Service, <http://www.ers.usda.gov/Data/Povertyrates>

\* - The poverty rate is the percent of the population - individuals and families - whose money income (including job earnings, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below the threshold established by the Census Bureau.

## Children in Poverty

- Since 2006, Watauga County has demonstrated higher proportions of persons of all ages in poverty when compared to the state, and the county rate has recently increased (Table 11).
- In 2009, 18.4% of Watauga County residents under the age of 18 lived in poverty, a proportion 22% lower than the comparable state proportion.
- Watauga County has had a consistently smaller proportion of children under the age of 18 in poverty when compared to the state as a whole, but the county percentage is increasing; the percentage of children in poverty in the state as a whole is also increasing.

**Table 11. Persons in Poverty by Age, Percent (2006-2009)**

| Percent in Poverty |          |           |           |          |           |           |          |           |           |          |           |           |
|--------------------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|
| County             | 2006     |           |           | 2007     |           |           | 2008     |           |           | 2009     |           |           |
|                    | All Ages | Ages 0-17 | Ages 5-17 | All Ages | Ages 0-17 | Ages 5-17 | All Ages | Ages 0-17 | Ages 5-17 | All Ages | Ages 0-17 | Ages 5-17 |
| Watauga            | 21.8     | 17.1      | 15.0      | 18.6     | 15.3      | 13.4      | 18.9     | 17.2      | 14.5      | 21.2     | 18.4      | 17.0      |
| State Total        | 14.6     | 20.1      | 18.3      | 14.3     | 19.5      | 17.8      | 14.6     | 19.9      | 18.2      | 16.2     | 22.5      | 20.3      |

Source US Census Bureau, People: Poverty. Small Area Income and Poverty Estimates, <http://www.census.gov>

## Food Stamps

- The number of people in the county receiving food stamps doubled between 2002 and 2010. An increase was also noted at the state level during this same period (Table 12).

**Table 12. Food Stamp Recipients (2002-2010)**

| County      | Average Monthly Number of Food Stamp Recipients |         |         |         |         |         |         |           |           |
|-------------|---|---------|---------|---------|---------|---------|---------|-----------|-----------|
|             | 2002  | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009      | 2010      |
| Watauga     | 710   | 741     | 798     | 833     | 899     | 951     | 969     | 1,107     | 1,420     |
| State Total | 555,951   | 624,167 | 727,710 | 787,756 | 842,363 | 874,426 | 924,265 | 1,077,914 | 1,294,732 |

Source Log Into North Carolina (LINC) database, <http://linc.state.nc.us>

## Housing

- In Watauga County the *number* of owned housing units increased between 2000 and 2010; during the same period the *percentage* of owned housing units decreased during this time (Table 13).
- The *number and percentage* of rental household units in the county increased between 2000 and 2010.
- The *percentage* of rental household units was slightly lower than the percentage in the state as a whole in 2010.

**Table 13. Housing (2000 and 2010)**

| County      | 2000                |                            |                      |      |                       |      |             |                  |      |                     | 2010                       |                      |      |                       |      |             |                   |     |  |
|-------------|---------------------|----------------------------|----------------------|------|-----------------------|------|-------------|------------------|------|---------------------|----------------------------|----------------------|------|-----------------------|------|-------------|-------------------|-----|--|
|             | Total Housing Units | Average Persons/ Household | Owner Occupied Units |      | Renter Occupied Units |      | Median Rent | Mobil Home Units |      | Total Housing Units | Average Persons/ Household | Owner Occupied Units |      | Renter Occupied Units |      | Median Rent | Mobile Home Units |     |  |
|             | No.                 | No.                        | No.                  | %    | No.                   | %    | \$          | No.              | %    | No.                 | No.                        | No.                  | %    | No.                   | %    | \$          | No.               | %   |  |
| Watauga     | 23,155              | 2.2                        | 10,406               | 44.9 | 6,134                 | 26.5 | \$548       | 2,415            | 10.4 | 32,137              | 2.2                        | 11,583               | 36.0 | 8,820                 | 27.5 | no data     | no data           | n/a |  |
| State Total | 3,523,944           | n/a                        | 2,171,355            | n/a  | 959,658               | n/a  | n/a         | 577,323          | n/a  | 4,327,528           | 2.50                       | 2,497,900            | 57.7 | 1,247,255             | 28.8 | no data     | no data           | n/a |  |

Source Log Into North Carolina (LINC) database, <http://linc.state.nc.us>

## Educational Attainment and Investment

According to data presented in Table 14:

- As of 2010, Watauga County had 2.9% more high school graduates and 29.7% more college graduates than the state as a whole. Approximately 20% of the county's population had not finished high school.
- According to 2008 End of Grade (EOG) Test results, both third and eighth graders in Watauga County schools performed at significantly higher rates of proficiency in math and reading than students statewide.
- The 2010 average SAT scores for students in Watauga County schools (1096) was 91 points above the NC average (1005).
- In 2009-2010 the rate of acts of school violence in Watauga County schools (7.0) was 14% lower than the NC system-wide average (8.0).
- The 2007-2008 total-per-pupil expenditure (i.e., per-pupil expenditure from state, federal, and local sources) in Watauga County schools (\$9,304) ranked 41<sup>st</sup> among the 115 school systems in the state.

**Table 14. Educational Attainment of Residents (years as noted)**

| County      | % High School Graduates (2010) | % College Graduates (2010) | Per Pupil Expenditure State, Fed and Local (2007-08) | Per Pupil Expenditure State Ranking (2007-08) | % 3rd Graders Proficient on EOG Math Test (2008) | % 3rd Graders Proficient on EOG Reading Test (2008) | % 8th Graders Proficient on EOG Math Test (2008) | % 8th Graders Proficient on EOG Reading Test (2008) | Average Total SAT Scores (2010) | School Violence: Acts/1,000 Students (2009-10) |
|-------------|--------------------------------|----------------------------|--|---|--|---|--|---|---------------------------------|--|
| Watauga     | 80.4                           | 33.2                       | \$9,304  | 41.0  | 90.3   | 76.0  | 86.6   | 78.3  | 1096.0                          | 7.0  |
| State Total | 78.1                           | 25.6                       | \$8,521  | n/a   | 73.2   | 54.5  | 68.2   | 54.2  | 1005.0                          | 8.0  |
| Source      | a                              | a                          | b  | b   | c  | c   | c  | c   | c                               | d  |

a - NC Department of Commerce, Economic Development Information Service, <http://cmedis.commerce.state.nc.us/countyprofiles>  
b - NC Department of Public Instruction, <http://www.ncpublicschools.org/docs/fbs/resources/data/statisticalprofile/2006profile.pdf>  
c - Kids Count, <http://datafinder.kidscount.org/data>  
d - <http://www.ncpublicschools.org/docs/research/discipline/reports>

## High School Drop-Out Rate

- For the 2009-2010 school year, the high school dropout rate in Watauga County Schools (2.7) was 41% lower than the average dropout rate statewide (4.7).
- The average high school drop-out rate in North Carolina has fluctuated since 2003 but has declined since 2007. The dropout rate in Watauga County schools has also fluctuated but has significantly declined since 2007. Overall the Watauga County schools rate has decreased by 59% between 2003 and 2010 (Table 15).

**Table 15. High School Drop-Out Rate (SY2003-04 – SY2009-2010)**

| County      | Drop Out Rate  |           |           |           |           |           |           |
|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
|             | 2003-2004  | 2004-2005 | 2005-2006 | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 |
| Watauga     | 4.3  | 3.3       | 4.8       | 4.4       | 5.0       | 3.2       | 2.7       |
| State Total | 4.8  | 4.7       | 5.7       | 5.2       | 5.0       | 4.2       | 3.8       |
| Source      | NC Department of Public Instruction, Statistical Profiles 2007-2010, <a href="http://www.ncpublicschools.org/docs/research/discipline/reports/consolidated">http://www.ncpublicschools.org/docs/research/discipline/reports/consolidated</a> |           |           |           |           |           |           |

# Crime and Safety

## Crime Rates

All crime statistics reported below were obtained from the North Carolina Department of Justice and the North Carolina State Bureau of Investigation, unless otherwise noted. Table 16 shows the rates for “index crime”, which consists of violent crime (murder, rape, robbery, and aggravated assault) plus property crime (burglary, larceny, arson, and motor vehicle theft). Table 16 shows the actual number of index crimes by type that occurred in Watauga County between 2004 and 2010.

- The index crime rate in Watauga County has fluctuated between 2004 and 2010. The county index crime rate remained significantly below the comparable state rate for every year in the period cited (Table 16).
- The violent crime rate in Watauga County has fluctuated between 2004 and 2010. The county violent crime rate has remained significantly below the comparable state rate for every year.
- The property crime rate in the county has also fluctuated between 2004 and 2010 and has remained significantly below the state rate for every year.

**Table 16. Crime Rates (2004-2010)**

| Crimes per 100,000 Population |             |               |                |             |               |                |             |               |                |             |               |                |             |               |                |             |               |                |             |               |                |
|-------------------------------|-------------|---------------|----------------|-------------|---------------|----------------|-------------|---------------|----------------|-------------|---------------|----------------|-------------|---------------|----------------|-------------|---------------|----------------|-------------|---------------|----------------|
| County                        | 2004        |               |                | 2005        |               |                | 2006        |               |                | 2007        |               |                | 2008        |               |                | 2009        |               |                | 2010        |               |                |
|                               | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime | Index Crime | Violent Crime | Property Crime |
| Watauga                       | 2966.0      | 126.9         | 2839.0         | 2821.0      | 115.0         | 2706.0         | 2872.0      | 120.0         | 2753.0         | 3020.0      | 95.0          | 2924.0         | 2653.0      | 120.0         | 2533.0         | 2794.0      | 147.0         | 2647.0         | 2702.0      | 129.0         | 2573.0         |
| State Total                   | 4573.9      | 446.9         | 4127.1         | 4617.9      | 478.1         | 4139.7         | 4654.4      | 483.5         | 4170.9         | 4659.4      | 480.6         | 4178.8         | 4580.8      | 477.0         | 4103.8         | 4191.2      | 417.1         | 3774.1         | 3956.0      | 374.4         | 3581.4         |

Source: North Carolina Department of Justice, Crime Statistics, <http://crimereporting.ncdoj.gov/Reports.aspx>

- As detailed in Table 17, the actual number of violent crimes committed in Watauga County fluctuates on a yearly basis but has decreased overall since 2003. Aggravated assault accounts for the majority of violent crimes in the county.
- Property crimes committed in Watauga County also fluctuate yearly but decreased from 2001 to 2010. Larceny (the theft of property without the use of force) was the most common property crime in most years, including 2010.

**Table 17. Number of Index Crimes Reported in Watauga County (2001-2010)**

| Type of Crime              | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009         | 2010         |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Violent crime</b>       | <b>52</b>    | <b>55</b>    | <b>65</b>    | <b>54</b>    | <b>49</b>    | <b>51</b>    | <b>41</b>    | <b>53</b>    | <b>66</b>    | <b>58</b>    |
| <i>Murder</i>              | 0            | 0            | 2            | 1            | 2            | 0            | 2            | 2            | 0            | 2            |
| <i>Rape</i>                | 6            | 3            | 5            | 7            | 12           | 9            | 4            | 6            | 7            | 8            |
| <i>Robbery</i>             | 3            | 5            | 5            | 6            | 4            | 5            | 6            | 10           | 9            | 9            |
| <i>Aggravated assault</i>  | 43           | 47           | 53           | 40           | 31           | 37           | 29           | 35           | 50           | 39           |
| <b>Property crime</b>      | <b>1,212</b> | <b>1,301</b> | <b>1,300</b> | <b>1,208</b> | <b>1,153</b> | <b>1,175</b> | <b>1,258</b> | <b>1,122</b> | <b>1,189</b> | <b>1,157</b> |
| <i>Burglary</i>            | 352          | 355          | 383          | 319          | 361          | 300          | 333          | 269          | 219          | 223          |
| <i>Larceny</i>             | 803          | 898          | 854          | 826          | 732          | 819          | 879          | 815          | 927          | 891          |
| <i>Motor vehicle theft</i> | 57           | 48           | 63           | 63           | 60           | 56           | 46           | 38           | 43           | 43           |

Source

North Carolina State Bureau of Investigation, Crime Statistics, Uniform Crime Reporting Program. Annual Summary Reports (Available 2000-2010). In an individual year's report, under "Crime Trends - Offenses and Rates per 100,000", Select "County Offenses"

# Health Care Resources

Access and utilization of healthcare is affected by a range of variables including the availability of medical professionals in a region, insurance coverage, transportation, cultural expectations and other factors. Compilation of comprehensive health resources data was beyond the scope of this project; nevertheless, some overview-type data were collected and are presented here.

## Practitioners

- The proportional availability of active, licensed physicians in Watauga County has been consistently higher than the state as a whole since 2001, as demonstrated by the lower-than-state-average persons-per-provider ratio data shown in Table 18.
- The persons-per-primary care physician ratio has decreased consistently since 1997, as has the person-per-physician extender ratio, indicating that as the county population grows, the county is gaining physicians and primary care physician extenders.
- The Watauga County persons-per-dentist has been higher than the comparable ratio for NC as a whole during all the available reporting periods.

**Table 18. Persons per Provider Type (2001-2009)**

| County      | 2001                   |                                 |                  |         | 2003                   |                                 |                  |         | 2005                   |                                 |                  |         | 2007                   |                                 |                  |         | 2009                   |                                 |                  |         |
|-------------|------------------------|---------------------------------|------------------|---------|------------------------|---------------------------------|------------------|---------|------------------------|---------------------------------|------------------|---------|------------------------|---------------------------------|------------------|---------|------------------------|---------------------------------|------------------|---------|
|             | Primary Care Physician | Primary Care Physician Extender | Registered Nurse | Dentist | Primary Care Physician | Primary Care Physician Extender | Registered Nurse | Dentist | Primary Care Physician | Primary Care Physician Extender | Registered Nurse | Dentist | Primary Care Physician | Primary Care Physician Extender | Registered Nurse | Dentist | Primary Care Physician | Primary Care Physician Extender | Registered Nurse | Dentist |
| Watauga     | 1,123                  | 891                             | 115              | 1,856   | 1,126                  | 881                             | 120              | 1,944   | 945                    | 650                             | 117              | 1,745   | 972                    | 700                             | 115              | 1,596   | 945                    | 650                             | 117              | 1,745   |
| State Total | 1,198                  | 872                             | 109              | 2,471   | 1,193                  | 860                             | 110              | 2,432   | 1,056                  | 749                             | 109              | 2,302   | 1,043                  | 717                             | 107              | 2,313   | 1,008                  | 678                             | 103              | 2,292   |

Source: NC State Center for Health Statistics. Pocket Guides 2003-2011. <http://www.schs.state.nc.us/SCHS/data/pocketguide>

- The distribution of health care professionals in Watauga County according to specialty area is shown in Table 18.
- The data indicate that there is representation in Watauga County in most major categories of health care; the “general practice” category lacks representation.

**Table 19. Licensed Medical Practitioners in Watauga County (2009)**

| <b>Category of Provider</b> | <b>No.</b> |
|-----------------------------|------------|
| Family practice             | 46         |
| General practice            | 0          |
| Internal medicine           | 12         |
| Obstetrics/Gynecology       | 8          |
| Pediatrics                  | 8          |
| Other medical specialties   | 74         |
| Registered nurse            | 389        |
| Nurse practitioner          | 22         |
| Licensed practical nurse    | 59         |
| Chiropractor                | 9          |
| Physician assistant         | 11         |
| Podiatrist                  | 2          |
| Dentist                     | 26         |
| Dental hygienist            | 20         |
| Optometrist                 | 5          |
| Pharmacist                  | 40         |
| Physical therapist          | 24         |
| Physical therapy assistant  | 15         |
| Practicing psychologist     | 28         |
| Psychological associate     | 17         |
| Respiratory therapist       | 22         |

Source: Cecil G. Sheps Center for Health Services Research,  
<http://www.shepscenter.unc.edu>

# Medical Insurance

## Medically Indigent Population

In most communities, citizens' access to and utilization of health care services is related to the ability to pay for those services, either directly or through private or government health insurances plans/programs.

- In Watauga County, the percentage of the total population that is uninsured increased from 1999-2007 but decreased in 2008 and 2009. The percentage has remained consistently higher than the comparable state percentage during the years 2001-2009 (Table 20).
- The percent of the population without health insurance was highest in the county in 2006 and in the state in 2005.

**Table 20. Percent of Population without Health Insurance (1999-2009)**

| County      | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010    |
|-------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Watauga     | 21.0 | 12.8 | 20.6 | 20.0 | 21.2 | 21.1 | 27.7 | 28.8 | 26.6 | 19.6 | 18.6 | no data |
| State Total | 16.3 | 15.6 | 17.7 | 19.0 | 19.4 | 17.5 | 21.2 | 18.6 | 18.2 | 17.4 | 18.0 | no data |
| Source      | b    | b    | b    | a    | a    | a    | b    | b    | b    | b    | b    | b       |

a -Sheps Center for Health Services, Research, County Level Estimates of the Uninsured, [www.shepscenter.unc.edu](http://www.shepscenter.unc.edu)  
b - US Census Bureau, Small Area Health Estimates, <http://www.census.gov/did/www/sahie/data/index.html>

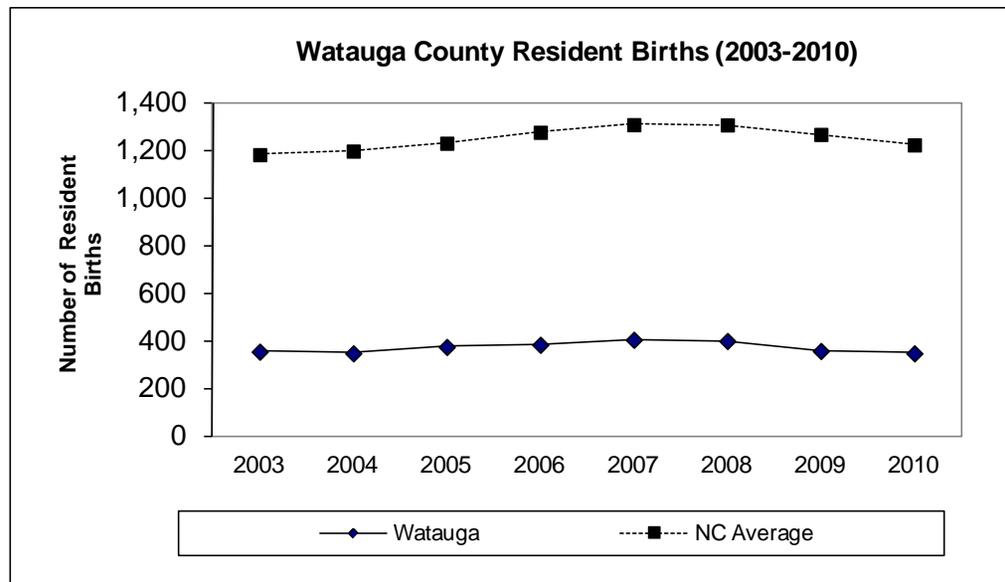
**HEALTH DATA**  
**WATAUGA COUNTY**

## Maternal and Child Health

### Adult and Teen Pregnancy and Birth Rates

- Figure 3 plots the Watauga County and NC county averages for the annual number of live births from 2003 through 2010. The average number of live births statewide average remained fairly stable (with a slight increase between 2006 and 2008) and was significantly higher than the comparable figures for Watauga County throughout the reporting period. The number of births in the county has remained stable since 2003.

Figure 3



Source: NC State Center for Health Statistics. Health Data. County-level Data. Basic Automated Birth Yearbook (Babybook); 2005-2011, Watauga County. <http://www.schs.state.nc.us/SCHS/data/county.cfm>.

- As monitored by the NC-SCHS, the overall pregnancy rate is the number of pregnancies per 1,000 women between the ages of 15 and 44 in the referenced population. The overall pregnancy rate in Watauga County for the period from 2007 to 2009 was 42.2, which was 49% lower than the state rate of 82.5 (Table 21).
- From 2007 through 2009, Ashe County's pregnancy rate among teens ages 15-19 was 18.8, 68.2% lower than the state rate.
- From 2007 through 2009, Watauga County had a 49% lower birth rate than the state (Table 21).
- From 2007 through 2009, Watauga County had 16% higher percentage of births to mothers who smoked during pregnancy than the state (12.3% compared to 10.6%).
- In 2009, Watauga County had 8% lower percentage of births to Medicaid mothers than the state (48.4% vs. 52.6%).
- In 2009, Watauga County had 40.8% more births to Health Department mothers and 38% fewer births to WIC mothers than the state.

**Table 21. Pregnancies and Births (2007-2009)**

| County      | Pregnancy, Total (2007-2009) |            |                        |            |              |               | Pregnancy, Females 15 - 19 (2007-2009) |            |                        |            |              |               | 2009 Percent of Live Births To: |                   |          |
|-------------|------------------------------|------------|------------------------|------------|--------------|---------------|--|------------|------------------------|------------|--------------|---------------|---------------------------------|-------------------|----------|
|             | Preg Rate                    | Birth Rate | Percent of Live Births |            |              |               | Preg Rate                              | Birth Rate | Percent of Live Births |            |              |               | Medicaid Moms                   | Health Dept. Moms | WIC Moms |
|             |                              |            | Minority               | Low Weight | Late/No Care | Mother Smoked |  |            | Minority               | Low Weight | Late/No Care | Mother Smoked |                                 |                   |          |
| Watauga     | 42.2                         | 34.5       | 3.1                    | 6.0        | 9.1          | 12.3          | 18.8                                   | 13.7       | 1.8                    | 7.3        | 17.4         | 12.3          | 48.4                            | 29.3              | 25.8     |
| State Total | 82.5                         | 67.7       | 28.6                   | 9.1        | 16.8         | 10.6          | 59.1                                   | 45.8       | 41.0                   | 10.9       | 28.4         | 12.6          | 52.6                            | 20.8              | 41.8     |

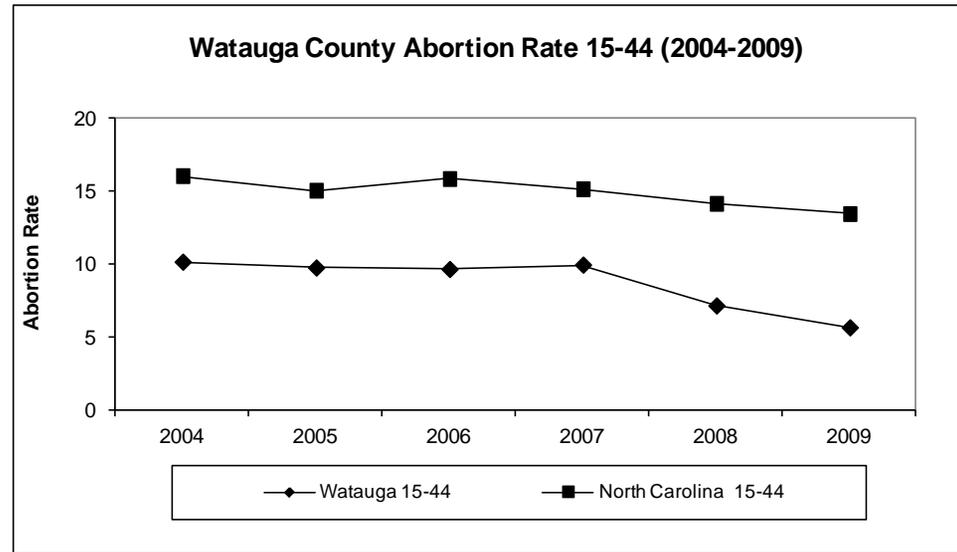
Source NC Center for Health Statistics, Pocket Guide - 2009. <http://www.schs.state.nc.us/SCHS/data/pocketguide>

- According to data from the NC SCHS, the overall pregnancy rate in Watauga County during 2007-2009 for women ages 15-44 was 42.2, compared to a state rate of 82.5. Among teens aged 15-19, the overall 2007-2009 pregnancy rate was 18.8 compared to a rate of 59.1 statewide.

# Abortion

- For women between the ages of 15 and 44, the most recently calculated abortion rate in Watauga County was 5.6; a number much smaller than the overall state abortion rate of 13.4 (Figure 4).
- According to the data plotted in Figure 4, the annual abortion rate for Watauga County women ages 15-44 has decreased overall since 2004.

Figure 4



Source: State Center for Health Statistics. County Health Data Books 2006-2011. Pregnancy, Fertility and Abortion Rates per 1,000 Population. Females 15-44. <http://www.schs.state.nc.us/SCHS/data/databook/>.

## Pregnancy Risk Factors

- The percentage of high parity births among women aged <30 in Watauga county from 2005 through 2009 was lower than the comparable state rate (Table 22). According to NC-SCHS, a birth is high parity if the mother is younger than 18 when she has had one or more births, or aged 18 or 19 and has had two or more births, or is 20-24 and has had four or more births, etc.
- The percentage of high parity births among Watauga County women age 30 and older was slightly lower than the state rate.
- The percentage of short interval births (less than six months between pregnancies) was lower in Watauga County than the state as a whole (Table 22).
- From 2005 through 2009, approximately 11.5% of babies born in Watauga County were born to mothers who smoked, a figure 4.6% above the state percentage (11%) (Table 22).

**Table 22. High Risk Births (2005-2009)**

|             | High Parity Births |         |                      |         | Short Interval Births |         | Births to Mothers who Smoke |         |
|-------------|--------------------|---------|----------------------|---------|-----------------------|---------|-----------------------------|---------|
|             | Mothers Under 30   |         | Mothers 30 and Older |         | Number                | Percent | Number                      | Percent |
|             | Number             | Percent | Number               | Percent |                       |         |                             |         |
| Watauga     | 157                | 13.5    | 144                  | 19.0    | 112                   | 9.5     | 220                         | 11.5    |
| State Total | 74,727             | 17.9    | 45,075               | 20.4    | 54,565                | 12.9    | 70,529                      | 11.0    |
| Source      | a                  | a       | a                    | a       | b                     | b       | c                           | c       |

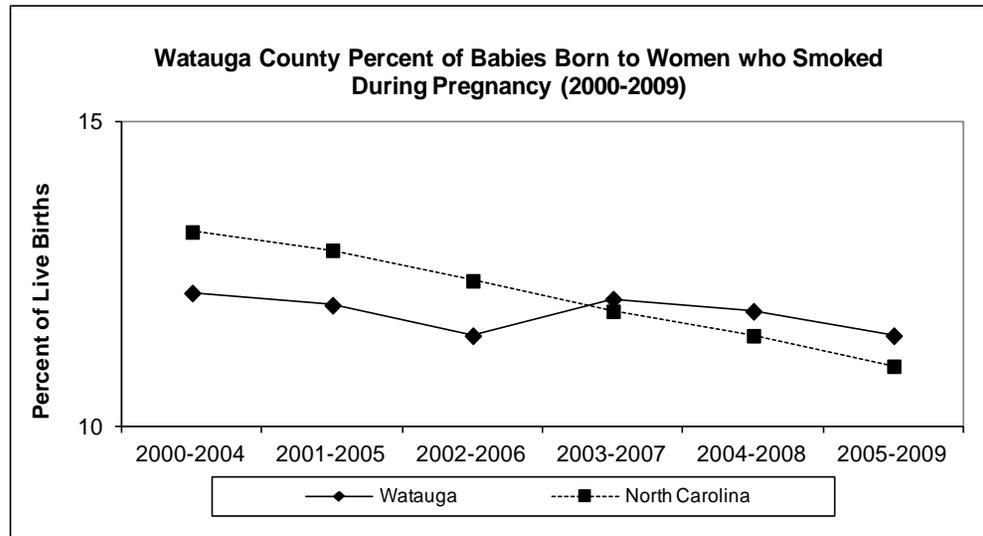
a - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. 2005-2009 Number At Risk NC Live Births due to High Parity by County of Residence. <http://www.schs.state.nc.us/SCHS/data/databook/>

b - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. 2005-2009 NC Live Births by County of Residence; Number with Interval from Last Delivery to Conception of Six Months or Less. <http://www.schs.state.nc.us/SCHS/data/databook/>

c - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. 2005-2009 Number and Percent of Births to Mothers Who Smoked Prenatally. [http://www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook/)

- The percentage of babies born to Watauga County mothers who smoked decreased slightly overall since 2000, but remains slightly higher than the comparable figures for the state as a whole (Figure 5).

**Figure 5**



Source: NC State Center for Health Statistics. County Health Databooks. County Health Data Books, 2006-2011. Number and Percent of Births to Mothers Who Smoked Prenatally. <http://www.schs.state.nc.us/SCHS/data/databook>

- Over 90% of pregnant women in Watauga County received prenatal care in the first trimester in the period 2005-2009, a proportion s10.8 higher than state rate of 82.1% (Table 23).
- A higher percentage of black women received prenatal care in the first trimester in Watauga County than in North Carolina as a whole (92.3% vs. 75.5%) (Table 23); however this percentage is based on a small number of pregnancies.

**Table 23. Women Receiving Care in the First Trimester (1997-2009)**

|             | 1997-2001 |       | 1998-2002 |       | 1999-2003 |       | 2000-2004 |       | 2001-2005 |       | 2005-2009 |       |
|-------------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
|             | Total     | Black |
| Watauga     | 88.1      | 77.8  | 87.2      | 76.9  | 87.9      | 79.2  | 86.8      | 74.1  | 88.4      | 73.7  | 90.5      | 92.3  |
| State Total | 84.0      | 74.7  | 84.0      | 75.1  | 84.0      | 75.4  | 83.7      | 75.4  | 83.5      | 75.5  | 82.1      | 75.5  |

Source NC State Center for Health Statistics. County-level Data. County Health Databooks 2003-2011. Women Receiving Prenatal Care in the First Trimester.  
<http://www.schs.state.nc.us/SCHS/data/databook/>

# Pregnancy Outcomes

## Low Birth Weight and Very Low Birth Weight

- Over the period from 2005 through 2009, the total percentage of low birth weight births (below 2500 grams or 5.5 pounds) was almost 28% lower in Watauga County than North Carolina as a whole (6.6% vs. 9.1%). There were no minority low birth weight babies (Table 24).
- Over the same period the total percentage of very low birth weight births (below 1500 grams or 3.3 pounds) was 44% lower in the county than the state. There were no reported cases of very low weight births among minorities in the county.

**Table 24. Number and Percent of Low and Very Low Birth Weight Births by Race (2005-2009)**

|             | Low Birth Weight (<2500 grams) Births |         |        |         |        |         | Very Low Weight (<1500 grams) Births |         |        |         |
|-------------|---------------------------------------|---------|--------|---------|--------|---------|--------------------------------------|---------|--------|---------|
|             | Total                                 |         | White  |         | Black  |         | Total                                |         | Black  |         |
|             | Number                                | Percent | Number | Percent | Number | Percent | Number                               | Percent | Number | Percent |
| Watauga     | 122                                   | 6.6     | 122    | 6.6     | 0      | 0       | 19                                   | 1.0     | 0      | 0       |
| State Total | 58,461                                | 9.1     | 36,696 | 85.6    | 21,765 | 14.4    | 11,650                               | 1.8     | 5,242  | 3.5     |
| Source      | a                                     | a       | a      | a       | a      | a       | b                                    | b       | c      | c       |

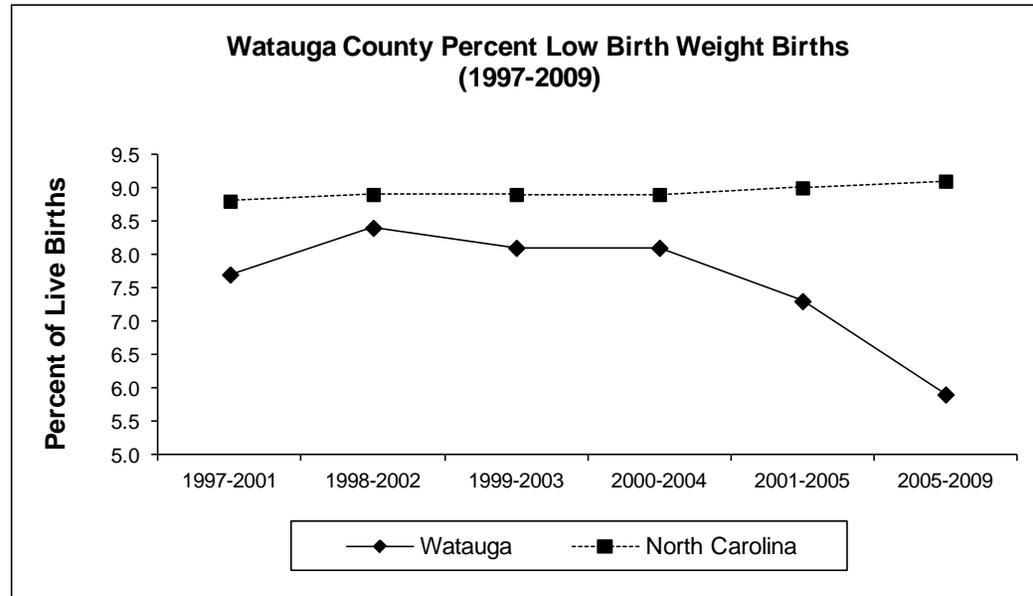
a - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. Low Birth Weight Births by Race, 2005-2009. <http://www.schs.state.nc.us/SCHS/data/databook/>

b - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Births, 2005-2009. <http://www.schs.state.nc.us/SCHS/data/databook/>

c - NC State Center for Health Statistics. County-level Data. County Health Databooks. 2011 County Health Data Book. Low (<2500 grams) and Very Low (<1500 grams) Weight Black Births, 2005-2009. <http://www.schs.state.nc.us/SCHS/data/databook/>

- Since 1997, the percentage of low weight births has significantly decreased in Watauga County, while the percentages in the state remained relatively stable (Figure 6).

**Figure 6**



Source: NC State Center for Health Statistics. County Health Data Books, 2003-2011. Low (<2500 grams) and Very Low (<1500 grams) Weight Births. <http://www.schs.state.nc.us/SCHS/data/databook/>

## Infant Mortality

- For the aggregate period from 2005 through 2009 the total Watauga County infant mortality rate of 6.3 was 24% lower than the state rate (Table 25).
- The five-year aggregate overall infant mortality rate in Watauga County has declined since 2000, while rates for the state have remained stable.
- From 2000 through 2009, there were no infant deaths reported for minorities in Watauga County.
- In 2010 there was one minority infant death in Watauga County, for a total mortality rate (white and minority) of 58.6% below the state rate..

**Table 25. Infant (<1 year) Death Rate per 1,000 Live Births (2000-2010)**

| County      | 2000-2004 |       |          | 2001-2005 |       |          | 2005-2009 |       |          | 2010                |                         |                        |                            |                     |                         |
|-------------|-----------|-------|----------|-----------|-------|----------|-----------|-------|----------|---------------------|-------------------------|------------------------|----------------------------|---------------------|-------------------------|
|             | Total     | White | Minority | Total     | White | Minority | Total     | White | Minority | White Infant Deaths | White Infant Death Rate | Minority Infant Deaths | Minority Infant Death Rate | Total Infant Deaths | Total Infant Death Rate |
| Watauga     | 10.3      | 10.6  | 0.0      | 8.6       | 8.8   | 0.0      | 6.3       | 6.5   | 0.0      | 0                   | 0.0                     | 1                      | 34.5                       | 1                   | 2.9                     |
| State Total | 8.4       | 6.1   | 14.6     | 8.5       | 6.1   | 14.7     | 8.3       | 6.0   | 14.0     | 362                 | 5.3                     | 492                    | 12.7                       | 854                 | 7.0                     |

Source: NC State Center for Health Statistics, County Health Databooks. <http://www.schs.state.nc.us/SCHS/data/databook/>

**Table 26. Age-Adjusted Mortality Rates for the Leading Causes of Death in Watauga County and North Carolina (2005-2009)**

*NOTE: Rates based on fewer than 20 cases (indicated by N/A) are unstable and have been suppressed*

| Cause of Death                            | Watauga County |       | N. C. |
|---|----------------|-------|-------|
|   | No.            | Rate  | Rate  |
| 1. Heart Disease                          | 383            | 175.0 | 194.7 |
| 2. Total Cancer                           | 370            | 168.2 | 188.8 |
| 3. Chronic Lower Respiratory Disease      | 92             | 42.4  | 48.0  |
| 4. Cerebrovascular Disease                | 79             | 36.5  | 51.3  |
| 5. Unintentional Non-Motor Vehicle Injury | 74             | 37.7  | 28.7  |
| 6. Alzheimer's Disease                    | 55             | 25.0  | 28.8  |
| 7. Suicide                                | 38             | 19.5  | 11.9  |
| 8. Diabetes                               | 34             | 15.6  | 24.0  |
| 9. Unintentional Motor Vehicle Injuries   | 33             | 16.7  | 17.6  |
| 10. Pneumonia and Influenza               | 30             | 13.7  | 19.7  |
| 11. Kidney Disease                        | 20             | 9.2   | 26.3  |
| 12. Septicemia                            | 14             | N/A   | 14.0  |
| 13. Chronic Liver Disease and Cirrhosis   | 10             | N/A   | 9.2   |
| 14. Homicide                              | 4              | N/A   | 7.0   |
| 15. AIDS                                  | 2              | N/A   | 4.2   |

Source: NC State Center for Health Statistics, 2005-2009 NC Resident Race and Sex-Specific Age-Adjusted Death Rates; Rates per 100,000 Population, 2011 County Health Databook, [www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook)

## Gender Disparities in Mortality

Table 27 compares rates for males versus females in Watauga County. The mortality data cited in this section were obtained from the North Carolina State Center for Health Statistics and represent the period from 2005-2009.

**Table 27. Age-adjusted Mortality Rates by Gender, Watauga County (2005-2009)**

| Cause of Death                                     | Males  |       | Females |       |
|--|--------|-------|---------|-------|
|  | Number | Rate  | Number  | Rate  |
| Diseases of Heart                                  | 186    | 209.5 | 195     | 147.1 |
| Cerebrovascular Disease                            | 26     | 32.7  | 51      | 37.8  |
| Total Cancer                                       | 190    | 194.6 | 172     | 143.6 |
| Colon, Rectum, and Anus                            | 15     | N/A   | 16      | N/A   |
| Trachea, Bronchus, and Lung                        | 63     | 63.7  | 39      | 33.6  |
| Female Breast                                      | 0      | 0.0   | 20      | 17.9  |
| Prostate   | 16     | N/A   | 0       | N/A   |
| Diabetes Mellitus                                  | 17     | N/A   | 17      | N/A   |
| Pneumonia and Influenza                            | 15     | N/A   | 15      | 16.7  |
| Chronic Lower Respiratory Diseases                 | 38     | 44.4  | 52      | 42.9  |
| Chronic Liver Disease and Cirrhosis                | 8      | N/A   | 2       | N/A   |
| Septicemia   | 5      | 10.0  | 9       | 8.5   |
| Nephritis, Nephrotic Syndrome, and Nephrosis       | 8      | N/A   | 12      | N/A   |
| Unintentional Motor Vehicle Injuries               | 23     | 24.6  | 10      | N/A   |
| Unintentional Non-Motor Vehicle Injuries           | 37     | 44.3  | 37      | 34.1  |
| Suicide  | 32     | 35.4  | 3       | N/A   |
| Homicide   | 3      | N/A   | 1       | N/A   |
| Alzheimer's disease                                | 17     | N/A   | 38      | 27.3  |
| AIDS   | 2      | N/A   | 0       | N/A   |
| Total Deaths - All Causes (some causes not listed) | 723    | 802.3 | 763     | 611.2 |

Source: North Carolina State Center for Health Statistics, 2011 County Health Databook  
[www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook)

## Heart Disease and Stroke

Heart disease and cerebrovascular disease (stroke) are both diseases of the circulatory system. While heart disease is any disease that diminishes or interrupts blood supply to the heart, stroke is an interruption in blood supply to the brain. The most common cause of both of these diseases is a narrowing or blockage of arteries that supply the heart and brain, respectively.

### Heart Disease and Stroke Incidence

Hospital utilization data provided by the NC-SCHS for Table 28 give some indication of the burden of heart disease in Watauga County. Between 2004 and 2009, the hospital discharge rates for all circulatory diseases, as well as heart disease and cerebrovascular disease individually, declined overall.

Heart and cerebrovascular diseases account for more hospitalizations than any other health condition. Consequently, costs due to these two conditions were greater than for any other, together accounting for over \$32 million in hospital charges to Watauga County patients in 2009.

It should be noted that the usefulness of this information is limited in that it does not include people who may have cardiovascular or cerebrovascular conditions but have *not* sought medical care or been hospitalized. The category represented in Table 28 includes not only diagnoses of heart disease and cerebrovascular disease, but other diseases of cardiovascular and circulatory systems as well. Therefore, the sum of the rates for heart disease and cerebrovascular disease will not add up to the total discharge rates for all cardiovascular and circulatory diseases.

**Table 28. Watauga County Hospital Discharges per 1,000 Persons (2004-2009)**

| Condition                                      | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|------|------|------|------|------|------|
| <b>Cardiovascular and Circulatory Diseases</b> | 15.5 | 13.6 | 14.4 | 14.2 | 13.3 | 14.4 |
| <b>Heart Disease</b>                           | 11.3 | 10.0 | 9.9  | 9.6  | 9.8  | 9.9  |
| <b>Cerebrovascular Disease</b>                 | 2.4  | 1.9  | 2.3  | 2.2  | 1.7  | 2.6  |

Source: North Carolina State Center for Health Statistics, County Health Databooks,  
[www.schs.nc.us/SCHS/data/databook](http://www.schs.nc.us/SCHS/data/databook)

## Heart Disease Mortality

Heart disease and stroke are the first and third leading causes of death, respectively, among Watauga County residents (Table 26, cited previously). For the 2005-2009 time period, 383 Watauga County residents died of heart disease and 79 died of stroke (Table 26, cited previously).

The most recent data (aggregated for the years 2005-2009) show that the county mortality rate due to heart disease (175.0) is lower than the state rate (191.7) (Table 29).

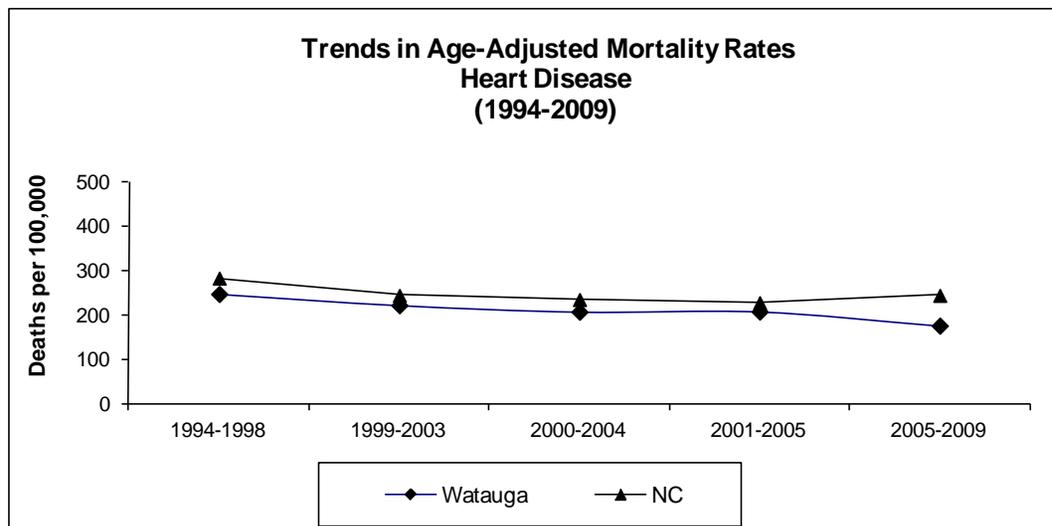
**Table 29. Heart Disease Mortality (2005-2009)**

| County      | Overall Rate  |       | White Males |       | White Females |       | Minority Males |       | Minority Females |       |
|-------------|---|-------|-------------|-------|---------------|-------|----------------|-------|------------------|-------|
|             | Number  | Rate  | Number      | Rate  | Number        | Rate  | Number         | Rate  | Number           | Rate  |
| Watauga     | 383   | 175.0 | 186         | 209.5 | 195           | 147.1 | 2              | n/a   | 0                | n/a   |
| State Total | 86,920  | 191.7 | 35,204      | 236.2 | 33,177        | 144.2 | 8,721          | 294.0 | 8,755            | 186.0 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |       |             |       |               |       |                |       |                  |       |

The Healthy Carolinians 2020 goal is to reduce the heart disease mortality rate to 161.5 per 100,000. Watauga County currently exceeds the target rate by 8.4%. The Healthy People 2020 goal is to reduce mortality due to heart disease to 100.8 per 100,000. Watauga County currently exceeds this national goal by 74%.

Since 1994, the mortality rate due to heart disease in Watauga has paralleled a decreasing trend seen at the state level (Figure 7).

**Figure 7**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years), <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

## Stroke Mortality

The county mortality rate for stroke (36.5) is lower than the comparable rate in the state as a whole (50.5) (Table 30).

The most recent (2007) death rate due to stroke in the United States is 42.2 per 100,000 population, a rate exceeding Watauga County by 13.5%.

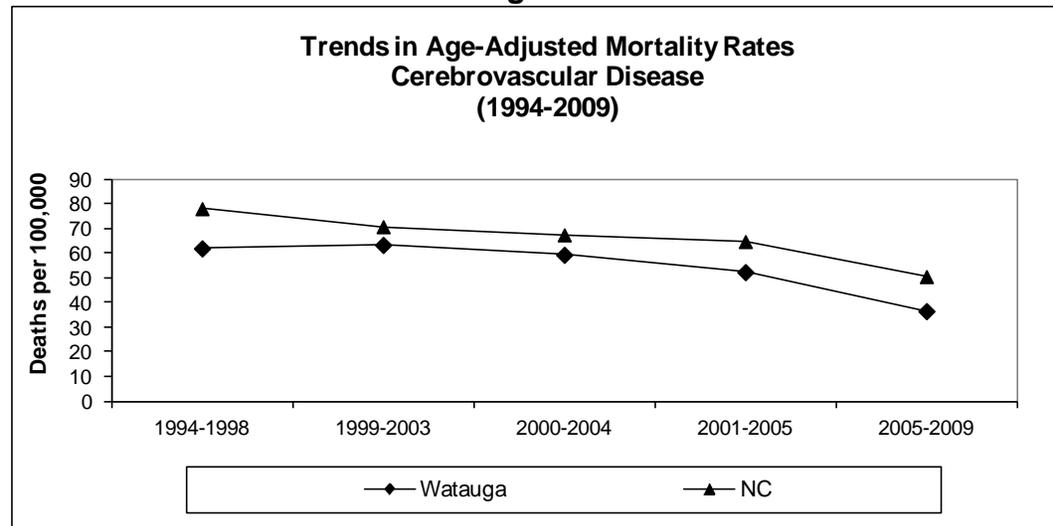
**Table 30. Cerebrovascular Disease Mortality (2005-2009)**

| County      | Overall Rate |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--------------|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number       | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 79           | 36.5 | 26          | 32.7 | 51            | 37.8 | 0              | 0    | 2                | n/a  |
| State Total | 22,600       | 50.5 | 6,658       | 47.1 | 10,341        | 45.1 | 2,205          | 77.1 | 2,989            | 63.8 |

Source: NC State Center for Health Statistics, 2011 County Health Databook. <http://www.schs.state.nc.us/SCHS/data/databook/>

Between 1994 and 2009, the mortality rate due to stroke in Watauga County decreased, as did the comparable state rates (Figure 8).

**Figure 8**

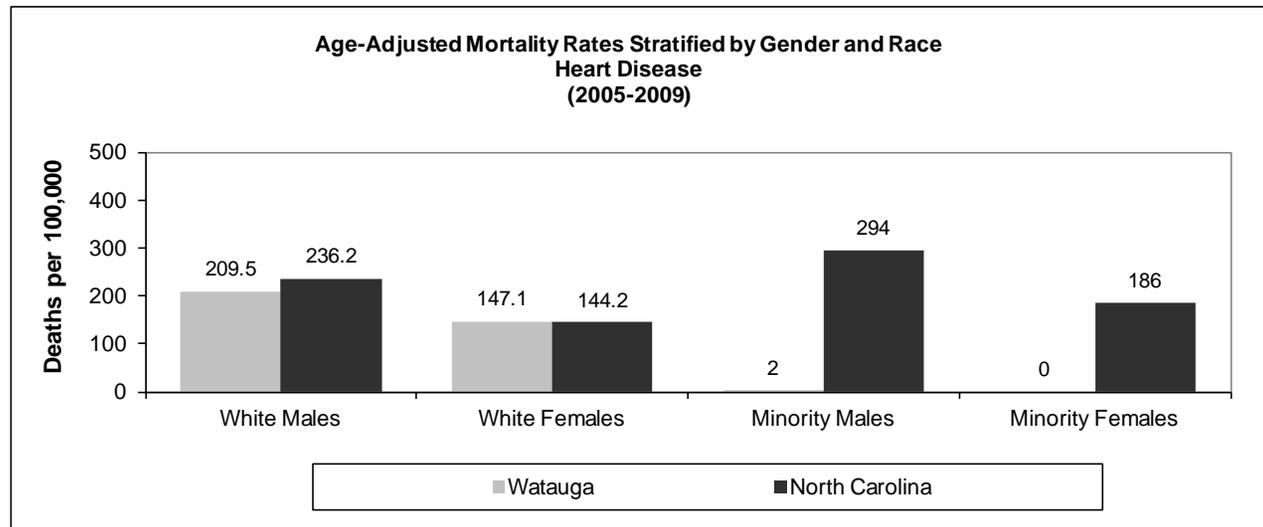


Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Gender and Racial Disparities in Heart Disease and Stroke Mortality

Figure 9 compares age adjusted mortality rates due to heart disease, aggregated between 2005-2009 among white males, minority males, white females, and minority females. (This is the same data that appeared in Table 29.) In Watauga County, the numbers of heart disease deaths among minority males and females were below the threshold for meaningful local mortality rate comparisons. However, valid sex-race comparisons remain among whites. The rate of heart disease mortality in white males was 42% higher than the rate of heart disease mortality for white females.

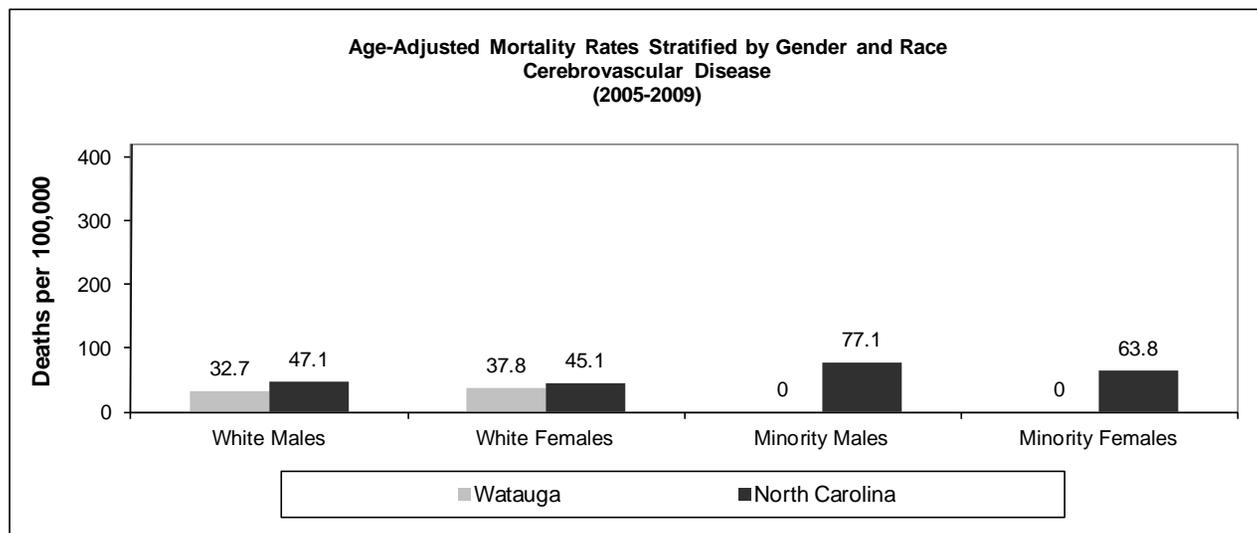
Figure 9



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

Figure 10 compares sex-race stratified age-adjusted mortality rates for cerebrovascular disease (with data from Table 30, cited previously). In Watauga County, the numbers of cerebrovascular disease deaths among minority males and females were below the threshold for meaningful local mortality rate comparisons. However, valid sex-race comparisons remain among whites. The rate of death due to cerebrovascular disease in white females was 13.5% higher than the rate of cerebrovascular disease mortality for white males.

**Figure 10**



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

# Cancer

## Total Cancer

Cancer is the group of diseases characterized by the uncontrolled growth and spread of abnormal body cells. If the disease remains unchecked, it can result in death. Cancers of all kinds are sometimes grouped together in a parameter called “total cancer”. Total cancer was the second leading cause of death in Watauga County for the period from 2005-2009. In 2009 hospital charges associated with cancer diagnoses and treatment in Watauga County residents totaled over \$5.6 million.

## Total Cancer Incidence

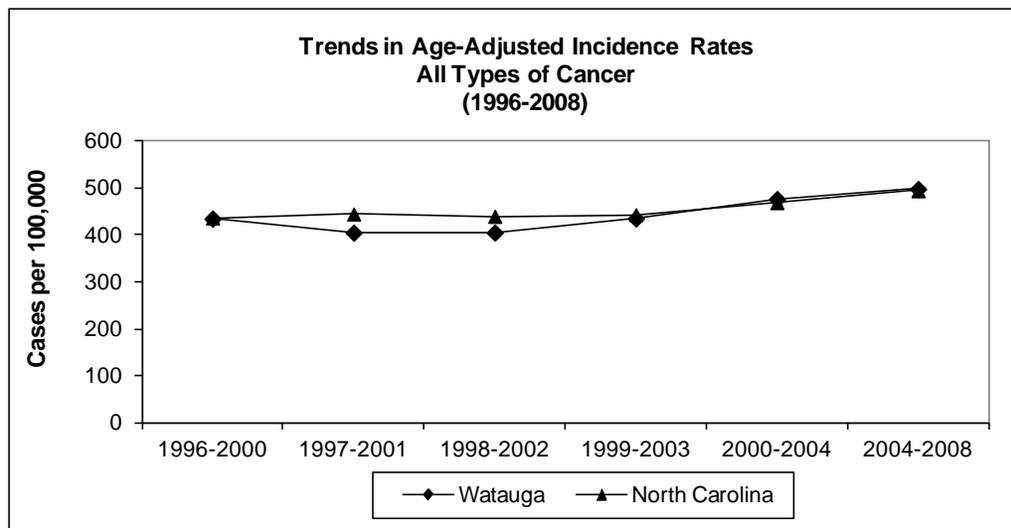
There were 1,051 newly diagnosed cases of all cancers combined in Watauga County between 2004 and 2008. Table 31 shows this total and the resultant age-adjusted total cancer incidence rates for the period, as well as individual incidence rates for colorectal, lung, breast, and prostate cancers. The incidence rate for all cancers during the period cited in Watauga County (498.8) was slightly above the state rate (495.2).

**Table 31. Cancer Incidence (2004-2008)**

| County      | All Cancer  |                | Colorectal Cancer |                | Lung Cancer |                | Female Breast Cancer |                | Prostate Cancer |                |
|-------------|---|----------------|-------------------|----------------|-------------|----------------|----------------------|----------------|-----------------|----------------|
|             | # Cases   | Incidence Rate | # Cases           | Incidence Rate | # Cases     | Incidence Rate | # Cases              | Incidence Rate | # Cases         | Incidence Rate |
| Watauga     | 1,051   | 498.8          | 91                | 42.8           | 129         | 60.6           | 177                  | 167.4          | 138             | 138.4          |
| State Total | 227,397   | 495.2          | 21,349            | 46.8           | 34,881      | 76.3           | 38,098               | 151.9          | 32,943          | 158.8          |
| Source      | State Center for Health Statistics, Cancer Incidence Rates, <a href="http://www.schs.state.nc.us/SCHS/CCR/incidence/2008/5yearRates.pdf">http://www.schs.state.nc.us/SCHS/CCR/incidence/2008/5yearRates.pdf</a> |                |                   |                |             |                |                      |                |                 |                |

As shown in Figure 11, the total cancer incidence rate in Watauga County has fluctuated slightly above and below the state rates throughout the reporting period. In recent years, the county rate has increased and remains slightly above the state rate.

**Figure 11**



Source: NCState Center for Health Statistics, County-Level Databooks, 2002-2011. Cancer Incidence Rates for All Counties by Specific Site (by five-year aggregate). Available at: <http://www.schs.state.nc.us/SCHS/CCR/reports.html>.

## Total Cancer Mortality

Cancer of all types was the second leading cause of death among Watauga County residents in the period from 2005 through 2009, resulting in 370 deaths (Table 26, cited previously). The mortality rate for all cancers in the county for that period was 168.2 deaths per 100,000, which was below the state rate of 185.6.

**Table 32. Total Cancer Mortality (2005-2009)**

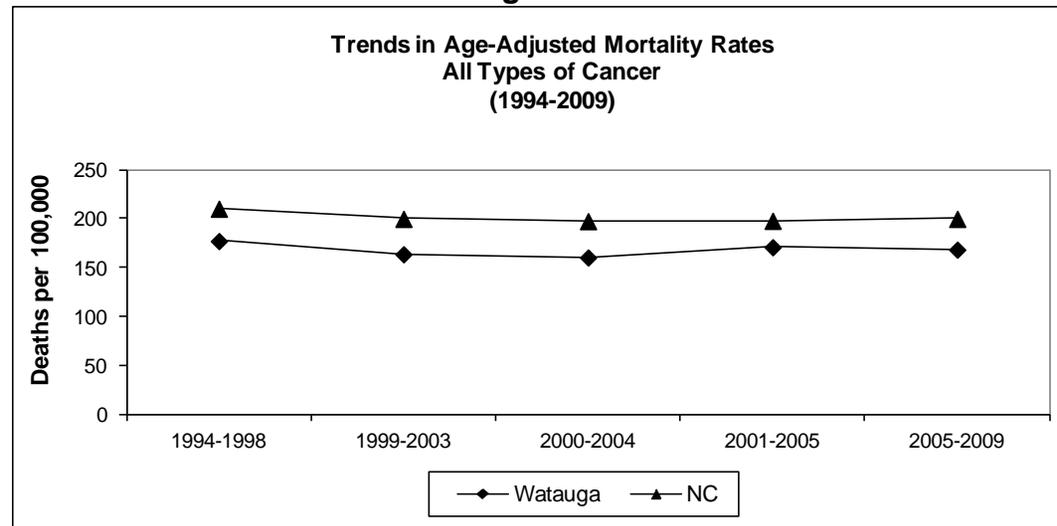
| County      | Overall Rate |       | White Males |       | White Females |       | Minority Males |       | Minority Females |       |
|-------------|--------------|-------|-------------|-------|---------------|-------|----------------|-------|------------------|-------|
|             | Number       | Rate  | Number      | Rate  | Number        | Rate  | Number         | Rate  | Number           | Rate  |
| Watauga     | 370          | 168.2 | 190         | 194.6 | 172           | 143.6 | 4              | n/a   | 4                | n/a   |
| State Total | 86,246       | 185.6 | 35,824      | 224.4 | 31,893        | 149.4 | 9,253          | 304.0 | 8,116            | 168.8 |

Source: NC State Center for Health Statistics, <http://www.schs.state.nc.us/SCHS/data/databook/>

The national mortality rate for all types of cancer was 178.4 per 100,000 in 2007, with cancer ranking as the second leading cause of death. For 2005-2009, Watauga County was below the national rate, but North Carolina exceeded the national rate.

Since 1998, the overall cancer mortality rate for Watauga County has decreased and is currently below the state rate. There actually has been only modest change in the total cancer mortality rate at any level over the past 12 years (Figure 12).

**Figure 12**

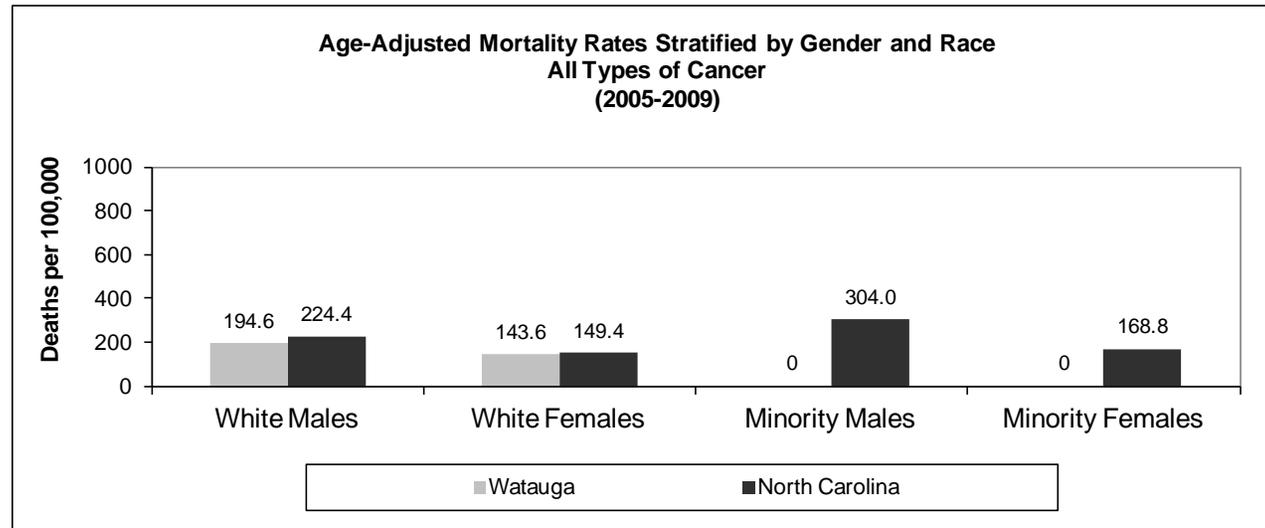


Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Gender and Racial Disparities in Total Cancer Mortality

Figure 13 compares stratified age-adjusted mortality rates due to all types of cancer in Watauga County. The data represent aggregate deaths between 2005 and 2009 among white males, minority males, white females, and minority females. In Watauga County, the numbers of cancer deaths among minorities were below the threshold for meaningful local mortality rate comparisons. However, valid sex-race comparisons remain for whites. The rate of cancer mortality in white males was 39% higher than the rate of cancer mortality for white females. At the state level, the cancer mortality rate was 50% higher among white males than the rate for white females.

Figure 13



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

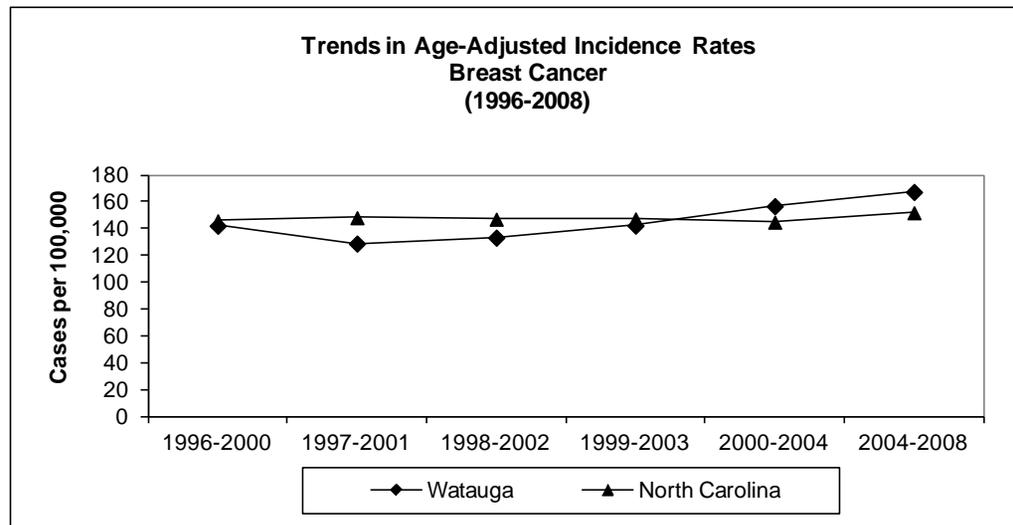
# Breast Cancer

## Breast Cancer Incidence

Between 2004 and 2008, breast cancer was the third most commonly diagnosed cancer in Watauga County, with 177 new cases diagnosed during that period (Table 31, cited previously). In North Carolina, breast cancer was the second most commonly diagnosed cancer, with an incidence rate of 151.9 per 100,000 during the same period.

Since 1996, breast cancer incidence rates have increased overall in Watauga County, while remaining relatively steady in North Carolina as a whole. Throughout most of the period cited the county breast cancer incidence rates have been below the state rate, until increasing above the state rate beginning in 2000 (Figure 14).

Figure 14



Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Breast Cancer Mortality

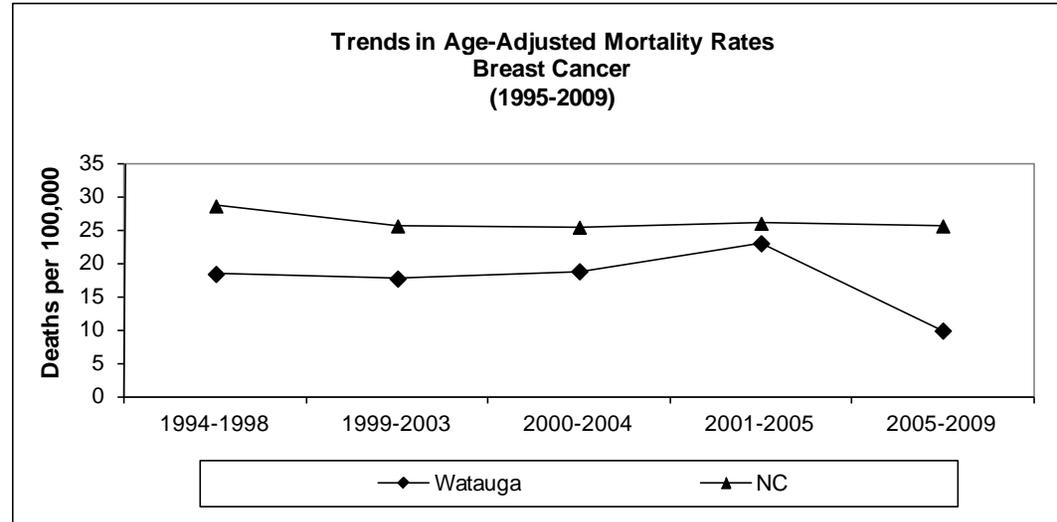
Between 2005 and 2009, 21 people died of breast cancer in Watauga County, representing an age-adjusted mortality rate of 9.9 per 100,000, a figure 26% below the state rate (Table 33).

**Table 33. Breast Cancer Mortality (2005-2009)**

| County      | Overall Rate   |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number   | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 21   | 9.9  | 0           | 0    | 20            | 17.9 | 0              | 0    | 1                | n/a  |
| State Total | 6,257  | 13.4 | 39          | 0.3  | 4,571         | 21.8 | 15             | n/a  | 1,551            | 31.3 |
| Source      | NC State Center for Health Statistics, <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

Since 1998, the breast cancer mortality rate in Watauga County has seen a significant decrease and is currently below the state rate (Figure 15).

**Figure 15**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

# Prostate Cancer

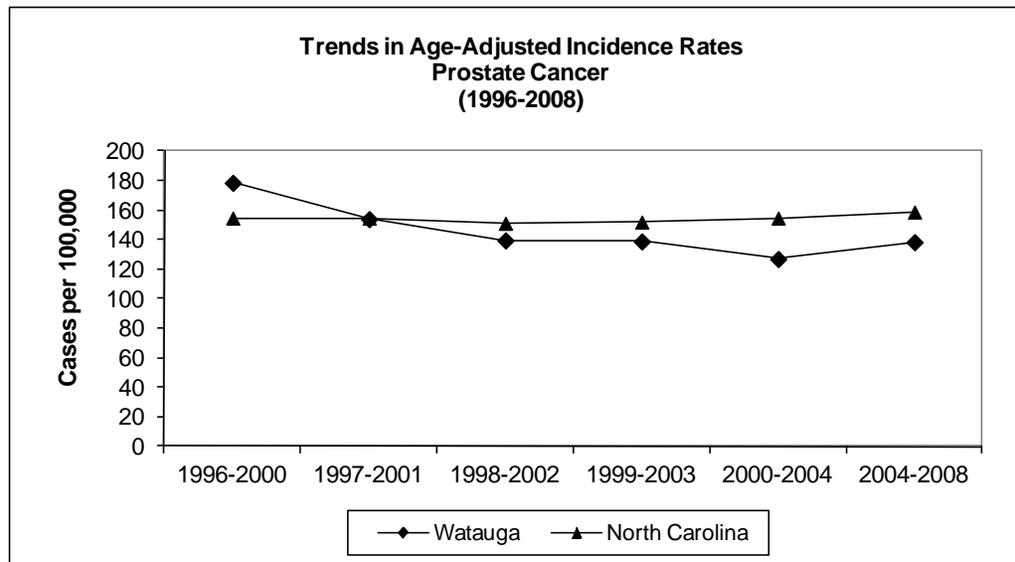
## Prostate Cancer Incidence

As of 2007, prostate cancer had the highest incidence rate of all cancers nationwide, 156.9 new cases per 100,000. Nationally, the prostate cancer incidence rate was highest among African American males (226.0 per 100,000).

During the most recent reporting period, 2004-2008, there were 138 new cases of prostate cancer diagnosed in the county, making it the second most commonly diagnosed cancer (Table 31, cited previously). Over \$258,000 was spent treating Watauga County prostate cancer patients in 2009.

The prostate cancer incidence rate statewide has been stable, increasing slightly during the 2004-2008 period. The rate in Watauga County has fluctuated but has decreased overall since the 1996-2000 period (Figure 16).

**Figure 16**



Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Prostate Cancer Mortality

Nationally, prostate cancer has the fifth highest mortality rate (23.5) among the five main cancers.

From 2005 through 2009, 16 males in Watauga County died of prostate cancer (Table 34). The number of deaths is too low for a meaningful mortality rate. The state average was 9.6.

**Table 34. Prostate Cancer Mortality (2005-2009)**

| County      | Overall Rate   |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number   | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 16   | n/a  | 16          | n/a  | 0             | 0    | 1              | n/a  | 0                | 0    |
| State Total | 4,306  | 9.6  | 2,863       | 20.5 | 0             | 0.0  | 1,389          | 58.4 | 0                | 0.0  |
| Source      | NC State Center for Health Statistics, <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

# Colon and Rectal Cancer

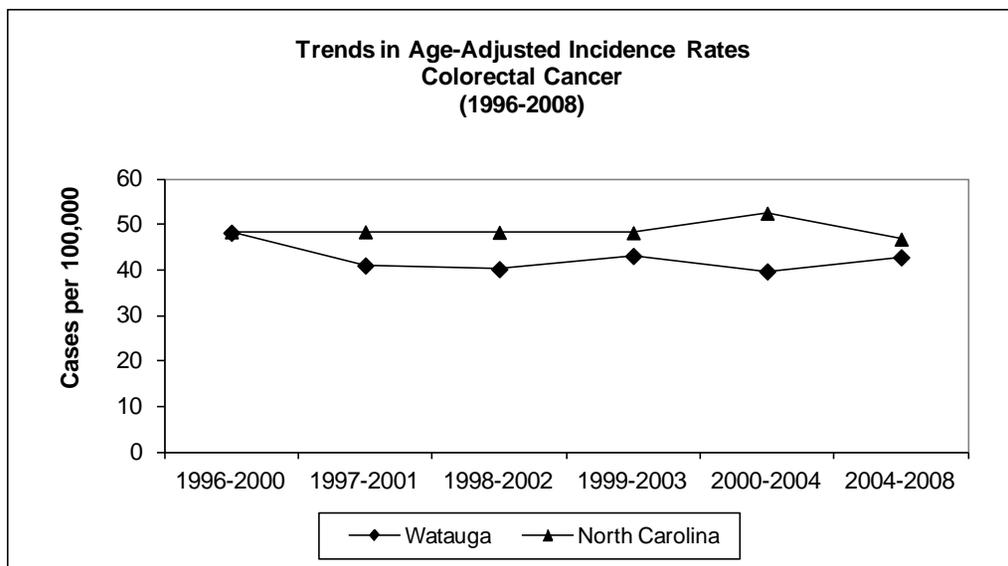
## Colorectal Cancer Incidence

Colorectal cancer was the second most commonly diagnosed cancer in the US in 2007, with a national incidence rate of 17.8 new cases per 100,000.

From 2004 through 2008 cancers of the colon and rectum accounted for 91 new cancer diagnoses in Watauga County, making it the fourth most commonly diagnosed cancer (Table 31, cited previously). At that time, the local incidence rate was 9.4% lower than the rate for the state as a whole. In 2009, hospital charges attributable to colorectal cancers among Watauga County residents totaled over \$563,000.

The Watauga County colorectal cancer incidence rate has decreased overall since 1996 and is slightly below the state rate (Figure 17).

**Figure 17**



Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Colorectal Cancer Mortality

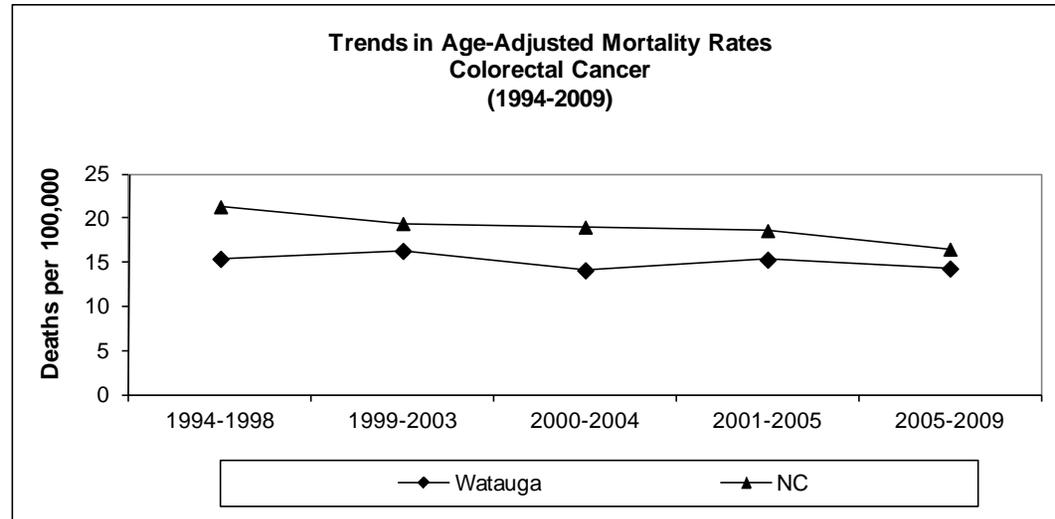
The colorectal cancer mortality rate in Watauga County was lower than the state as a whole for the period between 2005 and 2009 (Table 35). During this period, 32 people in Watauga County died from colorectal cancer, representing an age-adjusted mortality rate of 14.3 per 100,000.

**Table 35. Colorectal Cancer Mortality (2005-2009)**

| County      | Overall Rate   |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number   | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 32   | 14.3 | 15          | 16   | 1             | n/a  | 0              | 0    | 0                | 0    |
| State Total | 7,621  | 16.5 | 2,939       | 18.4 | 2,789         | 12.8 | 906            | 29.5 | 899              | 18.8 |
| Source      | NC State Center for Health Statistics, <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

The colorectal mortality rates have been similarly declining overall since 1994 on the county and state levels (Figure 18).

**Figure 18**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

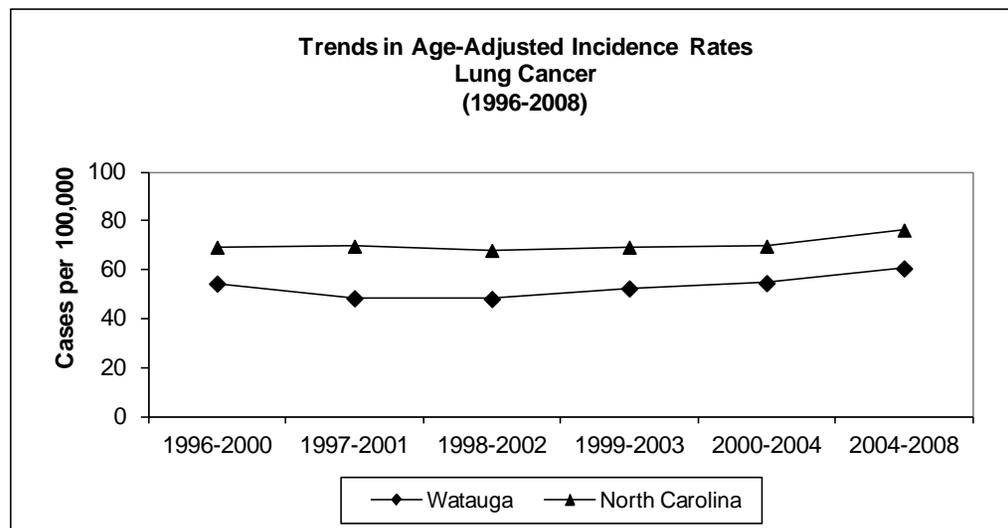
# Lung Cancer

## Lung Cancer Incidence

Between 2004 and 2008, 129 new cases of trachea, bronchus, and lung cancer were diagnosed in Watauga County, making it the second most commonly diagnosed cancer (Table 31, cited previously). The resulting aggregate incidence rate of 60.6 per 100,000 was below the state rate (76.3). In 2009, hospital charges for the treatment of lung cancer in Watauga County residents totaled over \$195,000.

Since 1996 Watauga County lung cancer incidence rates remained below the relatively steady state rate. Most recently, the county rates have increased (Figure 19).

Figure 19



Source: NC Center for Health Statistics. County Health Databooks (various years), <http://www.schs.state.nc.us/SCHS/data/databook>

## Lung Cancer Mortality

The 2005-2009 lung cancer mortality rate in Watauga County (47.3) was 24% lower than the rate statewide (57.0) (Table 36). Between 2005 and 2009, a total of 103 people died of lung cancer in Watauga County.

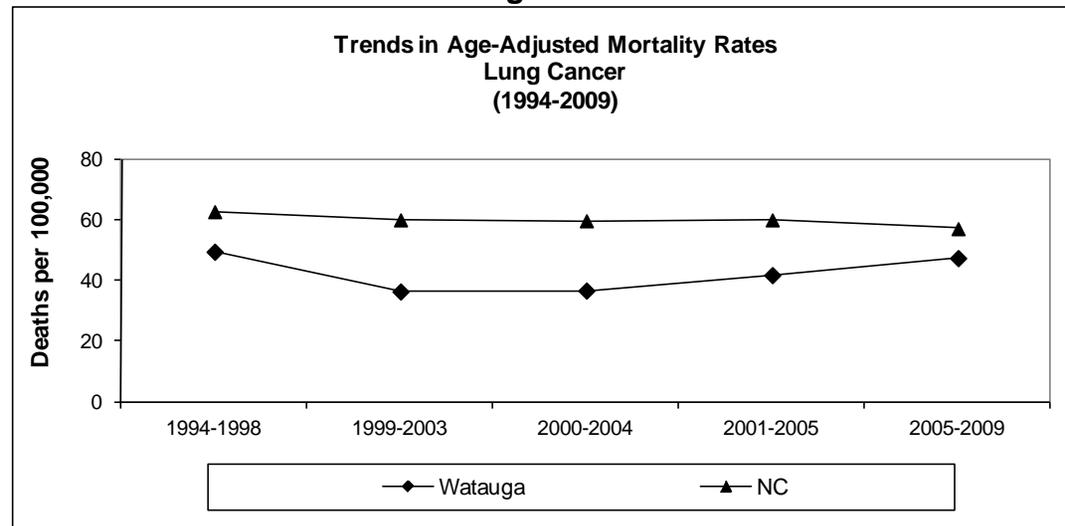
**Table 36. Lung Cancer Mortality (2005-2009)**

| County      | Overall Rate   |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number   | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 103  | 47.3 | 63          | 63.7 | 39            | 33.6 | 0              | 0    | 1                | n/a  |
| State Total | 26,681   | 57.0 | 12,605      | 76.9 | 9,292         | 43.7 | 2,871          | 90.3 | 1,587            | 33.0 |
| Source      | NC State Center for Health Statistics, <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

Nationally, lung cancer is the leading cause of death from cancer with a mortality rate of 52.6 per 100,000 in 2007. Watauga County's current lung cancer mortality rate is lower than the national rate by 10.1%. The Healthy People 2020 goal is to reduce the lung cancer mortality rate to 45.5 per 100,000. The current lung cancer mortality rate in Watauga County exceeds the national target rate by 4%.

Between 1994 and 2009 the lung cancer mortality rate in Watauga County decreased slightly (Figure 20), as has the state rate.

**Figure 20**

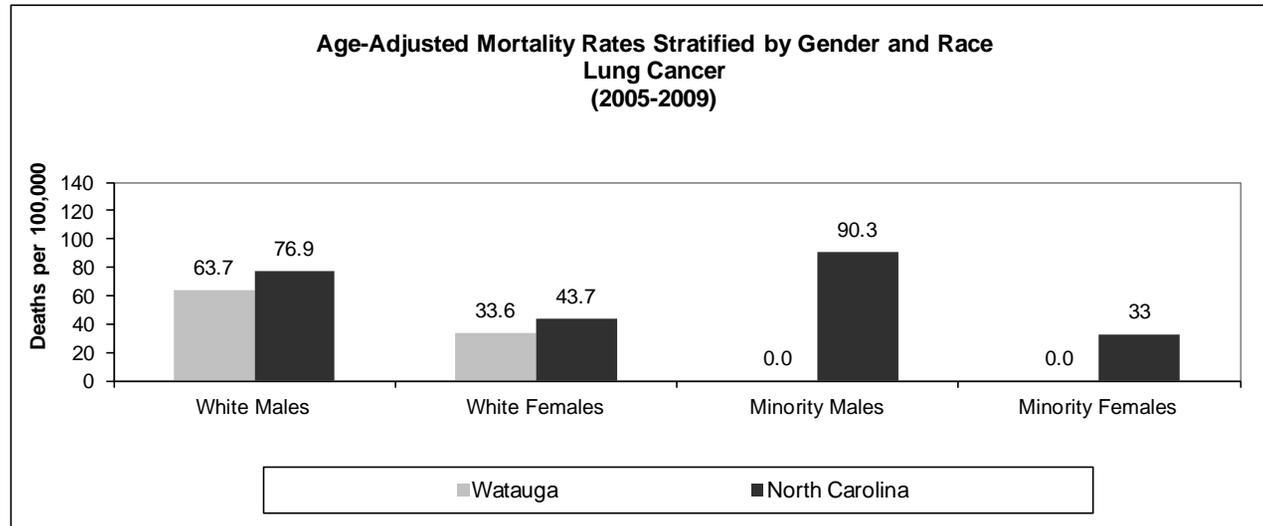


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

## Gender and Racial Disparities in Lung Cancer Mortality

Figure 21 compares sex-age stratified aggregate age-adjusted mortality rates due to lung cancer for the period 2005-2009. In Watauga County, the numbers of lung cancer deaths among minority males and females (1) were below the threshold for meaningful local mortality rate comparisons. However, valid sex-race comparisons remain for whites. The rate of lung cancer mortality in white males was 89.6% higher than the rate for white females.

Figure 21



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

## Chronic Lower Respiratory Disease

According to the National Institutes of Health (NIH), chronic obstructive pulmonary disease (COPD) is a group of lung diseases involving limited airflow, airway inflammation and the destruction of lung tissue. Around 1999 the NC State Center for Health Statistics started classifying COPD within the broader heading of chronic lower respiratory disease (CLRD), which was not used as a separate category previously. It can be assumed that COPD rates from pre-1999 can be compared to CLRD rates after 1999. Hospital charges for treating Watauga County residents with CLRD totaled over \$9.4 million in 2009.

### COPD/CLRD Mortality

COPD/CLRD was the third leading cause of death in Watauga County for the period 2005-2009. For the most current aggregate time period (2005-2009), the overall COPD/CLRD mortality rate in Watauga County (42.4) was 9.8% lower than the state rate (Table 37).

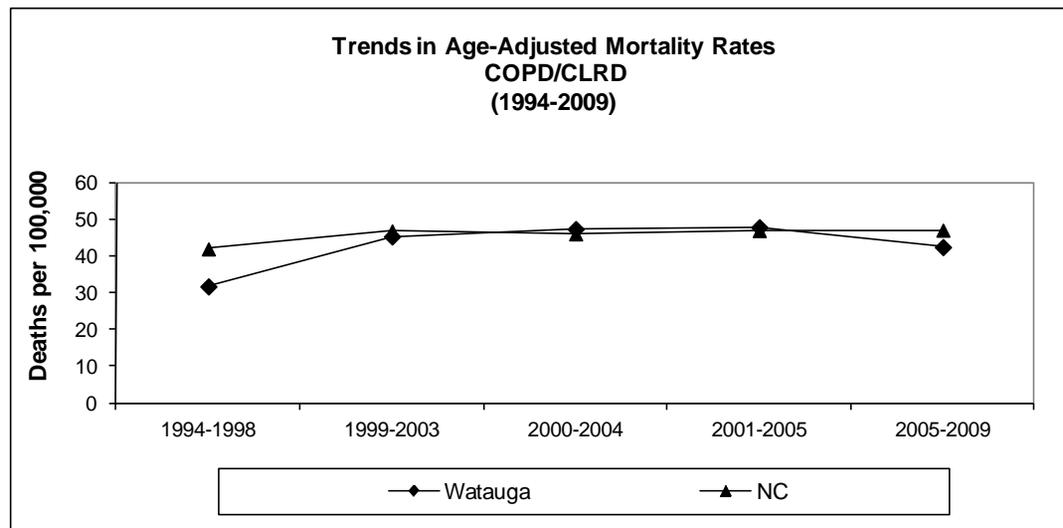
**Table 37. Chronic Lower Respiratory Disease Mortality, including COPD (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 92  | 42.4 | 38          | 44.4 | 52            | 42.9 | 1              | n/a  | 1                | n/a  |
| State Total | 21,228  | 47.0 | 8,817       | 59.1 | 9,995         | 45.5 | 1,273          | 47.4 | 983              | 21.0 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

In 2007 the national mortality rate for CLRD was 40.8 per 100,000, a rate exceeded in Watauga County by 3.9%.

As demonstrated in Figure 22, COPD/CLRD mortality rates have slightly increased overall since 1994 in the county and the state. COPD/CLRD mortality rates in Watauga County have fluctuated, sometimes exceeding and sometimes below the state rates each aggregate period.

Figure 22

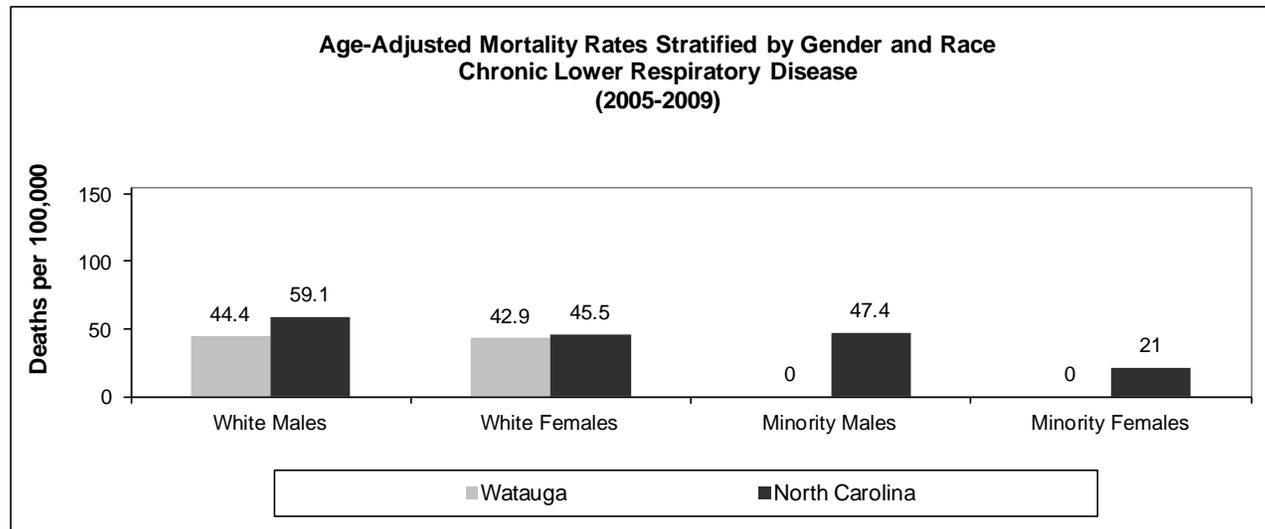


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

## Gender and Racial Disparities in COPD/CLRD Mortality

Figure 23 compares sex-age stratified aggregate age-adjusted mortality rates due to COPD/CLRD for the period 2005-2009. In Watauga County, the number of COPD/CLRD deaths among minorities was two (one male and one female), below the threshold for meaningful comparisons. However, there are gender differences between whites. The rate of COPD/CLRD deaths among white males was 29% higher than the rate for white females. At the state level, the COPD/CLRD mortality rate among white males was 33.8% higher than the rate for white females. Watauga County's rate for white males was 24.9% lower than the state rate.

Figure 23



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

## Pneumonia and Influenza

Pneumonia and influenza are diseases of the lungs. Influenza (the “flu”) is a contagious infection of the throat, mouth and lungs caused by an airborne virus. Pneumonia is an inflammation of the lungs caused by either bacteria or viruses. Bacterial pneumonia is the most common and serious form of pneumonia, and among individuals with suppressed immune systems it may follow influenza or the common cold. Pneumonia/influenza was the tenth leading cause of death in Watauga County in the period 2005-2009 (Table 26, cited previously), and hospital charges in 2009 totaled over \$3.5 million.

### Pneumonia and Influenza Mortality

In the 2005-2009 reporting period, the overall pneumonia/influenza mortality rate in Watauga County, 13.7, was 29.4% lower than the than the rate in the state as a whole (Table 38).

**Table 38. Pneumonia/Influenza Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 30  | 13.7 | 15          | n/a  | 15            | n/a  | 0              | 0    | 0                | 0    |
| State Total | 8,632   | 19.4 | 3,047       | 22.2 | 4,107         | 18   | 641            | 25   | 755              | 16   |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

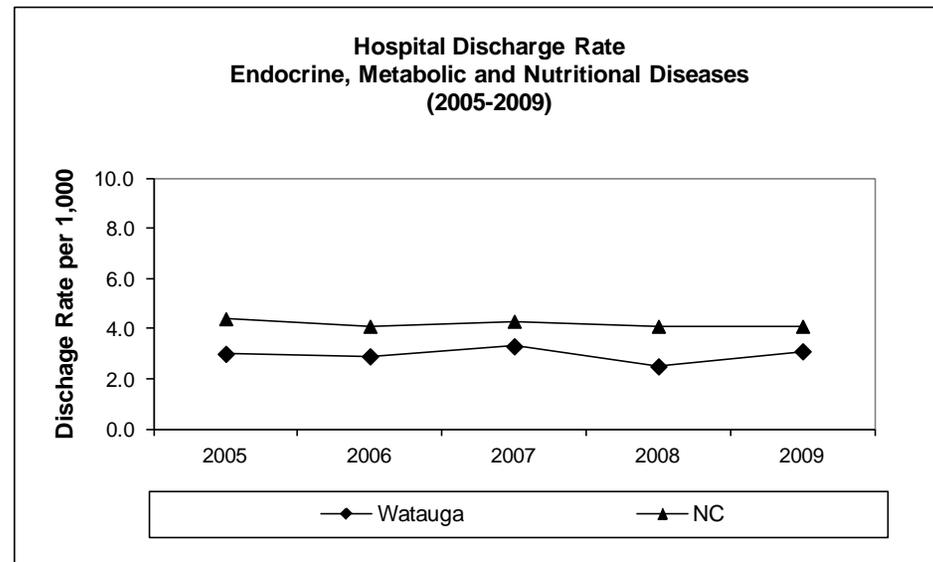
# Diabetes

Diabetes is a disorder of the metabolic system resulting from a shortage of insulin, a hormone that allows sugar to enter body cells and convert into energy. If diabetes is uncontrolled, sugar and fats remain in the blood, over time damaging vital organs. Diabetes was the eighth leading cause of death in Watauga County in 2005-2009 and caused nearly \$2.2 million in hospital charges to county residents in 2009.

## Diabetes Incidence

Incidence data for diabetes is not routinely available, so it is necessary to estimate incidence by other means, such as hospital discharge rates. It should be noted that hospital discharge information tends to *underestimate* the true extent of a disease in the population because it does not include people being treated for the disease who do *not* require hospitalization. In 2009 in Watauga County and in the state, the hospital discharge rate for endocrine, metabolic and nutritional diseases (including diabetes) was 3.1 discharges per 1,000. The county discharge rate increased slightly between 2005 and 2009 (Figure 24).

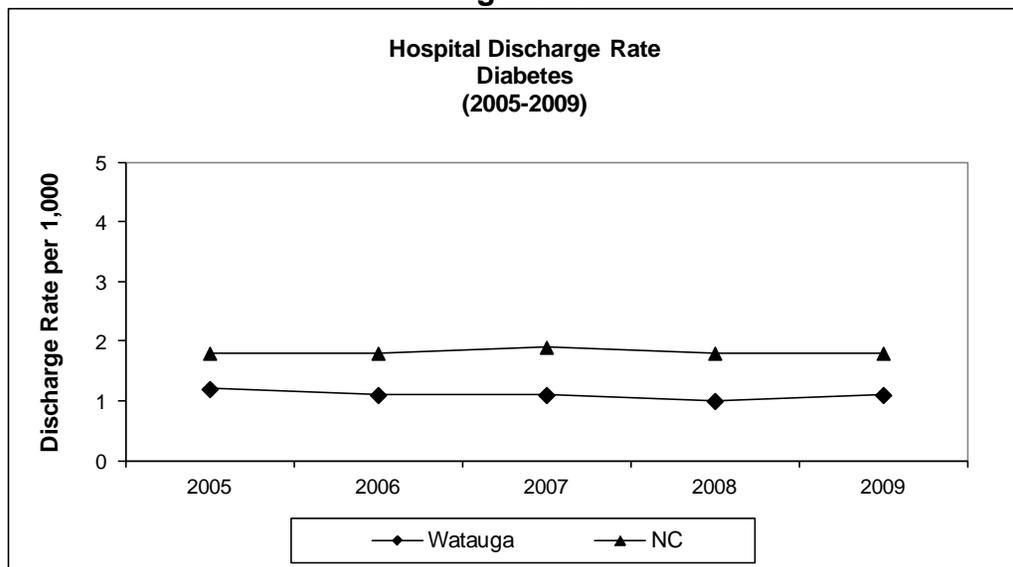
Figure 24



NC State Center for Health Statistics. Health Data. County-level Data. 2011 County Health Databook. Morbidity. Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence. Available at: <http://www.schs.state.nc.us/SCHS/data/databook/>.

In 2009 the county discharge rate associated with *diabetes alone* was 1.1 per 1,000 (Figure 25). Comparing Figure 25 with 24 it is apparent that over one third of the hospital discharges for endocrine diseases have been related to a diagnosis of diabetes.

**Figure 25**



NC State Center for Health Statistics. Health Data. County-level Data. 2011 County Health Databook. Morbidity. Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence. Available at: <http://www.schs.state.nc.us/SCHS/data/databook/>.

## Diabetes Mortality

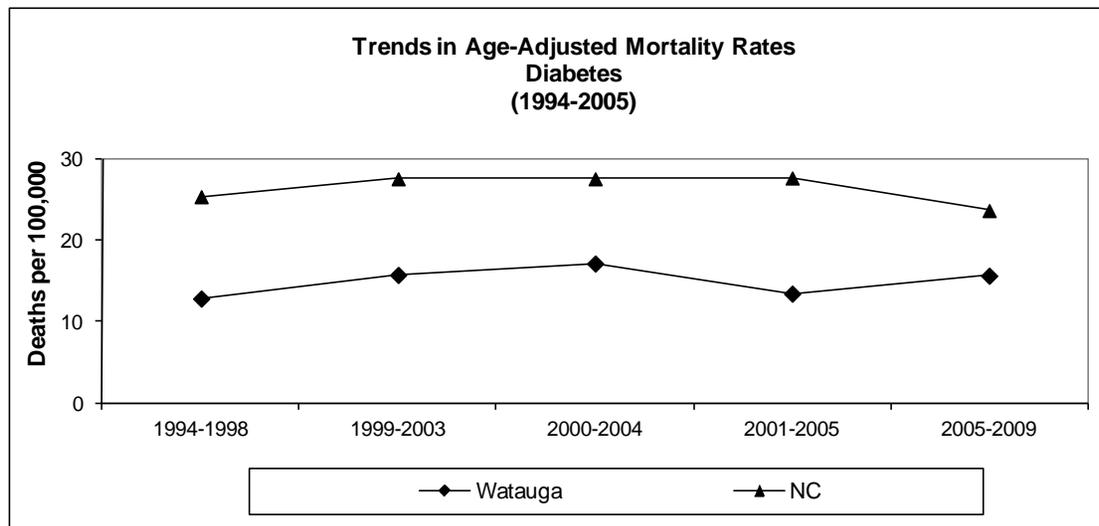
Between 2005 and 2009, 34 deaths in Watauga County were attributed to diabetes, computing to a mortality rate of 15.6 per 100,000 (Table 39). This rate is 34% below the state rate. Diabetes was the eighth leading cause of death in 2009.

**Table 39. Diabetes Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 34  | 15.6 | 17          | n/a  | 17            | n/a  | 0              | 0    | 1                | n/a  |
| State Total | 10,906  | 23.6 | 3,595       | 22.6 | 3,310         | 15.1 | 1,630          | 53.3 | 2,137            | 45.5 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

Since 1994, the county and state diabetes mortality rates have fluctuated, but have recently declined in Watauga County (Figure 26).

**Figure 26**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

## Unintentional Non-Motor Vehicle Injury

The NC-SCHS distinguishes unintentional non-motor vehicle injuries from motor vehicle injuries when calculating mortality rates for unintentional injuries and ranking leading causes of death. Unintentional non-motor vehicle injuries are the fifth leading cause of death in Watauga County (Table 26, cited previously). Unintentional injuries of all types are costly injuries and led to over \$8 million in hospital charges for Watauga County residents in 2009.

### Unintentional Non-Motor Vehicle Injury Mortality

Between the years 2005 and 2009, there were 74 deaths in Watauga County due to unintentional non-motor vehicle injuries (e.g., boating accidents, falls, animal bites, drowning, choking, etc). The corresponding mortality rate was 37.7 per 100,000, a rate 32% higher than the state rate (Table 40).

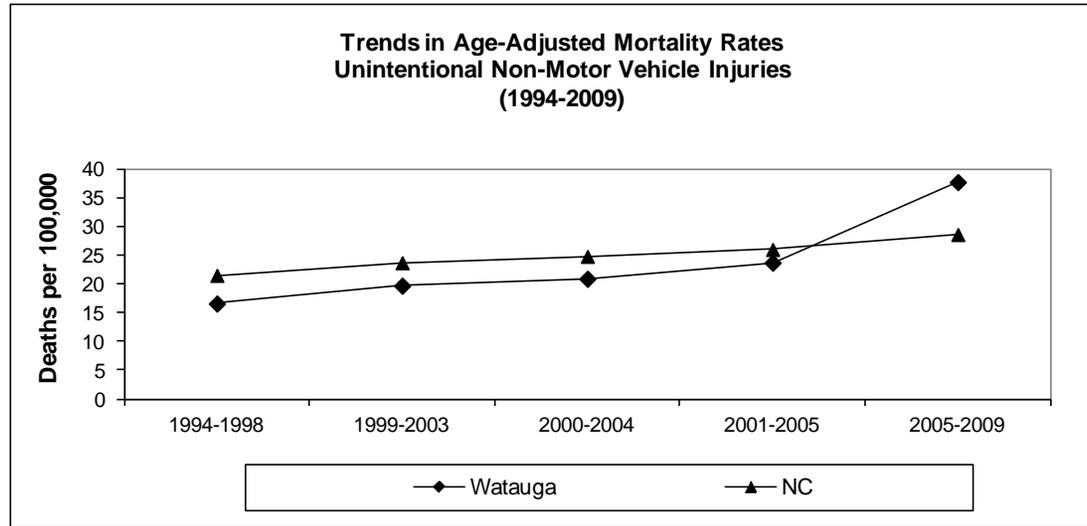
**Table 40. Unintentional Non-Motor Vehicle Injury Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 74  | 37.7 | 37          | 44.3 | 37            | 34.1 | 0              | 0    | 0                | 0    |
| State Total | 12,896  | 28.6 | 6,364       | 40.5 | 4,435         | 21.9 | 1,220          | 32.6 | 678              | 13.9 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

Unintentional non-motor vehicle injuries are the fifth leading cause of death nationwide. The 2007 national mortality rate was 40.0. The Healthy People 2020 goal is to reduce deaths due to unintentional injuries to no more than 53.3 per 100,000, which is 41% higher than the current rate in Watauga County.

Since 1994 Watauga County mortality rate due to non-motor vehicle injuries has increased, especially during the period 2005-2009. The rate for the state as a whole also has been increasing (Figure 27).

**Figure 27**

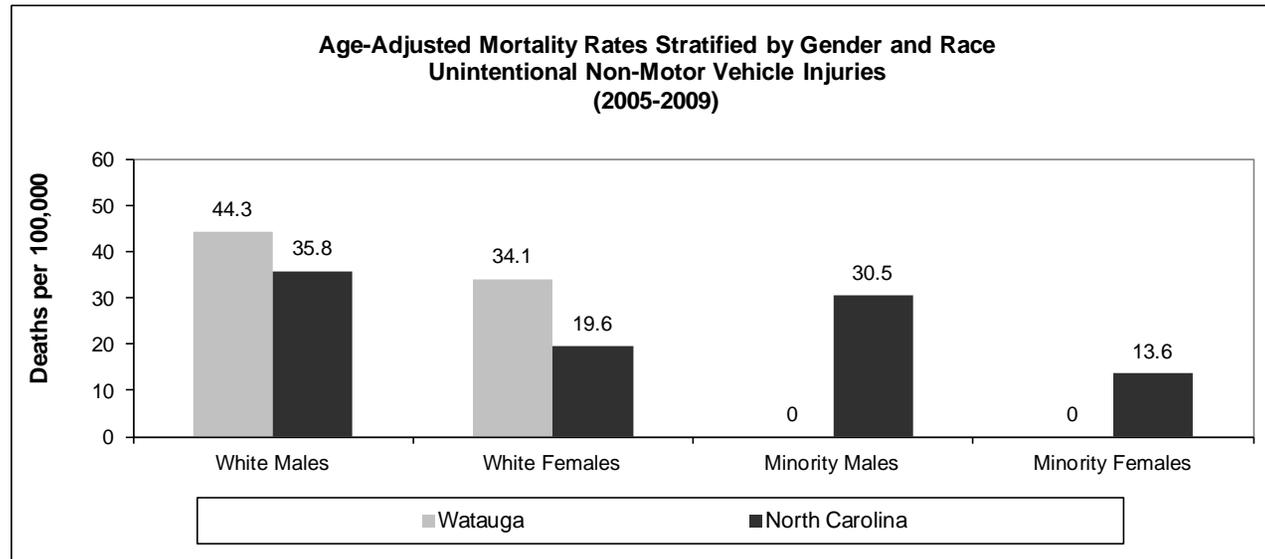


Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

Figure 28 plots the data from Table 40 (cited previously). In Watauga County, the numbers of deaths due to unintentional non-motor vehicle injuries among minorities were below the threshold to compute mortality rates reliable for comparison.

Gender disparities for whites in this category of mortality are strong. At the county level, the mortality rate among white males was 30% higher than the comparable rate among white females. At the state level the unintentional non-motor vehicle injury mortality rates among white males was 83% higher than the comparable rates for white females.

**Figure 28**



Source: NC State Center for Health Statistics. County-level Data. County Health Data Books. 2011 County Health Data Book. Mortality. 2005-2009 Race-Sex Specific Age-Adjusted Rates by County. <http://www.schs.state.nc.us/SCHS/data/databook>.

# Septicemia

Septicemia is a rapidly progressing infection resulting from the presence of bacteria in the blood. The disease often arises from other infections throughout the body, such as meningitis, burns and wound infections. Septicemia can lead to septic shock wherein low blood pressure and low blood flow cause organ failure.

Septicemia was the twelfth leading cause of death in Watauga County for the period from 2005 through 2009 (Table 26, cited previously). The numbers overall are too low for a meaningful mortality rate. Hospital charges associated with this treatment totaled over \$2.6 million for county residents in 2009. Septicemia is certainly not as well known a health condition as heart disease, for example, but in Watauga County it cost more to treat. In 2009 the per-case hospital charge associated with heart disease in Watauga County averaged \$27,012; the comparable cost for a septicemia case was \$33,926.

**Table 41. Septicemia Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 14  | n/a  | 5           | n/a  | 9             | n/a  | 1              | n/a  | 0                | 0    |
| State Total | 6,241   | 13.8 | 2,007       | 13.4 | 2,524         | 11.0 | 740            | 24.4 | 918              | 19.5 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

## Unintentional Motor Vehicle Injury

The NC-SCHS distinguishes unintentional motor vehicle injuries from all other injuries when calculating mortality rates and ranking leading causes of death. Injury mortality attributable to motor vehicle accidents is the ninth leading cause of death in Watauga County (Table 26, cited previously).

### Unintentional Motor Vehicle Injury Mortality

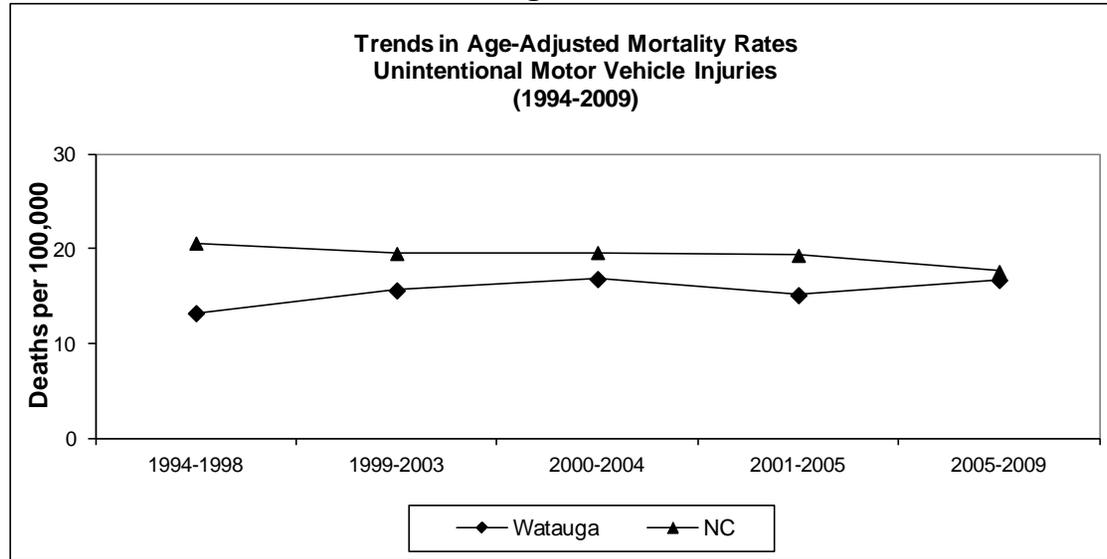
Between 2005 and 2009, there were 33 deaths due to motor vehicle injuries in Watauga County (Table 42). The mortality rate associated with these deaths was 16.7 per 100,000, which was 5.1% lower than the corresponding state rate.

**Table 42. Unintentional Motor Vehicle Injury Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 33  | 16.7 | 23          | 24.6 | 10            | n/a  | 0              | 0    | 0                | 0    |
| State Total | 8,027   | 17.6 | 4,211       | 25.3 | 1,848         | 10.5 | 1,221          | 27.4 | 454              | 8.8  |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

The motor vehicle injury mortality rate in Watauga County increased overall between 1994 and 2009, while the state rate declined. As of 2009 the Watauga rate was slightly below the state rate (Figure 29).

**Figure 29**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

According to the NC Highway Research Center, in 2009 there were 1,110 motor vehicle accidents in Watauga County, resulting in 345 nonfatal injuries and 5 fatalities (Table 43).

**Table 43. Motor Vehicle Injuries, 2009**

|             | Crashes      |                        |                         | Number of Injuries |       |                           |                       | Alcohol Related Injuries  |                               |                           | DWI Charges and Convictions |                     |                   |
|-------------|--------------|------------------------|-------------------------|--------------------|-------|---------------------------|-----------------------|---------------------------|-------------------------------|---------------------------|-----------------------------|---------------------|-------------------|
|             | Total Number | Number Alcohol Related | Percent Alcohol Related | Non-Fatal          | Fatal | Alcohol Related Non-Fatal | Alcohol Related Fatal | Percent of Total Injuries | Percent of Non-Fatal Injuries | Percent of Fatal Injuries | No. DWI Charges             | No. DWI Convictions | % DWI Convictions |
| Watauga     | 1,110        | 58                     | 5.2                     | 345                | 5     | 29                        | 1                     | 8.6                       | 8.4                           | 20.0                      | 457                         | 310                 | 67.8              |
| State Total | 204,167      | 11,263                 | 5.5                     | 108,669            | 1,346 | 8,767                     | 394                   | 8.3                       | 8.1                           | 29.3                      | 72,926                      | 41,951              | 57.5              |

Source: Highway Safety Research Center, NC Alcohol Facts, <http://www.hsrb.unc.edu/ncaf>

Frequently, motor vehicle crashes are associated with alcohol consumption. In 2009, 5.2 % of Watauga County motor vehicle crashes were associated with alcohol, a figure slightly lower than the state average 5.5% (Table 43). Alcohol was involved in 8.4% of all *nonfatal* motor vehicle injuries in the county and 20% of the *fatal* accidents. In the state as a whole, 8.1% of all *nonfatal* motor vehicle injuries and 29.3% of all *fatal* motor vehicle injuries were alcohol-related.

## Nephritis, Nephrosis and Nephrotic Syndrome

Nephritis, nephrosis and nephrotic syndrome are renal (kidney) disorders. Nephritis is any inflammation of the kidneys, while nephrotic syndrome (also known as nephrosis) is a kidney disease resulting from damage to the blood vessels that filter waste from the blood. These conditions can result from infections, drug exposure, malignancy, hereditary disorders, immune disorders, or diseases that affect multiple body systems (e.g., diabetes and lupus). This complex of kidney disorders represented the eleventh leading cause of death in Watauga County for the period from 2005 through 2009 (Table 26, cited previously), and cost county residents over \$2.5 million in hospital charges in 2009.

### Kidney Disease Mortality

From 2005 through 2009 a total of 20 deaths in Watauga County were attributed to kidney diseases, yielding a mortality rate for the period of 9.2 per 100,000 (Table 44), 50.8% lower than the rate for the state as a whole (18.7).

**Table 44. Nephritis, Nephrosis and Nephrotic Syndrome Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 20  | 9.2  | 8           | n/a  | 12            | n/a  | 0              | 0    | 0                | 0    |
| State Total | 8,449   | 18.7 | 2,725       | 19.0 | 2,830         | 12.5 | 1,173          | 41.6 | 1,587            | 34.0 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

## Alzheimer's Disease

Alzheimer's disease is a progressive neurodegenerative disease affecting mental abilities including memory, cognition and language. Alzheimer's disease is characterized by memory loss and dementia. The risk of developing Alzheimer's disease increases with age (e.g., almost half of those 85 years and older suffer from Alzheimer's disease). Early-onset Alzheimer's has been shown to be genetic in origin, but a relationship between genetics and the late-onset form of the disease has not been demonstrated. No other definitive causes have been identified.

## Alzheimer's Disease Mortality

Alzheimer's disease data has been recorded only in recent years, so trend data is not yet available. According to data aggregated between 2005 and 2009, there were 55 deaths attributable to Alzheimer's disease in Watauga County, where it was the sixth leading cause of death (Table 26, cited previously). The mortality rate in Watauga County (25.0) was 11.6% lower than the comparable state rate (28.3).

**Table 45. Alzheimer's Disease Mortality (2005-2009)**

| County | Overall Rate |      | White Males |      | White Females |      | African-American Males |      | African American Females |      |
|--------|--------------|------|-------------|------|---------------|------|------------------------|------|--------------------------|------|
|        | Watauga      | 55   | 25.0        | 17   | n/a           | 38   | 27.3                   | 0    | 0                        | 0    |
| State  | 12,386       | 28.3 | 2,897       | 22.7 | 7,745         | 32.3 | 398                    | 20.1 | 1,232                    | 27.0 |

## Chronic Liver Disease and Cirrhosis

Chronic liver disease is marked by the gradual destruction of liver tissue over time. Cirrhosis is a group of chronic liver diseases in which normal liver cells are damaged and replaced by scar tissue, progressively diminishing blood flow through the liver. Risk factors for chronic liver disease include: exposure to hepatitis and other viruses; use of certain drugs; alcohol abuse; chemical exposure; autoimmune diseases; diabetes; malnutrition; and hereditary diseases.

### Chronic Liver Disease Mortality

Between 2005-2009, 10 people died of chronic liver disease/cirrhosis in Watauga County, making it the thirteenth leading cause of death (Table 26, cited previously). The number of deaths is too low for a meaningful mortality rate.

**Table 46. Chronic Liver Disease and Cirrhosis Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 10  | n/a  | 8           | n/a  | 2             | n/a  | 0              | 0    | 0                | 0    |
| State Total | 4,356   | 9    | 2,326       | 13   | 1,204         | 6    | 489            | 12   | 248              | 5    |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

# Suicide

Between 2005 and 2009, there were 38 deaths due to suicide in Watauga County, making it the sixth leading cause of death in the county (Table 26, cited previously). For the period 2005 through 2009, the suicide mortality rate in Watauga County was 19.5 per 100,000, 62.5% above the statewide suicide rate (Table 47).

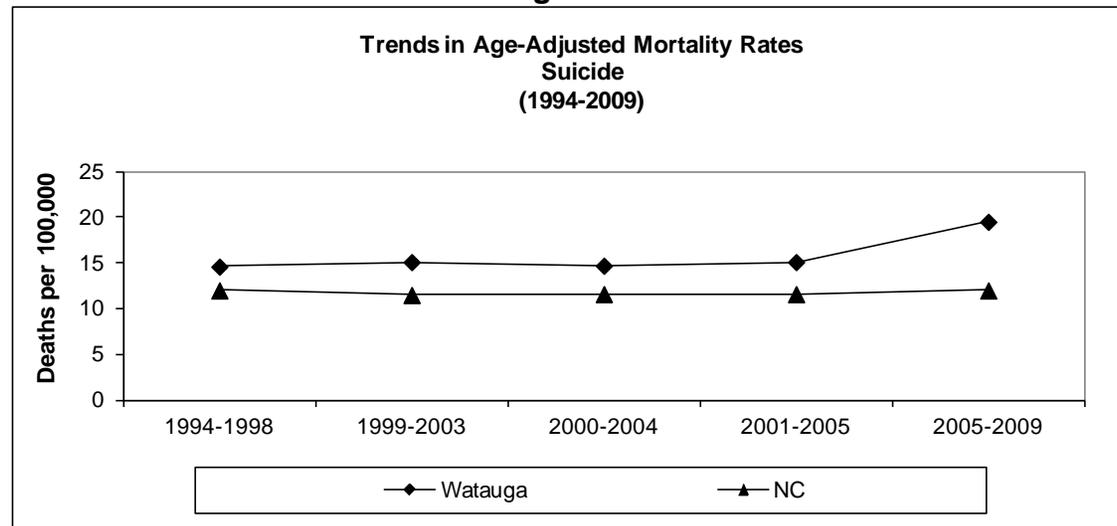
**Table 47. Suicide Mortality (2005-2009)**

| County      | Overall Rate |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|--------------|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number       | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 38           | 19.5 | 32          | 35.4 | 3             | n/a  | 3              | n/a  | 0                | 0    |
| State Total | 5,483        | 12.0 | 3,757       | 22.3 | 1,127         | 6.4  | 401            | 8.7  | 86               | 1.6  |

Source: NC State Center for Health Statistics, 2011 County Health Databook. <http://www.schs.state.nc.us/SCHS/data/databook/>

The Healthy Carolinian’s 2020 goal for suicide is 8.2 per 100,000, a figure exceeded in Watauga County by 58%. Nationally, the mortality rate due to suicide is 11.3 per 100,000, a rate Watauga County exceeds by 42%. Suicide mortality rates in the state have remained fairly stable since 1994, while the mortality rates in Watauga County have fluctuated but increased overall since 2001 (Figure 30).

**Figure 30**



Source: NC Center for Health Statistics. North Carolina Vital Statistics, Volume 2, Leading Causes of Death (various years) <http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm>

# Homicide

Homicide was the fourteenth leading cause of death in Watauga County for the period 2005-2009 (Table 26, cited previously) and was responsible for four deaths in that five-year aggregate period. The numbers of homicide related deaths in Watauga County were too few to calculate any meaningful mortality rates for comparison (Table 48).

**Table 48. Homicide Mortality (2005-2009)**

| County      | Overall Rate  |      | White Males |      | White Females |      | Minority Males |      | Minority Females |      |
|-------------|---|------|-------------|------|---------------|------|----------------|------|------------------|------|
|             | Number  | Rate | Number      | Rate | Number        | Rate | Number         | Rate | Number           | Rate |
| Watauga     | 4   | n/a  | 3           | n/a  | 1             | 0    | 0              | 0    | 0                | 0    |
| State Total | 3,160   | 7.0  | 976         | 5.8  | 414           | 2.4  | 1,328          | 27.0 | 288              | 5.4  |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook. <a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |      |             |      |               |      |                |      |                  |      |

## Communicable Disease

Health professionals are required to report cases of certain communicable diseases to the North Carolina Department of Health and Human Services through their local health department. Tables 49 and 50 present Watauga County and North Carolina average data for several important infectious diseases subject to this requirement.

### Reportable Communicable Diseases

The disease in the following list with the highest incidence in Watauga County was Chlamydia, followed by E Coli, Salmonellosis and Campylobacter. Statewide the disease in the list with the highest incidence was Chlamydia, followed by Salmonellosis (Table 49).

**Table 49. Communicable Disease Incidence (2010)**

| County      | Hepatitis A | Hepatitis B | Hepatitis C | Chlamydia | E Coli | H Flu | Measles | Men DIS | Salmonellosis | Mumps | Rubella | Strep A | Campylobacter |
|-------------|-------------|-------------|-------------|-----------|--------|-------|---------|---------|---------------|-------|---------|---------|---------------|
|             | Cases       | Cases       | Cases       | Cases     | Cases  | Cases | Cases   | Cases   | Cases         | Cases | Cases   | Cases   | Cases         |
| Watauga     | 0           | 2           | 0           | 77        | 5      | 0     | 0       | 0       | 5             | 0     | 0       | 0       | 5             |
| State Total | 48          | 123         | 39          | 42,171    | 97     | 128   | 0       | 14      | 2,352         | 10    | 0       | 152     | 851           |

Source: Epidemiology: Communicable Disease Control, <http://www.epi.publichealth.nc.gov/gcdc.html>

H Flu = Haemophilus Influenzae

An infection of the membranes covering the brain and spinal cord (meninges) caused by H. influenzae bacteria.

Men Dis = Meningococcal Invasive Disease

An infection of the tissue which covers the brain caused by the bacterium Neisseria meningitidis.

Campylobacter

A bacterium associated with gastritis and implicated as a causative agent of gastric and duodenal ulcers.

Strep A = Group A Streptococcus

A bacterium often found in the throat and on the skin. Most GAS infections are relatively mild illnesses such as "strep throat," or impetigo.

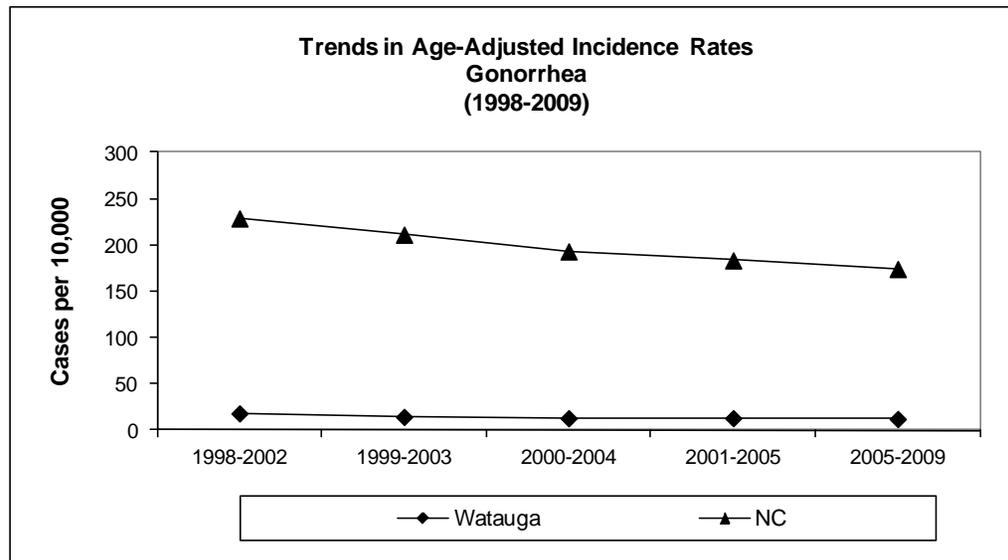
## Sexually Transmitted Diseases

Table 50 lists incidence rates for the most prevalent STDs in Watauga County.

**Table 50. Sexually Transmitted Disease Incidence, Cases per 100,000 (years as noted)**

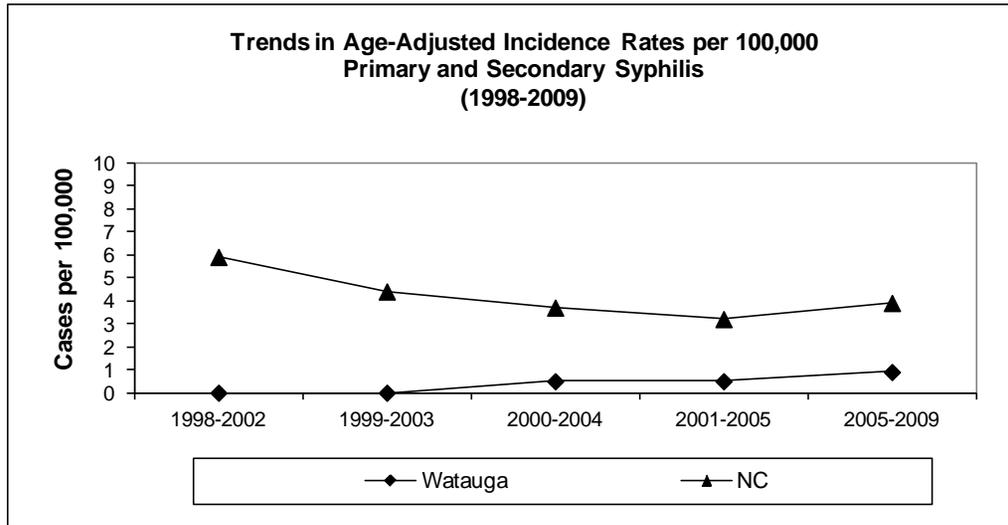
| County      | Gonorrhea, 2005-2009   |       |          |       | I° & II° Syphilis, 2005-2009 |      |          |            |
|-------------|--|-------|----------|-------|------------------------------|------|----------|------------|
|             | Total  |       | Minority |       | Total                        |      | Minority |            |
|             | Number   | Rate  | Number   | Rate  | Number                       | Rate | Number   | Total Rate |
| Watauga     | 27   | 12.2  | 10       | 140.0 | 2                            | 0.9  | 0        | 0          |
| State Total | 78,778   | 174.2 | 61,230   | 528.0 | 1,772                        | 3.9  | 1,236    | 10.7       |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook.<br><a href="http://www.schs.state.nc.us/SCHS/data/databook/">http://www.schs.state.nc.us/SCHS/data/databook/</a> |       |          |       |                              |      |          |            |

**Figure 31**



NC State Center for Health Statistics, County-level Data. County Health Data Books. 2004-2011 County Health Data Books. Morbidity. <http://www.schs.state.nc.us/SCHS/data/databook/>

Figure 32



NC State Center for Health Statistics, County-level Data. County Health Data Books.  
2004-2011 County Health Data Books. Morbidity. <http://www.schs.state.nc.us/SCHS/healthstats/databook/>

# Oral Health

## Child Oral Health

The Oral Health Section of the North Carolina Division of Public Health periodically coordinates a dental assessment screening for kindergarten and fifth-grade schoolchildren. Dental hygienists use a standardized technique to measure the prevalence of decayed and filled teeth among these children. Table 51 presents the results of the SY2008-2009 screenings in Watauga County and in North Carolina.

Compared to state averages in 2008-2009 (Table 51):

- A higher proportion of kindergarteners and fifth graders were screened in Watauga County.
- Watauga County kindergarteners had a lower prevalence of untreated decay, the same number of decayed teeth (DT) per child, and a lower number of decayed, missing and filled (DMFT) teeth per child.
- Watauga County fifth graders had a lower prevalence of untreated decay, average number of decayed teeth (DT) per child and decayed, missing and filled teeth (DMFT) per child.

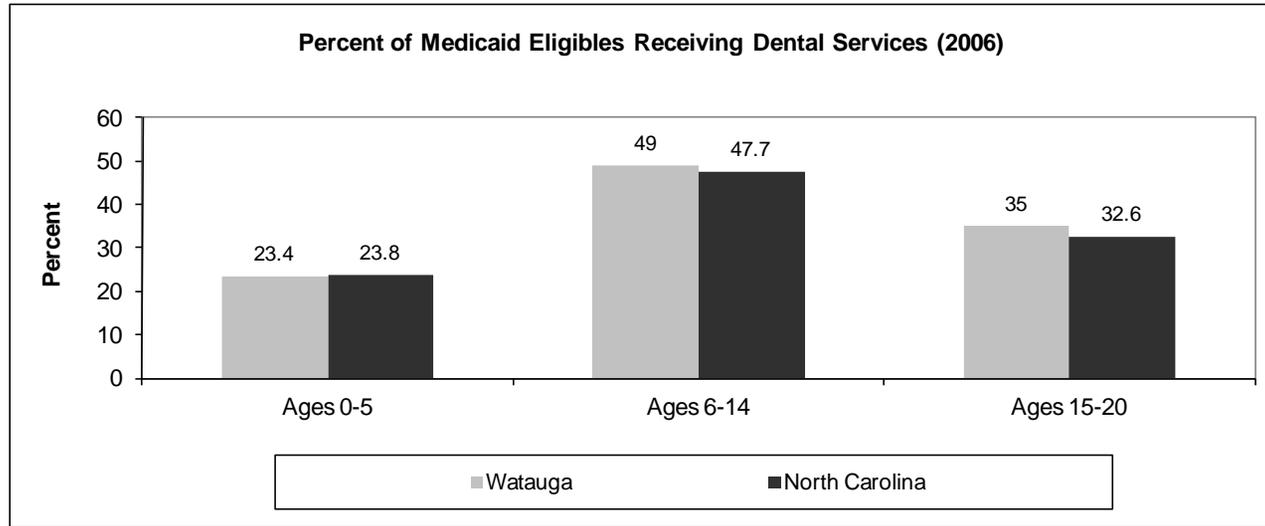
**Table 51. Child Oral Health Screening Results (2008-2009)**

| County      | Percent Children Screened |           | Percent of Children with Sealants | Percent of Children with Decayed Teeth (DT) |           | Average Number of Decayed Teeth per Child (DT/Child) |           | Average Number of Decayed, Missing or Filled Teeth per Child (DMFT/Child) |           |
|-------------|---------------------------|-----------|-----------------------------------|---|-----------|--|-----------|---|-----------|
|             | K                         | 5th Grade | 5th Grade                         | K   | 5th Grade | K  | 5th Grade | K   | 5th Grade |
| Watauga     | 93                        | 90        | 75                                | 15  | 2         | 0.47   | 0.02      | 1.24  | 0.31      |
| State Total | 83                        | 77        | 44                                | 17  | 4         | 0.47   | 0.05      | 1.50  | 0.56      |

Source: School Level Oral Health Status Data, 2008-2009, NC Division of Public Health, Oral Health Section

Compared to North Carolina averages, a larger percentage of Watauga County Medicaid-eligible youth of under the age of 20 (with the exception of ages 0-5) received dental services in 2006 (Figure 33).

**Figure 33**



Source: Annie E. Casey Foundation, Kids Count Data Center, 2006 Child Health Report Card.  
<http://datacenter.kidscount.org>

## Adult Oral Health

Watauga County residents are surveyed about their dental health status and dental health behaviors in the state's annual Behavioral Risk Factor Surveillance System (BRFSS) Survey, as part of an aggregate sample that includes 26 western North Carolina counties.

- According to the results of the 2010 BRFSS Survey, 62.5% of adults in the region that includes Watauga (compared to 67% statewide) reported that they had visited a dentist within the last 12 months.
- Approximately 44% of the Watauga region respondents, compared to 51.3% statewide, reported that they had lost no teeth due to decay.

## Mental Health and Substance Abuse

Table 52 presents data on utilization of mental health, developmental disability and substance abuse services (MH/DD/SAS) by Watauga County residents.

- The number of Watauga County residents served by state developmental centers decreased by one between 2007 and 2010. The number served by substance abuse treatment centers also decreased.
- The number of people served in state psychiatric hospitals decreased between 2007 and 2010 in Watauga County and statewide.
- The number of Watauga County residents served by MH/DD/SAS management entity/area programs has increased overall since 2007.

**Table 52. Mental Health, Developmental Disability, Substance Abuse Service Utilization (years as noted)**

| County      | Persons Served   |           |           |  |           |           |                             |           |           |               |           |           |
|-------------|--|-----------|-----------|--|-----------|-----------|-----------------------------|-----------|-----------|---------------|-----------|-----------|
|             | Developmental Centers  |           |           | Alcohol and Drug Abuse Treatment Centers |           |           | State Psychiatric Hospitals |           |           | Area Programs |           |           |
|             | 2007-2008  | 2008-2009 | 2009-2010 | 2007-2008                                | 2008-2009 | 2009-2010 | 2007-2008                   | 2008-2009 | 2009-2010 | 2007-2008     | 2008-2009 | 2009-2010 |
| Watauga     | 3  | 3         | 2         | 40                                       | 11        | 18        | 28                          | 24        | 19        | 1,282         | 1,901     | 1,544     |
| State Total | 1,409  | 1,404     | 1,375     | 4,284                                    | 4,812     | 4,483     | 14,643                      | 9,643     | 7,188     | 306,907       | 309,155   | 332,796   |
| Source      | NC DHHS, Division of Mental Health, Publications, Statistical Reports. <a href="http://www.ncdhhs.gov/mhddsas/statspublications/reports/index.htm">http://www.ncdhhs.gov/mhddsas/statspublications/reports/index.htm</a> |           |           |  |           |           |                             |           |           |               |           |           |

# Obesity

## Adult Obesity

Obesity is often the end result of an overall energy imbalance due to poor diet and limited physical activity. Obesity increases the risk for health conditions such as coronary heart disease, type 2 diabetes, cancer, hypertension, dyslipidemia (high cholesterol), stroke, liver and gallbladder disease, sleep apnea and respiratory problems, and osteoarthritis.\*

Based on several separate questions pertaining to weight the 2010 Behavioral Risk Factor Surveillance System (BRFSS) Survey estimated the proportion of respondents in each of four weight categories: underweight, recommended weight, overweight and obese. These derived figures were based on the **Body Mass Index (BMI)** of respondents. BMI is a calculation relating weight to height by the following formula:

$$\text{BMI} = (\text{weight in kilograms}) / (\text{height in meters})$$

By definition, for **adults**, Underweight=BMI less than 18.5, Recommended Range= BMI 18.5-24.9, Overweight=BMI 25.0-29.9, and Obese=BMI 30.0 or greater.

As noted previously, Watauga County residents are part of a BRFSS survey region that also includes the entire area of western North Carolina (26 counties). Of the 1,875 survey participants whose responses were included in the 2010 obesity results, 64.4% were considered overweight or obese (compared to 65.3% of respondents statewide). In 2006, 394 responses were included in the obesity analysis; at that time 64.6% were categorized as overweight or obese (compared to 62.8% of respondents statewide). Note that the 2006 results included only the counties of Watauga, Watauga, Avery, Watauga and Wilkes.

The 2011 County Health Rankings, using data from the CDC's National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation, states that 25% of Watauga County's population is **obese**, compared to 29% in North Carolina.\*

\*[www.countyhealthrankings.org](http://www.countyhealthrankings.org)

## Childhood Obesity

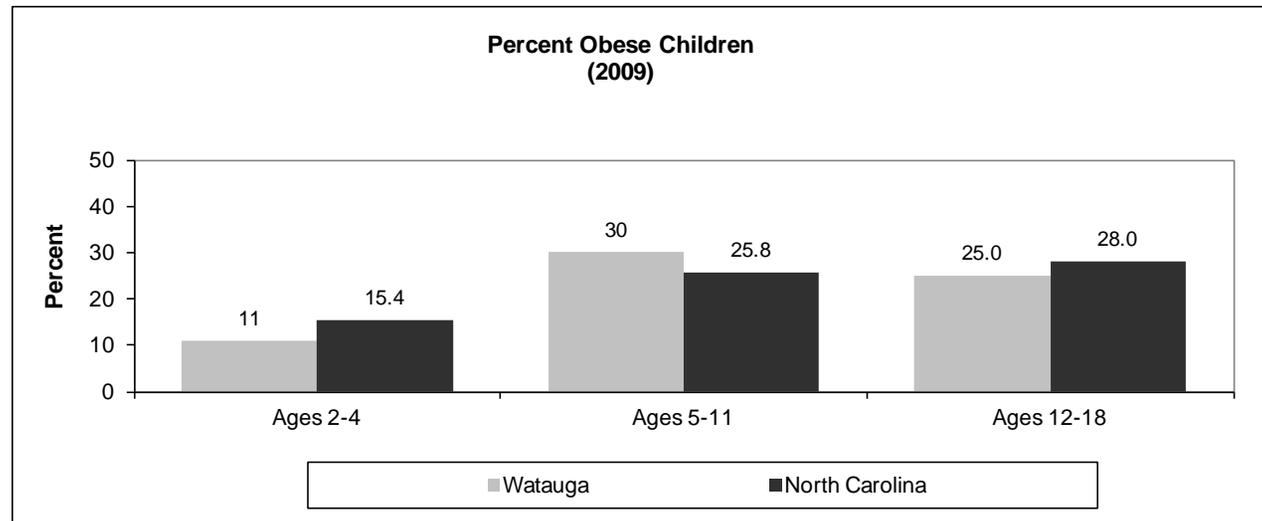
The North Carolina Healthy Weight Initiative, using the North Carolina Nutrition and Physical Activity Surveillance System (NC-NPASS), collects height and weight measurements from children seen in North Carolina Division of Public Health-sponsored WIC and Child Health Clinics, as well as some school-based Health Centers. This data is used to calculate Body Mass Indices (BMI) in order to gain some insight into the prevalence of childhood obesity.

Children with BMIs in the 95<sup>th</sup> percentile or above are considered obese, while children with BMIs that are between the 85<sup>th</sup> and 94<sup>th</sup> percentiles are considered overweight. Caution should be exercised when using these data, since the survey sample is relatively small, especially in some age groups, and may not be representative of the countywide population of children. For example, the 2009 Watauga County sample was composed of 200 2-4 year-olds, 10 5-11 year-olds, and 12 12-18 year-olds.

According to NC-NPASS data for children who are obese (Figure 34):

- Watauga County has a lower percentage of obese 2-4 year-olds than the state as a whole.
- Watauga County has a higher percentage of 5-11 year-olds who are obese than the state as a whole.
- Watauga County has a lower percentage of 12-18 year-olds who are obese than the state as a whole.

**Figure 34**

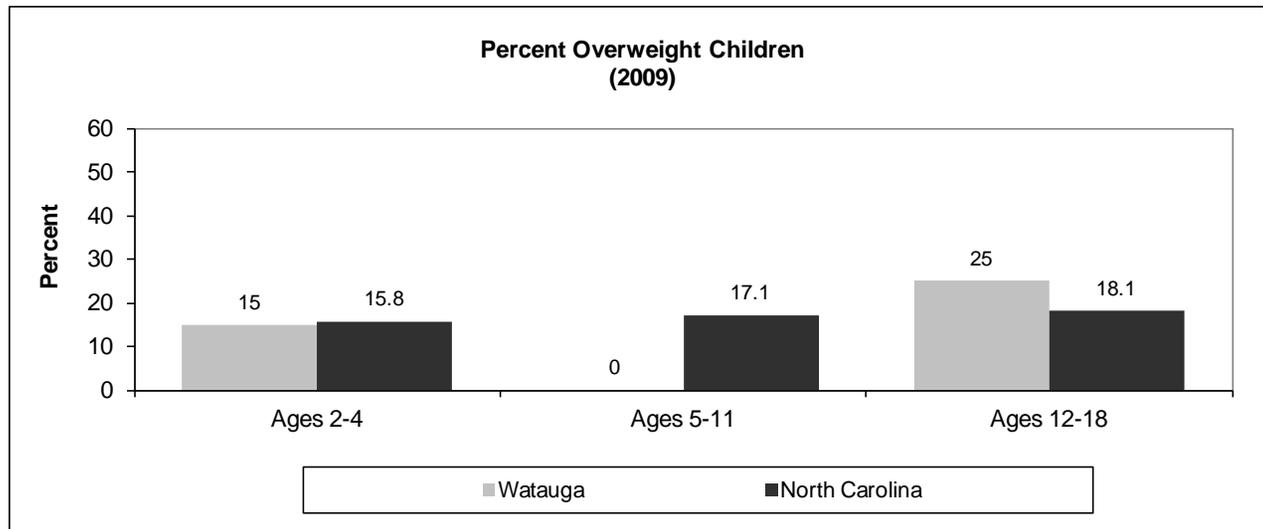


North Carolina Healthy Weight Initiative. Eat Smart Move More Data, NCPASS, <http://www.eatsmartmovemorenc.com/data.htm>

According to NC-NPASS data for children who are overweight (Figure 35):

- Watauga County has a slightly lower proportion of overweight 2-4 year-olds than the state as a whole.
- The number of 5-11 year-olds surveyed (10) was too low for a meaningful percentage.
- Watauga County has a higher proportion of 12-18 year-olds who are overweight.

**Figure 35**



North Carolina Healthy Weight Initiative. Eat Smart Move More. Data. NC NPASS. <http://www.eatsmartmovemorenc.com/data.htm>.

## Tobacco Use

Tobacco use is the number one preventable cause of death in the United States. Each year approximately 443,000 premature deaths occur, primarily due to smoking. Cigarette smoking is identified as a cause in multiple diseases including various cancers, cardiovascular disease, respiratory conditions, low birth weight, and other adverse health outcomes. Measuring the prevalence of tobacco use in the population can alert communities to potential adverse health outcomes and can be valuable for assessing the need for cessation programs or the effectiveness of existing programs.\*

## Adult Smoking

The 2011 County Health Rankings, using data from the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance system (BRFSS), states that 23% of Watauga's adult population smokes, compared to 22% in North Carolina. Smoking is defined as currently smoking every day or "most days" and smoking at least 100 cigarettes in a lifetime.\*

\*[www.countyhealthrankings.org](http://www.countyhealthrankings.org)

## Youth Tobacco Use

The 2009 North Carolina Youth Tobacco Survey (YTS) is a public school-based survey of students in grades 6-12. A multi-stage cluster sample design was used to produce representative data for middle and high school students for all of North Carolina. Classes were randomly selected and all students in selected classes were eligible to participate. Results were compiled for the Western, Central and Eastern regions of North Carolina and were further divided into high school and middle school.

### High School:

Currently smokes cigarettes: 18.9% in western NC vs. 16.7% statewide  
Currently uses smokeless tobacco: 12.9% in western NC vs. 8.5% statewide

### Middle School:

Currently smokes cigarettes: 5.1% in western NC vs. 4.3% statewide  
Currently uses smokeless tobacco: 6.0% in western NC vs. 3.0% statewide

Youth tobacco use is higher in the 26 western North Carolina states than in the state a whole. See the Youth Risk Behavior Survey, included in this report, for county-specific data on tobacco use.

[www.tobaccopreventionandcontrol.ncdhhs.gov](http://www.tobaccopreventionandcontrol.ncdhhs.gov)

# Asthma

One way the burden of asthma in a community can be assessed is by reviewing hospital records. According to hospital records from 2009 that tally information about patients from Watauga County regardless of the location of their hospitalization (Table 53):

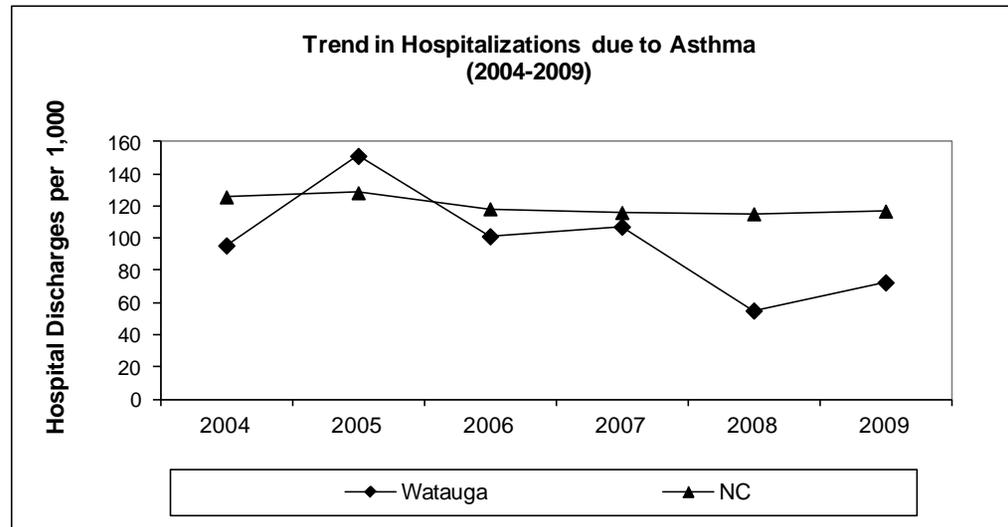
- The total hospitalization rate due to asthma (including children and adults) in 2009 in Watauga County (72.7) was 38% lower than the state rate (117.1).
- For children age 0-14, the Watauga County asthma hospitalization rate of 127.0 is 27% lower than the state rate of 175.0.

**Table 53. Asthma Hospitalization Rates (2009)**

| County      | Asthma Hospitalizations Per 100,000<br>(2009 Hospital Discharge Reports)   |       |                 |       |
|-------------|--|-------|-----------------|-------|
|             | Total  |       | Ages 0-14 Years |       |
|             | Number   | Rate  | Number          | Rate  |
| Watauga     | 33   | 72.7  | 7               | 127.0 |
| State Total | 10,986   | 117.1 | 3,228           | 175.0 |
| Source      | NC State Center for Health Statistics, 2011 County Health Databook.<br><a href="http://www.schs.state.nc.us/SCHS/healthstats/databook/">http://www.schs.state.nc.us/SCHS/healthstats/databook/</a> |       |                 |       |

Since 2004, the Watauga County total hospitalization rate due to asthma has fluctuated; however the rate has decreased overall and is currently lower than the state rate (Figure 36).

**Figure 36**



NC State Center for Health Statistics, County-level Data. County Health Data Books. 2006-2011  
County Health Data Books. Morbidity. Asthma Hospital Discharges  
<http://www.schs.state.nc.us/SCHS/data/databook/>