Rutherford County Community Health Assessment 2012

RUTHERFORD POLK McDOWELL HEALTH DISTRICT

Produced by
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RUTHERFORD COUNTY COMMUNITY HEALTH ASSESSMENT

December 28, 2012

ACKNOWLEDGEMENTS

This document was developed by Rutherford County, in partnership with Rutherford Regional Hospital, Rutherford Polk McDowell District Health Department, Rutherford Health Council as part of a local community health assessment process. We would like to thank several agencies and individuals for their contributions and support in conducting this health assessment:

Joannie Jolley, Health Council Coordinator, Marsha Baker, Administrator of Community Care Services, Sherry Bright, Executive Director, Family Resources, Cindy Buck, Vice-President Finance/CFO Rita Burch, Executive Director—Hospice of Rutherford County, Dr. Chris Burley, Chiropractor—Owner of Rutherford County Chiropractic , Theressa Calhoun, Rutherford County Schools, John Carroll, DSS ,Carl Classen, County Manager, Ginger Dancy, Director of Community Relations, Tracy Davis, NC Extension Agent,
Allison Flynn, Marketing Assistant, Chris Francis, Sheriff, Mike Gavin, PIO Isothermal Community College, Barry Gold, Partnership of Children, Dick Graham, Western Highlands Network, Brad Greenway, District Attorney, Faye Hassell, United Way, Suzanne Hensley, Fairhaven Home, Jimmy Hines, RPMHD, Mandy Johnson, Area Agency on Aging, SandraMcGriff, Rutherford Community Health Center, Bill Parke, Rutherford Hospital, Barbara Parker, Rutherford Schools Richard Pettus, EMS, Jerry Stensland, Rutherford County, Rosemary Weaver, Disability Partner,Helen White, RPMHD, Suzanne Porter, Community Engagement Team, Janelle Sayre , Marketing Coordinator.

Our community health assessment process and products were also supported by technical assistance, financial support, and collaboration as part of WNC Healthy Impact, a partnership

between hospitals and health departments in western North Carolina to improve community health. www.WNCHealthyImpact.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Overview of CHA Purpose and Process

Community health assessment (CHA) is the foundation for improving and promoting the health of county residents. **Community-health assessment is a key step in the continuous community health improvement process**. The role of CHA is to identify factors that affect the health of a population and determine the availability of resources within the county to adequately address these factors.

List of Health Priorities

Health Priorities chosen in 2008 are:

- Obesity
- Substance Abuse
- Access to Care

Priority areas selected for this 2012 CHA are:

- Chronic Disease: Diabetes, High Blood Pressure, High Cholesterol
- Healthy Eating & Active Living
- Substance Abuse including Tobacco
- Behavioral Health & Mental Well Being
- Teen Pregnancy

General Review of Data and Trends

Life Expectancy

Life expectancy is the average number of additional years that someone at a given age would be expected to live if current mortality conditions remained constant throughout their lifetime. As the above data has demonstrated, there are many factors, from the prenatal period through the senior years, which can affect life expectancy. Table 34 presents a fairly recent summary of life expectancy for Rutherford County, WNC, and NC as a whole. From this data it appears that females born in Rutherford County in the period cited could expect to live 7.5 years longer than males born at the same time. Similarly, females born in WNC in the period cited in the table could expect to live 5.5 years longer on average than males born under the same parameters. African Americans born in Rutherford County at the same time could expect to live a 4.9 year shorter lifespan than their white counterparts; in WNC the comparable difference is 3.3 years. Life expectancy overall in Rutherford County (74.3 years) is 2.7 years shorter than life expectancy

in WNC (77.0 years), where life expectancy in turn is 0.3 years shorter than for the state as a whole (77.3 years).

Table 34. Life Expectancy at Birth (2006-2008)

Geography	Overall	Gender		Race	
		Male	Female	White	African American
Rutherford County	74.3	70.6	78.1	74.9	70.0
Regional Arithmetic Mean	77.0	74.3	79.8	77.3	74.0
State Total	77.3	74.5	80.0	78.1	73.8

County Health Ranking

Table below presents the health outcome and health factor rankings for Rutherford County.

County Health Rankings via MATCH (2012)

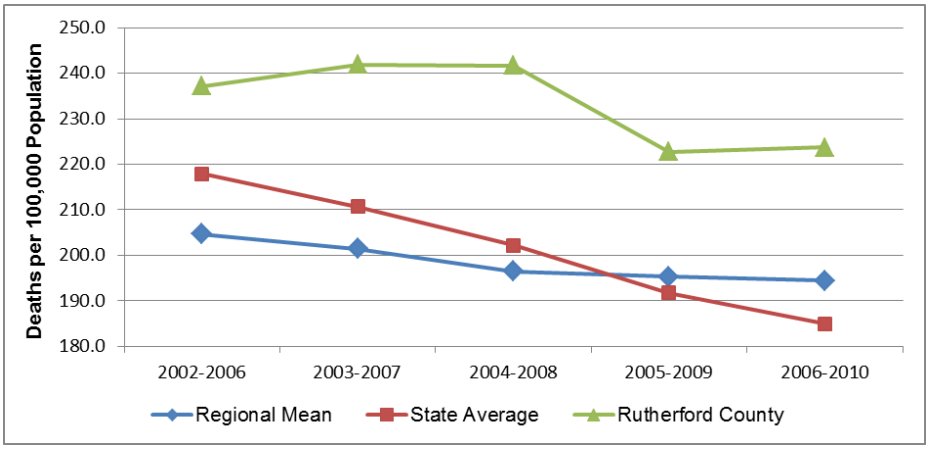
Geography	County Rank (Out of 100)						
	Health Outcomes		Health Factors				Overall Rank
	Mortality	Morbidity	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment	
Rutherford County	87	75	59	52	93	28	84

Source: *County Health Rankings and Roadmaps, 2012*. Available at http://www.countyhealthrankings.org/app/north-carolina/2012/rankings/outcomes/overall

Heart Disease Mortality & Disparities

In the 2006-2010 aggregate period heart disease was the leading cause of death in WNC, NC, and Rutherford County Figure 6 presents heart disease mortality trend data. This graph illustrates that the heart disease mortality rate in Rutherford County was higher than the comparable rates for WNC and NC throughout the period cited. The graph also illustrates that the heart disease mortality rate in Rutherford County fell from 237.2 in the 2002-2006 aggregate period to 223.7 in the 2006-2010 aggregate period, a decrease of 5.7%; most of the improvement was in the most recent two aggregate periods. Over the same interval the NC heart disease mortality rate fell from 217.9 for the 2002-2006 aggregate period to 184.9 for the 2006-2010 aggregate period, a decrease of 15.1%. The mean WNC rate, which for the first three periods cited was below the state rate, surpassed the state rate and leveled during the two most recent periods. For the 2002-2006 period the mean WNC heart disease mortality rate was 204.6; by the 2006-2010 period it had fallen to 194.4, a decrease of 4.9%.

Figure 6. Heart Disease Mortality Rate, Deaths per 100,000 Population
Five-Year Aggregates (2002-2006 through 2006-2010)



Further subdivision of heart disease mortality data reveals a striking gender disparity. From these data it is clear that Rutherford County males have had a higher heart disease mortality rate than females for the past decade, with the difference as high as 64%.

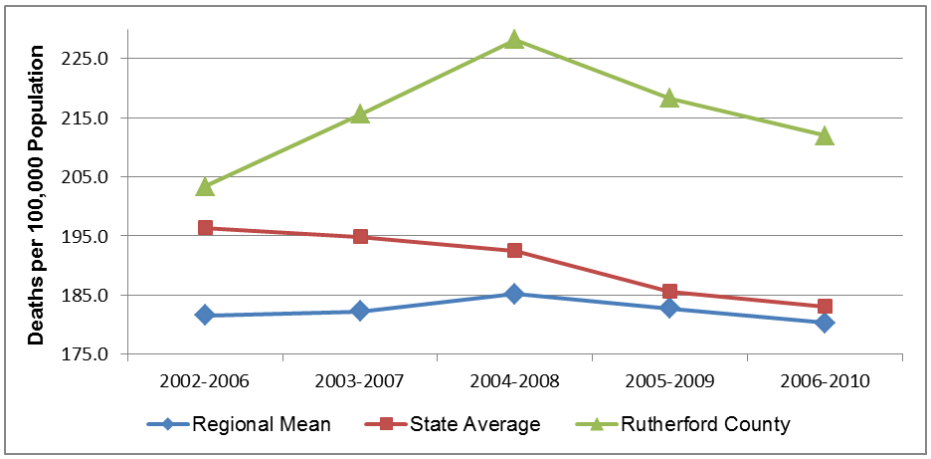
Total Cancer Mortality

Cancer is a term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells also can spread to other parts of the body through the blood and lymph systems. If the disease remains unchecked, it can result in death (National Cancer Institute).

Taken together, cancers of all types compose the second leading cause of death in WNC, NC, and Rutherford County in the 2006-2010 aggregate period.

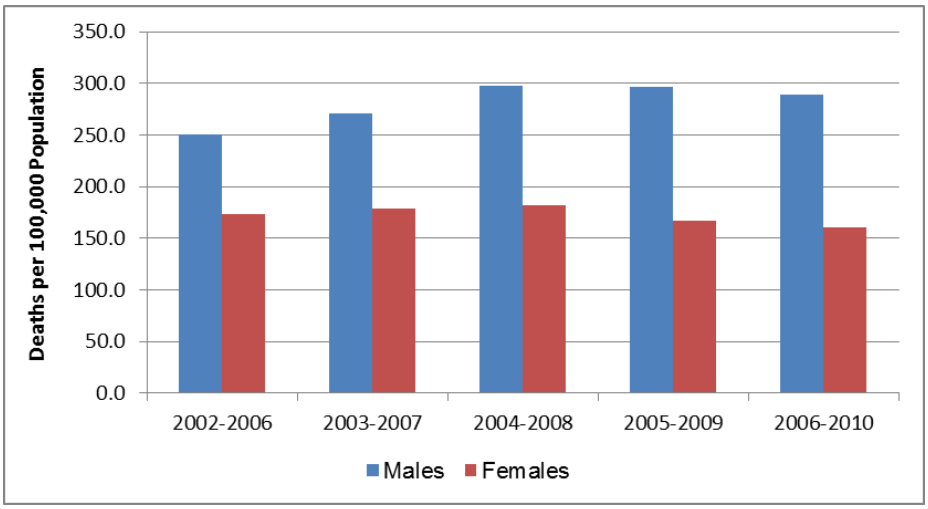
Figure 9 presents mortality trend data for total cancer. This graph illustrates how over the period cited the total cancer death rate in Rutherford County was not only higher than both the WNC and NC rates, but also increased over the period cited.

Figure 9. Total Cancer Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Like heart disease mortality, total cancer mortality demonstrates a gender disparity. Figure 10 plots total cancer mortality rates for Rutherford County, stratified by gender. From these data it is clear that males had and continue to have a higher total cancer mortality rate than females for the past decade. In the most recent aggregate period (2006-2010) the total cancer mortality rate for Rutherford County males (288.9) was 79.4% higher than the comparable rate for females (161.0).

Figure 10. Gender Disparities in Total Cancer Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



Lung Cancer

Figure 13. Lung Cancer Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)

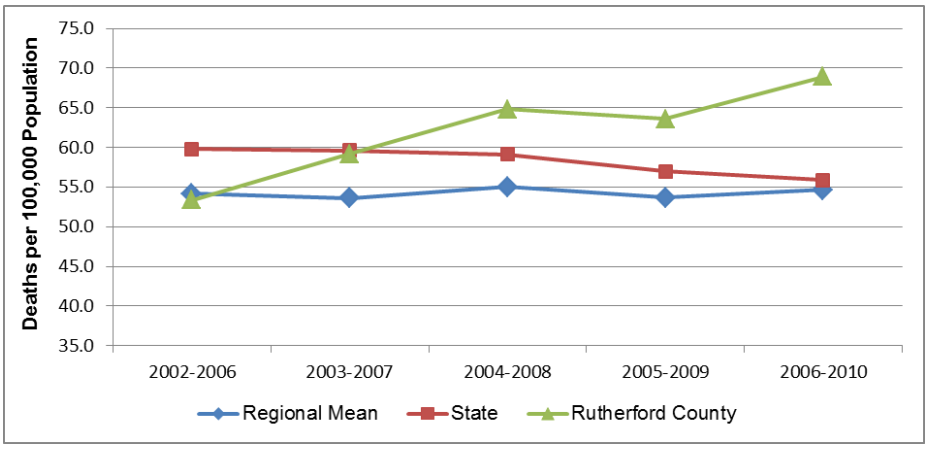
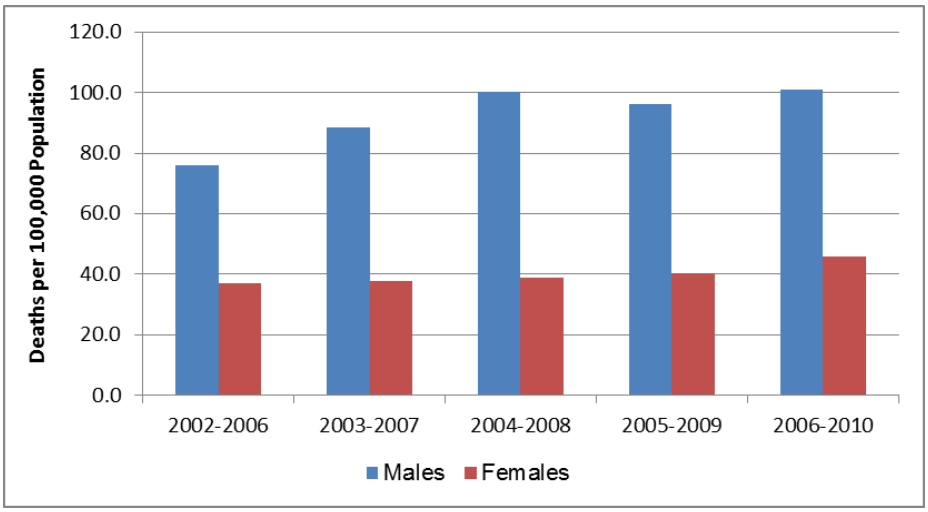


Figure 14 presents gender-stratified Rutherford County lung cancer mortality rates for several aggregate periods. From this data it is clear that males experience disproportionately higher

lung cancer mortality than females, with the lung cancer mortality rate among men from 2.0 to 2.6 *times* the rate among women over the period cited. Of further note is an apparent increase in lung cancer mortality rates among both males and females in Rutherford County.

Figure 14. Gender Disparities in Lung Cancer Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



Lung cancer incidence in Rutherford County increased 17.2% (from 64.4 to 82.1) between 1999-2003 and 2005-2009. In the last two aggregate periods cited the county rate was above both the mean WNC and NC rates. The mean lung cancer incidence rate in WNC increased 25.0% from the 1999-2003 aggregate period (60.3) to the 2005-2009 aggregate period (75.4), while the statewide lung cancer incidence rate increased by 9.5% (from 69.3 to 75.9) over the same time frame. Since lung cancer mortality is already on the rise in the region, the increase in the incidence rate may portend additional lung cancer mortality in the future.

Chronic Lower Respiratory Disease (CLRD) Mortality

Chronic lower respiratory disease (CLRD) is composed of three major diseases, chronic bronchitis, emphysema, and asthma, all of which are characterized by shortness of breath caused by airway obstruction and sometimes lung tissue destruction. In the United States, tobacco use is a key factor in the development and progression of CLRD/COPD, but exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role (West Virginia Health Statistics Center, 2006).

CLRD/COPD was the third leading cause of death in WNC and in Rutherford County for the 2006-2010 aggregate period.

Figure 23 below plots CLRD mortality rates for five aggregate periods. The data also shows that CLRD mortality has been and remains higher in WNC than in the state as a whole. Neither the NC nor the mean WNC CLRD mortality rates improved significantly over the period. In 2006-2010, CLRD mortality rates were 59.5 in Rutherford County, 46.4 in NC, and 51.1 in WNC.

Figure 23. CLRD Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)

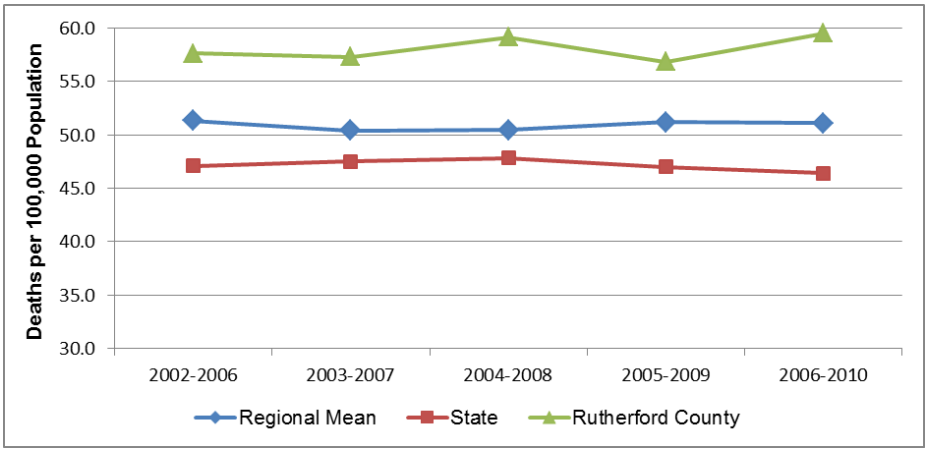


Figure 24 shows how in Rutherford County the CLRD mortality rate among males exceeded the comparable rate among females over the past decade. The mortality rate among males in the county increased 14.0% (from 65.6 to 74.8) over that interval, and the rate among females decreased 3.8% (from 53.1 to 51.1).

Figure 24. Gender Disparities in CLRD Mortality, Rutherford County

(Five-Year Aggregates, 2002-2006 through 2006-2010)

Obesity

Obesity is a problem throughout the population. However, among adults in the U.S., vast disparities in obesity exist. The association of income with obesity varies by age, gender, and race/ethnicity. Social and physical factors affecting diet and physical activity have an impact on weight (DHHS, 2010).

Body Mass Index (BMI), which describes relative weight for height, is significantly correlated with total body fat content. The BMI should be used to assess overweight and obesity and to monitor changes in body weight.

Adult Obesity

From these data it appears that the estimated prevalence of diagnosed obesity among adults in Rutherford County rose overall from 25.1% in 2005 to 31.2% in 2009, an increase of 24.3%.

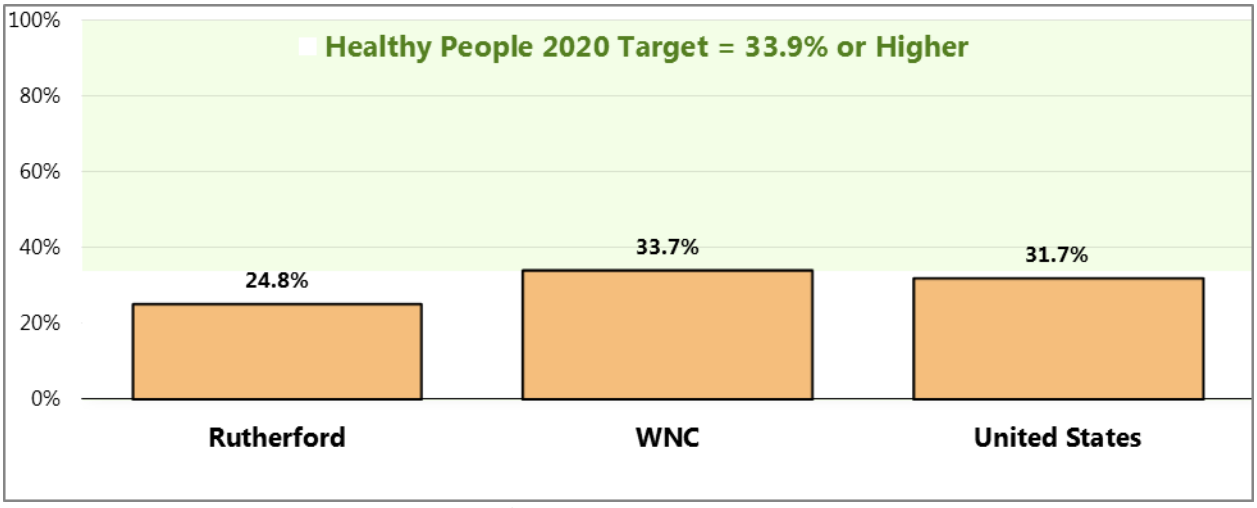
Table 37. Estimate of Diagnosed Obesity Among Adults Age 20 and Older (2005-2009)

Geography	2005		2006		2007		2008		2009	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	11,810	25.1	12,560	26.4	13,030	27.9	14,000	29.9	14,480	31.2
Regional Total	128,908	-	136,661	-	139,114	-	143,681	-	148,403	-
Regional Arithmetic Mean	8,057	25.2	8,541	26.4	8,695	26.7	8,980	27.4	9,275	28.0

Based on self-reported heights and weights, the survey data below shows 2012 county and regional estimates of the prevalence of healthy weight, overweight, and obesity.

Figure 49. Healthy Weight (WNC Healthy Impact Survey)

(Percent of Adults With a Body Mass Index Between 18.5 and 24.9)

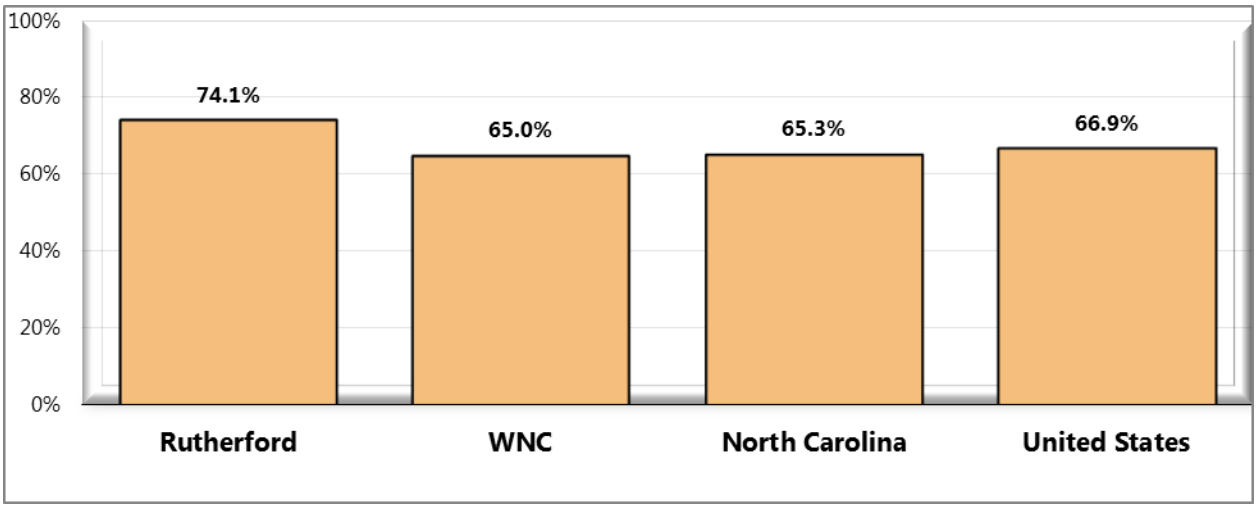


Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Based on reported heights and weights, asked of all respondents.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov Objective NWS-8]
- The definition of healthy weight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), between 18.5 and 24.9.

Figure 50. Prevalence of Total Overweight (WNC Healthy Impact Survey)

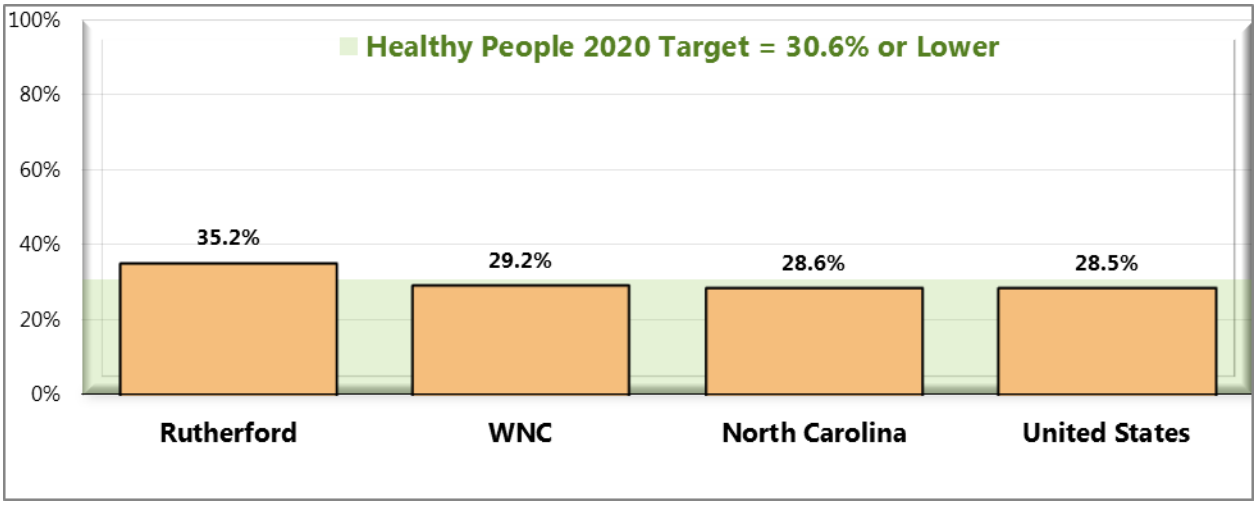
(Percent of Overweight or/Obese Adults; Body Mass Index of 25.0 or Higher)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Based on reported heights and weights, asked of all respondents.
- The definition of overweight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 25.0, regardless of gender. The definition for obesity is a BMI greater than or equal to 30.0.

Figure 51. Prevalence of Obesity (WNC Healthy Impact Survey)
(Percent of Obese Adults; Body Mass Index of 30.0 or Higher)



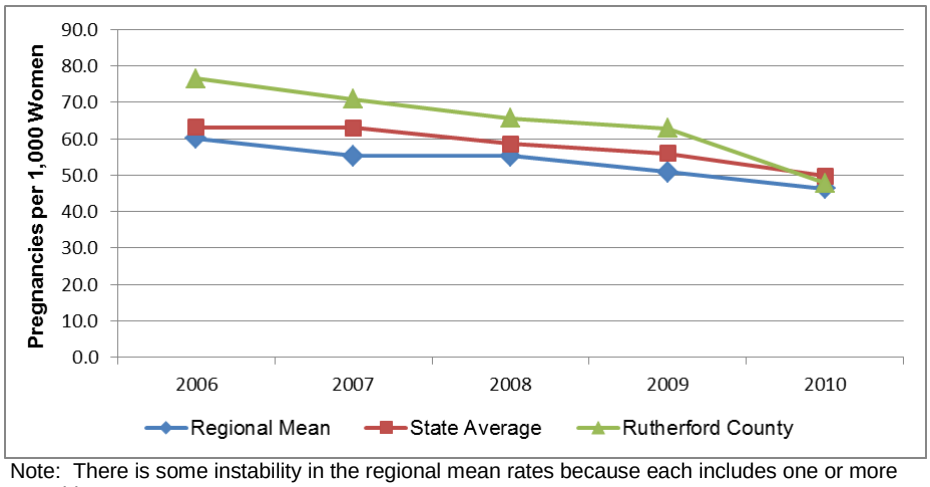
Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective NWS-9]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Based on reported heights and weights, asked of all respondents.
- The definition of obesity is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 30.0, regardless of gender.

Teen Pregnancy

Data in Figure 2 illustrates that the pregnancy rate for teens (ages 15-19) in Rutherford County was higher than the comparable mean WNC and NC rates over most of the period cited. Note that the teen pregnancy rate in all three jurisdictions decreased between 2006 and 2009, by 37.5% in Rutherford County, by 22.9% in WNC, and by 21.2% in NC. The 2010 teen pregnancy rate was 47.8 in Rutherford County, 46.3 in WNC, and 49.7 in NC.

Figure 2 – Pregnancy Rate Ages 15-19, Pregnancies per 1,000 Women (Single Years, 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

The minority population in Rutherford County is large enough to permit calculation of teen pregnancy rates stratified by race and ethnicity. Note that in Rutherford County there are stable teen pregnancy rates only for white, non-Hispanic girls (49.9) and African American non-Hispanic girls (34.5) (Table 26). In WNC, the mean teen pregnancy rate was highest among Hispanic teens (73.0), followed by African-American non-Hispanic teens (72.2), and other non-Hispanic teens (50.3).

Table 26. Pregnancy Rate, Ages 15-19, by Race, Pregnancies per 1,000 Women (2010)

County	Total		White Non-Hispanic		African American Non-Hispanic		Other Non-Hispanic		Hispanic	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Rutherford County	107	47.8	90	49.9	11	34.5	2	***222.2***	4	***37.7***
Regional Total	990	n/a	740	n/a	86	n/a	51	n/a	113	n/a
Regional Arithmetic Mean	62	46.3	46	*42.2*	5	*72.2*	3	*50.3*	7	*73.0*
State Total	15,957	49.7	6,525	34.4	6,292	70.2	609	48.9	2,456	82.7

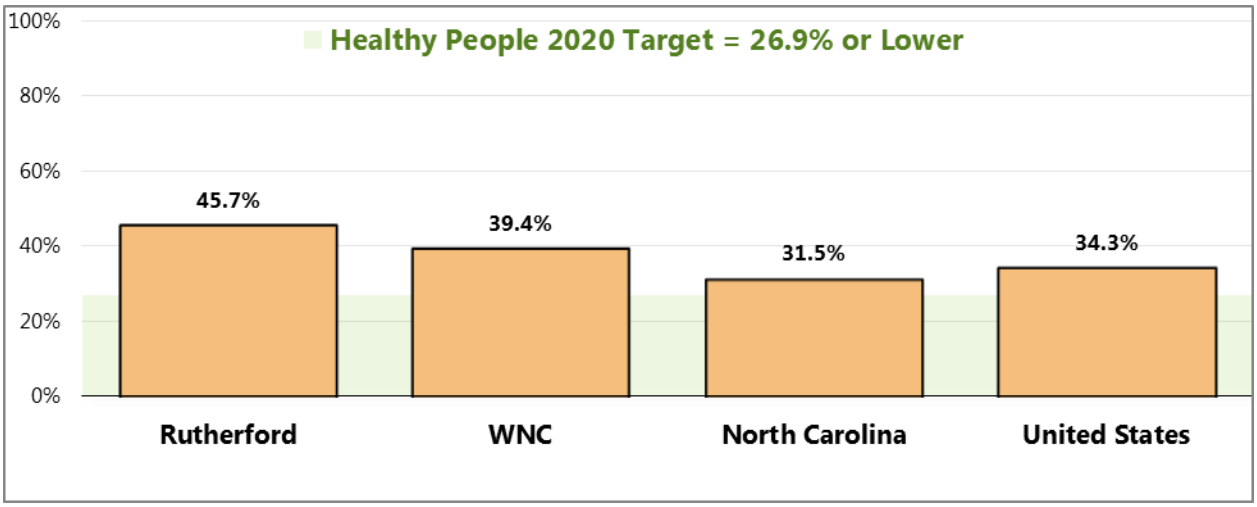
a– A figure in ***bold italics*** indicates an unstable rate based on a small number of events
Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Diabetes Among Adults

From these data it appears that the estimated prevalence of diagnosed diabetes among adults in Rutherford County rose from 8.1% in 2005 to 9.9% in 2009, an increase of 22.2%. For detailed information please see the full CHA report.

High Blood Pressure

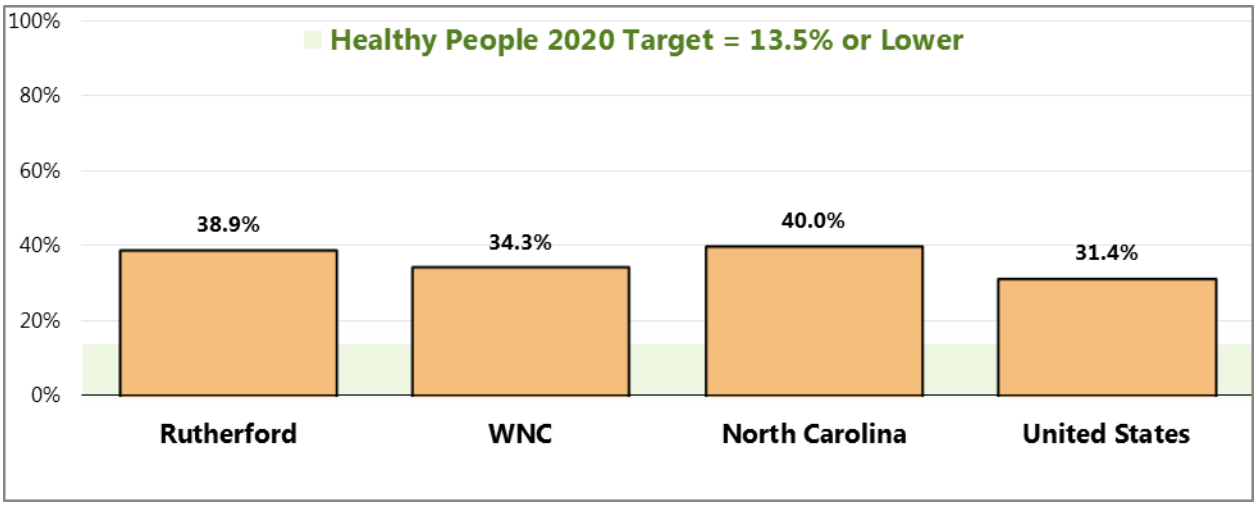
Figure 80. Prevalence of High Blood Pressure (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 76]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2009 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-5.1]

Notes:
- Asked of all respondents.

Figure 83. Prevalence of High Blood Cholesterol (WNC Healthy Impact Survey)

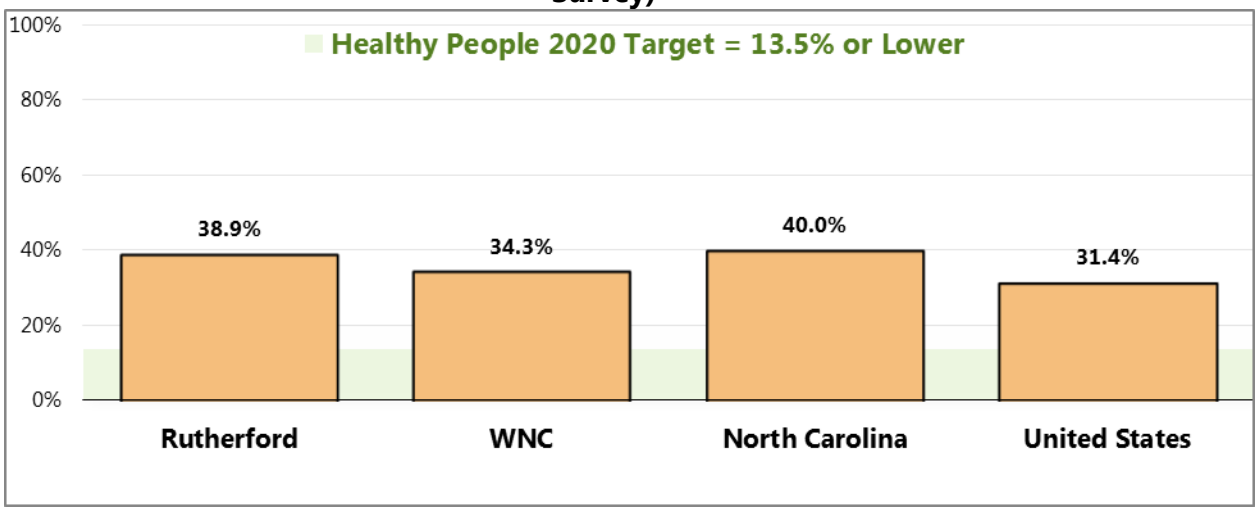


Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 77]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2009 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-7]

Notes:
- Asked of all respondents.

High Blood Cholesterol

Figure 83. Prevalence of High Blood Cholesterol (WNC Healthy Impact Survey)



Sources:2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 77]

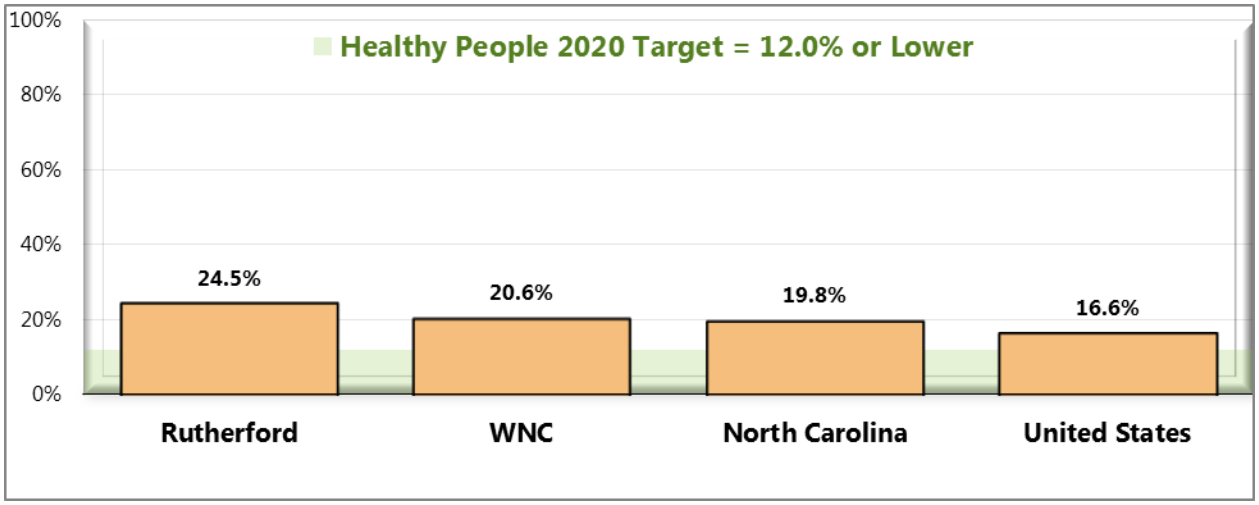
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2009 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-7]

Notes: ● Asked of all respondents.

Tobacco

Tobacco use is the single most preventable cause of death and disease in the United States. Tobacco use costs the US $193 billion annually in direct medical expenses and lost productivity. Preventing tobacco use and helping tobacco users quit can improve the health and quality of life for Americans of all ages. People who stop smoking greatly reduce their risk of disease and premature death.

Figure 69. Current Smokers (WNC Healthy Impact Survey)



Sources:2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 86]

- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective TU-1.1]

Notes:Asked of all respondents.

- Includes regular and occasional smokers (every day and some days).

Priority areas

Priority areas selected for this 2012 CHA are:

- Chronic Disease: Diabetes, High Blood Pressure, High Cholesterol
- Healthy Eating & Active Living
- Substance Abuse including Tobacco
- Behavioral Health & Mental Well Being
- Teen Pregnancy

Next Steps

The findings of this Community Health Assessment (CHA) were presented to the Rutherford County Health Council on November 13, 2012 at an open Forum held at Isothermal Community College. Following the presentation of the data on November 13, 2012, break-out groups were formed to capture input and facilitate the development of prioritized action steps and strategies.

Action planning and collaborative implementation began at this Community Forum and continues through the monthly meetings of the Rutherford Health Council. The development of strategies to improve the chosen priority health issues will continue throughout 2013 and beyond.

Community Transformation Grant Program

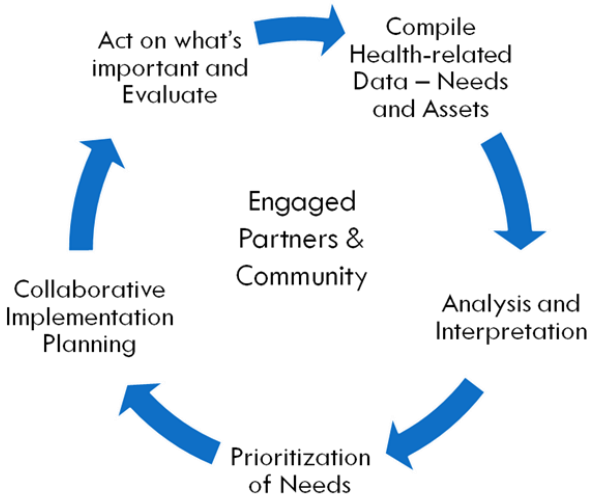
Rutherford County is part of the NC Community Transformation Grant Project (CTGP). This project aims to reduce chronic diseases, promote healthier lifestyles, reduce health disparities and control health care spending in North Carolina. Mary Smith is the Regional Coordinator for CTGP and she has been working closely with the McDowell Health Coalition.

Some early strategies of the Community Transformation Grant Project include increasing tobacco free environments and increasing physical activity through joint use agreements. Enhancing Farmers Markets and access to fresh fruits and vegetable is another key strategy that will be used to reduce chronic disease.

CHAPTER 1 - INTRODUCTION

Purpose of Community Health Assessment (CHA)

Community health assessment (CHA) is the foundation for improving and promoting the health of county residents. **Community-health assessment is a key step in the continuous community health improvement process**. The role of CHA is to identify factors that affect the health of a population and determine the availability of resources within the county to adequately address these factors.



A community health assessment (CHA), which refers both to a process and a document, investigates and describes the current health status of the community, what has changed since a recent past assessment, and what still needs to change to improve the health of the community. The *process* involves the collection and analysis of a large range of secondary data, including demographic, socioeconomic and health statistics, environmental data, as well as primary data such as personal self-reports and public opinion collected by survey, listening sessions, or other methods. The *document* is a summary of all the available evidence and serves as a resource until the next assessment. Together they provide a basis for prioritizing the community's health needs, and for planning to meet those needs.

Because it is good evidence-based public health practice, local health departments (LHDs) across North Carolina (NC) are required to conduct a comprehensive community health assessment at least every four years. It is required of public health departments in the consolidated agreement between the NC Division of Public Health and local public health departments. Furthermore, it is required for local public health department accreditation through the NC Local Health Department Accreditation Board (G.S. § 130A-34.1). As part of the Affordable Care Act, non-profit hospitals are also now required to conduct a community health (needs) assessment at least every three years.

The local health department usually conducts the CHA as part (and usually the leader) of a team composed of representatives from a broad range of health and human service and other

organizations within the community. Community partners and residents are part this process as well.

Definition of Community

Community is defined as "county" for the purposes of the North Carolina Community Health Assessment Process. In western North Carolina, hospitals define their community as one or more counties for this process. *[Insert]* county is included in *[insert hospital(s) name's]* community for the purposes of community health improvement and investment, and as such *[insert hospital name's]* was a key partner in this local level assessment process.

WNC Healthy Impact

WNC Healthy Impact is a partnership between hospitals and health departments in North Carolina to improve community health. As part of a larger, and continuous, community health improvement process, these partners are collaborating to conduct community health (needs) assessments across western North Carolina. See www.WNCHealthyImpact.com for more details about the purpose and participants of this region-wide effort. The regional work of WNC Healthy Impact is supported by a steering committee, workgroups, local agency representatives, and a public health/data consulting team. In addition, for this data collection phase of our regional efforts, a survey vendor (PRC – Professional Research Consultants, Inc.) was hired to administer a region-wide telephone survey. Various partners, coalitions, and community members are also engaged at the local level. The template for this CHA report, a core set of secondary and survey (primary) data, and analysis support, were made available through this collaborative regional effort.

Data Collection Process

Core Dataset Collection

As part of WNC Healthy Impact, a regional data workgroup of public health and hospital representatives and regional partners, with support from the consulting team, made recommendations to the steering committee on the data approach and content used to help inform regional data collection. The core regional dataset was informed by stakeholder data needs, guidelines, and requirements. From data collected as part of this core dataset, the consulting team compiled secondary (existing) data and new survey findings for each county in the 16-county region. This assessment includes data integrated from the secondary data efforts as well as the community health survey for our county. See Appendix A for details on the data collection methodology.

Criteria for selecting "highlights"

The body of assessment data supporting this document is wide-ranging and complex. In order to develop a summary of major findings, the consultant team applied three key criteria to nominate data for inclusion in this report. The data described in this report was selected because:

- County statistics deviate in significant ways from WNC regional data or NC statistics;

- County trend data show significant change—positive or negative—over time; or
- County data demonstrate noteworthy age, gender, or racial disparities.

Supplementary to this report is the *WNC Healthy Impact Secondary Data Workbook* (*Data Workbook*) that contains complete county-level data as well as the state and regional averages and totals described here. Data contained in the *Data Workbook* is thoroughly referenced as to source. Readers should consult the *Data Workbook* to review all of the secondary data comprising the regional summaries.

Unless specifically noted otherwise, all tables, graphs and figures presented in this report were derived directly from spreadsheets in the *Data Workbook* or survey data reported by the survey vendor (PRC).

Additional Local Data

The Rutherford Polk McDowell District Health Department used an online Survey Monkey Tool to received additional feedback from residents in the three counties we serve.

Information for our Health Resource Inventory and 2-1-1 caller statistics was provided by the 2-1-1- of Western North Carolina and lists health providers in each county, pulled from the 2-1-1 database as of June 2012, as well as data on most common requests and unmet needs of callers to 2-1-1. See Appendix C for more details.

Definitions & Data Interpretation Guidance

Reports of this type customarily employ a range of technical terms, some of which may be unfamiliar to many readers. This report defines technical terms within the section where each term is first encountered.
Health data, which composes a large proportion of the information included in this report, employs a series of very specific terms which are important to interpreting the significance of the data. While these technical health data terms are defined in the report at the appropriate time, there are some data caveats that should be applied from the onset. See Appendix A for additional details and definitions.

Community Engagement

In the random-sample survey that was administered in our county as part of this community health assessment, 200 community members completed a questionnaire regarding their health status, health behaviors, interactions with clinical care services, support for certain health-related policies, and factors that impact their quality of life.

An online Community Input Survey was also conducted by the Rutherford Health Council through survey monkey in the fall of 2012 with participation from 230 Rutherford residents. Please see Appendix D for results.

In addition to these data collection methods, Rutherford County community members and Health Council partners were involved in planning and conducting a county-wide Health Forum on November 13, 2013 at Isothermal Community College.

The findings of this Community Health Assessment (CHA) were presented to the Rutherford County Health Council at an open Forum which was attended by 75 community members. Following the presentation of the data on November 13, 2012, break-out groups were formed to capture input and facilitate the development of prioritized action steps and strategies. Health Council members helped to facilitate the break-out groups. Input was recorded for future use by Action Teams.

Action planning and collaborative implementation began at this Community Forum and continues through the monthly meetings of the Rutherford Health Council. The development of strategies to improve the chosen priority health issues will continue throughout 2013 and beyond.

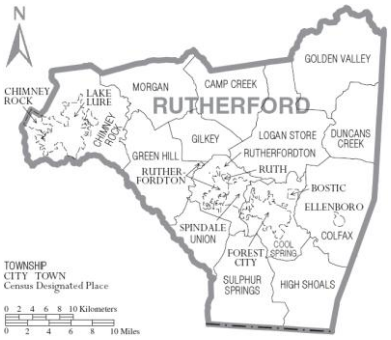
Priority Setting

Details on our county's priority setting process and outcomes are included in Chapter 9 of this document.

CHAPTER 2 – DEMOGRAPHIC AND SOCIOECONOMIC PARAMETERS

Location and Geography

Rutherford County is a rural county located in the foothills of the western region of the State. The state of South Carolina and Polk, Henderson, Buncombe, McDowell, Burke, and Cleveland counties bound Rutherford County. Rutherford County's land area comprised of valleys, mountains, and flat land is 564.12 square miles, and 2 square miles of water. The county seat is Rutherfordton. The county is composed of eight municipalities: Bostic, Chimney Rock, Ellenboro, Forest City, Rutherfordton, Ruth, Spindale and Lake Lure. Connected by US Hwy 74-Business, Rutherfordton, Spindale, and Forest City form the Tri- City area. The towns of Lake Lure and Chimney Rock are located approximately 20 miles west of Rutherfordton. Lake Lure is a private lake with public access. Elevations range from 1,075 feet in Rutherfordton, to 860 feet in Forest City, making Forest City the county's lowest elevation. Rutherford County's highest elevation is Sugar Loaf measuring at 3,967 ft. Rutherford County has an average annual temperature, 59.9 F, and average annual rainfall, 49.91 inches. [i]



History

Rutherford County, North Carolina, was formed April 14, 1779, from a part of old Tryon County. Rutherford County was named for General Griffith Rutherford of Rowan County, North Carolina, a Revolutionary War soldier who commanded the forts of Rutherford County during the summer of 1780. In 1868, a new governing body called the County Commissioners ruled the county. Gilbert Town, in the center of the county, was the first county seat. This small village contained houses, a number of buildings and businesses, and the courthouse. At the meeting of the North Carolina legislature in 1784, it was charged that the Rutherford County courthouse was not convenient for the citizens and was unfit for use. In 1786, construction began on a new county seat, and courthouse. This new county seat was named Rutherford Courthouse, then Rutherford Town, and, today, Rutherfordton. In 1907, the courthouse was destroyed by fire; thereafter the current courthouse standing today was erected. The 20th century brought a boom to Rutherford County, due to the textile industry. Sadly, most of those industries have been moved elsewhere and are no longer in service in Rutherford County.

Population

Understanding the growth patterns and age, gender and racial/ethnic distribution of the population in Rutherford County will be keys in planning the allocation of health care resources for the county in both the near and long term.

Current Population (Stratified by Gender, Age, and Race/Ethnicity)

According to data from the 2010 US Census, the total population of Rutherford County is 67,810. In Rutherford County, as region-wide and statewide, there is a slightly higher proportion of females than males (51.7% vs. 48.3%).

Table 1. Overall Population and Distribution, by Gender (2010)

Geography	Total Population (2010)	# Males	% Males	# Females	% Females
Rutherford County	67,810	32,781	48.3	35,029	51.7
Regional Total	759,727	368,826	48.5	390,901	51.5
State Total	9,535,483	4,645,492	48.7	4,889,991	51.3

In Rutherford County 17.3% of the population is in the 65-and-older age group, compared to 19.0% region-wide and 12.9% statewide (Table 2). The median age in Rutherford County is 42.5, while the regional mean median age is 44.7 years and the state median age is 37.4 years.

Table 2. Median Age and Population Distribution, by Age Group (2010)

Geography	Median Age	# Under 5 Years Old	% Under 5 Years Old	# 5-19 Years Old	% 5-19 Years Old	# 20 - 64 Years Old	% 20 - 64 Years Old	# 65 Years and Older	% 65 Years and Older
Rutherford County	42.5	3,878	5.7	13,053	19.2	39,153	57.7	11,726	17.3
Regional Total	44.7	40,927	5.4	132,291	17.4	441,901	58.2	144,608	19.0
State Total	37.4	632,040	6.6	1,926,640	20.2	5,742,724	60.2	1,234,079	12.9

In terms of racial and ethnic diversity, Rutherford County is more diverse than WNC but less diverse than NC as a whole. In Rutherford County the population is 87.4% white/Caucasian and 14.1% non-white. Region-wide, the population is 89.3% white/Caucasian and 11.7% non-white. Statewide, the comparable figures are 68.5% white and 31.5% non-white (Table 3). The proportion of the population that self-identifies as Hispanic or Latino of any race is 3.5% in Rutherford County, 5.4% region-wide, and 8.4% statewide (Table 3). The predominant minority in Rutherford County is African American (10.1%).

The racial and ethnic diversity within the 16 counties that compose the region is quite varied, and readers should consult the *Data Workbook* to understand those differences.

Table 3. Population Distribution, by Racial/Ethnic Groups, as Percent of Overall Population (2010)

Geography	White	Black or African American	American Indian, Alaskan Native	Asian	Native Hawaiian, Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino (of any race)
Rutherford County	87.4	10.1	0.3	0.4	0.0	1.5	1.8	3.5
Regional Total	89.3	4.2	1.5	0.7	0.1	2.5	1.8	5.4
State Total	68.5	21.5	1.3	2.2	0.1	4.3	2.2	8.4

Population Growth Trend

Between the 2000 and 2010 US Censuses the population of Rutherford County grew by 7.2% and the population of WNC growth by 13.0% (Table 4). The rate of growth in the county is projected to remain the same over the next 10 years before slowing to 6.5% in the decade following that. These future county decadal growth rates are significantly smaller than the figures projected for WNC and for NC as a whole over the same period.

Table 4. Decadal Population Growth Rate (2000 to 2030)

Geography	% Total Population Growth			
	2000 to 2010	2010 to 2020	2020 to 2030	2000 to 2030
Rutherford County	7.2	7.2	6.5	23.1
Regional Total	13.0	11.6	9.6	38.2
State Total	15.6	11.3	9.6	44.5

The growth rate of a population is a function of emigration and death rates on the negative side, and immigration and birth rates on the positive side. As illustrated by the data in Table 5, the birth rate in Rutherford County, higher than the comparable mean WNC rate but lower than the and NC rate to begin with, remained steady at around 12% every period between 2002-2006 and 2004-2008, before falling (Table 5). In 2006-2010 the birth rate in Rutherford County was 11.5. Region-wide the birth rate was stable at around 10.8 for several years before falling recently to 10.5. Statewide, the birth rate, stable for several years around 14.2, fell recently to 13.8.

Table 5. Birth Rate, Five 5-Year Aggregate Period (2002-2006 through 2006-2010)

Geography	2002-2006	2003-2007	2004-2008	2005-2009	2006-2010
Rutherford County	11.9	12.1	11.9	11.7	11.5
Regional Arithmetic Mean	10.8	10.8	10.8	10.7	10.5

State Total	14.2	14.2	14.2	14.1	13.8

Older Adult Population Growth Trend

As noted previously, the age 65-and-older segment of the population in Rutherford County represents a smaller proportion of the overall population than in WNC, but a larger proportion than in the state as a whole. In terms of future health resource planning, it will be important to understand how this segment of the population, a group that utilizes health care services at a higher rate than other age groups, is going to change in the coming years. Table 6 presents the decadal growth trend for the age 65-and-older population, further stratified into smaller age groups, for the decades from 2010 through 2030. These data illustrate how the population age 65-and-older in the county is going to increase over the coming two decades. Calculated from the figures in Table 6, the percent increase anticipated for each age group in Rutherford County between 2010 and 2030 is 38.8% for the 65-74 age group, 63.0% for the 75-84 age group, and 28.6% for the 85+ age group. In WNC as a whole, the 65-74 age group is projected to grow by 24.0%, the 75-84 age group by 52.5%, and the 85+ age group by 40.0% over the same period of time.

Table 6. Population Age 65 and Older (2010 through 2030)

Geography	2010 Census Data				2020 (Projected)				2030 (Projected)			
	Total % Age 65 and Older	*% Age 65-74**	*% Age 75-84*	*% Age 85+*	% Age 65 and Older	% Age 65-74	% Age 75-84	% Age 85+	% Age 65 and Older	% Age 65-74	% Age 75-84	% Age 85+ *
Rutherford County	17.3	9.8	5.4	2.1	22.0	13.0	6.8	2.2	25.2	13.6	8.8	2.7
Regional Total	19.0	10.4	6.1	2.5	23.5	13.2	7.4	2.9	25.7	12.9	9.3	3.5
State Total	12.9	7.3	4.1	1.5	16.6	9.9	4.9	1.8	19.3	10.6	61.8	2.2

Composition of Families with Children

Data in Table 7 illustrates that the percentage of households with children headed by a married couple is slightly larger in Rutherford County than in WNC (17.4% vs. 17.2%) but smaller than the comparable figure for NC as a whole (17.4% vs. 20.1%).

Table 7. Composition of Family Households, 5-Year Estimate (2006-2010)

Geography	Family Composition						
	# Total Households*	Family Household** Headed by Married Couple (with children under 18 years)		Family Household Headed by Male (with children under 18 years)		Family Household Headed by Female (with children under 18 years)	
		Est. #	%	Est. #	%	Est. #	%
Rutherford County	27,458	4,785	17.4	268	1.0	2,047	7.5
Regional Total	318,280	54,822	17.2	5,322	1.7	17,134	5.4
State Total	3,626,179	729,708	20.1	78,051	2.2	282,131	7.8

* A household includes all the people who occupy a housing unit. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated people who share living arrangements.
** A family consists of a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. All people in a household who are related to the householder are regarded as members of his or her family. A family household may contain people not related to the householder, but those people are not included as part of the householder's family in tabulations.
*** Family composition percentages are based on total number of households. Numerator is number of family households (headed by male, female or married couple) with children under 18 years; denominator is total number of households.

In Rutherford County, 56.2% of grandparents living with their minor grandchildren also are the party responsible for their grandchildren's care. In WNC as in NC as a whole, the comparable figure is about 51% (Table 8).

Table 8. Grandparents Responsible for Grandchildren, 5-Year Estimate (2006-2010)

Geography	Family Composition		
	# Grandparents Living with Own Grandchildren (<18 Years)*	Grandparent Responsible for Grandchildren (under 18 years)	
		Est. #	%
Rutherford County	1,791	1,006	56.2
Regional Total	13,470	6,971	51.8
State Total	187,626	95,027	50.6

* Grandparents responsible for grandchildren - data on grandparents as caregivers were derived from American Community Survey questions. Data were collected on whether a grandchild lives with a grandparent in the household, whether the grandparent has responsibility for the basic needs of the grandchild, and the duration of that responsibility. Responsibility of basic needs determines if the grandparent is financially responsible for food, shelter, clothing, day care, etc., for any or all grandchildren living in the household. Percent is derived with the number of grandparents responsible for grandchildren (under 18 years) as the numerator and number of grandparents living with own grandchildren (under 18 years) as the denominator.

Military Veteran Population

Military veterans compose a higher proportion of the total civilian population in WNC than in either Rutherford County, NC or the US as a whole. Calculating from figures in Table 9, veterans make up 10.8% of the civilian population in Rutherford County, compared to 12.4% in the WNC region, 10.8% statewide, and 9.9% nationally. In Rutherford County, approximately 44% of the veteran population is 65 years of age or older; the comparable proportions are 49% for the WNC mean, 36% for NC statewide, and 40% nationwide.

Table 9. Population of Military Veterans, 5-Year Estimate (2006-2010)

Geography	Civilian Population 18 years and over			% Veterans by Age				
	Total	Veterans	Nonveterans	18 to 34 years	35 to 54 years	55 to 64 years	65 to 74 years	75 years and over
Rutherford County	51,679	5,605	46,074	4.6	21.3	30.0	23.0	21.1
Regional Total	593,603	73,783	519,820	n/a	n/a	n/a	n/a	n/a
Regional Arithmetic Mean	n/a	n/a	n/a	3.6	19.3	28.1	24.1	24.9
State Total	6,947,547	747,052	6,200,495	8.7	30.0	25.7	17.9	17.8
National Total	228,808,831	22,652,496	206,156,335	7.8	26.3	25.4	19.0	21.4

Education

It is helpful to understand the level of education of the general population, and with what frequency current students stay in school and eventually graduate.

Educational Attainment

Table 10 provides data on the proportion of the population age 25 and older with one of three levels of educational attainment: high school or equivalent, some college, and a bachelor's degree or higher. In these terms, in 2006-2010, Rutherford County had a 2.8% higher proportion than WNC as a whole of residents age 25 or older possessing a high school diploma or its equivalent (33.1% vs. 32.2%), and an approximately 17.4% higher proportion than NC as a whole (33.1% vs. 28.2%). In 2006-2010 the county had a higher proportion (21.9%) of residents age 25 and older with some college than either WNC (20.5%) or NC (20.9%). At the bachelor's and greater level, however, the proportional attainment in the county (14.6%) is 27.7% smaller than the comparable mean regional figure (20.2%) and 44.1% smaller than the statewide figure (26.1%).

Table 10. Educational Attainment of Population Age 25 and Older, Two 5-Year Estimates (2005-2009 and 2006-2010)

Geography	2005-2009				2006-2010			
	Total Population Age 25 Years and Older	% High School Graduation Rate (Includes equivalency)	% Some College	% Bachelor's Degree or Higher	Total Population Age 25 Years and Older	% High School Graduation Rate (Includes equivalency)	% Some College	% Bachelor's Degree or Higher
Rutherford County	44,054	34.0	21.1	14.5	46,835	33.1	21.9	14.6
Regional Total	511,076	n/a	n/a	n/a	532,838	n/a	n/a	n/a
Regional Arithmetic Mean	31,942	32.2	19.6	19.9	33,302	32.2	20.5	20.2
State Total	5,940,248	28.6	20.4	25.8	6,121,611	28.2	20.9	26.1

Drop-Out Rate Trend

There are 17 school districts in the WNC region, one per county plus Asheville City Schools. Table 11 displays the high school drop-out rates for Rutherford County as well as a mean drop-out rate for the WNC region and an average rate for NC. The drop-out rate in Rutherford County was higher than the comparable mean WNC and NC rates for every school year cited in the table. The drop-out rate fell each school year from 2006-2007 through 2010-2011 in the region and the state; in Rutherford County the rate fell from SY2006-2007 through SY2009-2010 before rising by 13% in SY2010-2011.

Table 11. High School Drop-Out Numbers and Rates (SY2006-2007 through SY2010-2011)

Geography	SY2006-2007		SY2007-2008		SY2008-2009		SY2009-2010		SY2010-2011	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Rutherford County Schools	243	7.26	202	6.27	156	5.04	123	4.12	137	4.67
Regional Total	1,756	n/a	1,651	n/a	1,385	n/a	1,129	n/a	1,019	n/a
Regional Arithmetic Mean	n/a	5.66	n/a	5.58	n/a	4.51	n/a	3.61	n/a	3.36
State Total	23,550	5.27	22,434	4.97	19,184	4.27	16,804	3.75	15,342	3.43

Current High School Graduation Rate

The four-year cohort graduation rates for subpopulations of 9th graders entering high school in SY2007-2008 and graduating in SY2010-2011 are presented in Table 12. Region-wide, the mean graduation rates for all subpopulations exceeded the comparable rates for NC as a whole. In Rutherford County the overall graduation rate, the rates for males and females, and the rate for economically disadvantaged students all were lower than the comparable rates for WNC and the state as a whole. The graduation rate in Rutherford County for the population of students with

limited English proficiency was higher than the comparable rates region- and state-wide; it also was higher than the county graduation rate for economically disadvantaged students.

Table 12. 4-Year Cohort High School Graduation Rate
SY2007-2008 Entering 9th Graders Graduating in SY2010-2011 or Earlier

Geography	Total Number of Students	% Students Graduating				
		All Students	Males	Females	Economically Disadvantaged	Limited English Proficiency
Rutherford County Schools	800	69.0	64.4	73.6	62.5	63.6
Regional Total	7,545	78.8	75.2	82.5	72.0	57.2
State Total	110,377	77.9	73.8	82.2	71.2	48.1

Income

There are several income measures that can be used to compare the economic well-being of communities, among them median household income, and median family income.

Median Household and Family Income

As calculated from the most recent estimate (2006-2010) displayed in Table 13, the median *household* income in Rutherford County was $35,364, compared to a mean WNC median household income of $37,815, a difference of $2,461 *less* in Rutherford County. The median household income in Rutherford County was more than $10,000 *lower* than the comparable state average in both periods shown in Table 13, and the gap widened by $18 from 2005-2009 to 2006-2010.

As calculated from the most recent estimate (2006-2010), the median *family* income in Rutherford County was $43,702, compared to a mean WNC median family income of $47,608, a difference of $3,906 *less* in Rutherford County. The median family income in Rutherford County was more than $11,500 *lower* than the comparable state average for both periods cited in Table 13, and the shortfall grew by $948 between periods.

Table 13. Median Household and Median Family Income
5-Year Estimates (2005-2009 and 200-2010)

Geography	2005-2009				2006-2010			
	Median Household Income*		Median Family Income**		Median Household Income		Median Family Income	
	$	$ Difference from State	$	$ Difference from State	$	$ Difference from State	$	$ Difference from State
Rutherford County	34,881	-10,188	44,026	-11,503	35,364	-10,206	43,702	-12,451
Regional Arithmetic Mean	37,107	-7,962	46,578	-8,951	37,815	-7,756	47,608	-8,545
State Total	45,069	n/a	55,529	n/a	45,570	n/a	56,153	n/a

* Median household income is the incomes of all the people 15 years of age or older living in the same household (i.e., occupying the same housing unit) regardless of relationship. For example, two roommates sharing an apartment would be a household, but not a family.
** Median family income is the income of all the people 15 years of age or older living in the same household who are related through either marriage or bloodline. For example, in the case of a married couple who rent out a room in their house to a non-relative, the household would include all three people, but the family would be just the couple.

Population in Poverty

The *poverty rate* is the percent of the population (both individuals and families) whose money income (which includes job earnings, unemployment compensation, social security income, public assistance, pension/retirement, royalties, child support, etc.) is below a federally established threshold. (This is the "100%-level" figure.)

Table 14 shows the estimated annual poverty rate for two five year periods: 2005-2009 and 2006-2010. The table also presents an estimate for the number of persons living below 200% of the Federal poverty rate, since this figure is often used as a threshold for determining eligibility for government services. The data in this table describe an overall rate, representing the entire population in each geographic entity. As subsequent data will show, poverty may have a strong age component that is not detectable in these numbers.

The 100%-level poverty rate in Rutherford County was 18.0% in the 2005-2009 period, and rose to 20.7% in the 2006-2010 period; this change represents an increase of 15.0% in the percent of persons living in poverty. In both periods cited, the poverty rate in Rutherford County was higher than the comparable rates in both WNC and NC. As calculated from figures in Table 14, the 200%-level poverty rate in Rutherford County was 34.6% in the 2005-2009 period and rose to 35.4% in the 2006-2010 period, an increase of 2.3%. In WNC the 200% poverty rate was 42.4% in the 2005-2009 period and rose to 44.9% in the 2006-2010 period, an increase of 5.9%. Statewide, the 100%-level poverty rate rose from 15.1% to 15.5% (an increase of 2.6%) and the 200%-level poverty rate rose from 35.0% to 35.6% (an increase of 1.7%) over the same time frame.

Table 14. Population in Poverty, All Ages
5-Year Estimates (2005-2009 and 2006-2010)

Geography	2005-2009				2006-2010			
	Population Estimate	# Below Poverty Level	% Below Poverty Level	# Below 200% Federal Poverty Level	Population Estimate	# Below Poverty Level	% Below Poverty Level	# Below 200% Federal Poverty Level
Rutherford County	61,314	11,040	18.0	25,989	65,274	13,504	20.7	29,319
Regional Total	697,685	103,966	14.9	255,556	726,827	113,990	15.7	271,215
State Total	8,768,580	1,320,816	15.1	3,066,957	9,013,443	1,399,945	15.5	3,208,471

Table 15 presents similar data focusing this time exclusively on children under the age of 18. From these data it is apparent that children suffer disproportionately from poverty. In Rutherford County the 2005-2009 poverty rate for young persons (27.2%) was 51.1% higher than the overall rate (18.0%), and the 2006-2010 poverty rate for young people (30.3%) was 46.4% higher than the overall rate (20.7%). Childhood poverty increased in both WNC and NC between the 2005-2009 and 2006-2010 periods, rising by 5.2% in WNC and 3.8% statewide. During this same interval, childhood poverty in Rutherford County increased 11.4%.

Table 15. Population in Poverty, Under Age 18
5-Year Estimates (2005-2009 and 2006-2010)

Geography	2005-2009			2006-2010		
	Population Estimate	# Below Poverty Level	% Below Poverty Level	Population Estimate	# Below Poverty Level	% Below Poverty Level
Rutherford County	14,086	3,835	27.2	14,642	4,440	30.3
Regional Total	146,592	31,196	21.3	149,649	33,486	22.4
State Total	2,173,508	452,280	20.8	2,205,704	476,790	21.6

Housing Costs

Because the cost of housing is a major component of the overall cost of living for individuals and families it merits close examination. Table 16 presents housing costs as a percent of total household income, specifically the percent of housing units—both rented and mortgaged—for which the cost exceeds 30% of household income.

In Rutherford County, the percentage of *rental* housing units costing more than 30% of household income was 36.5% in the 2005-2009 period and 39.1% in the 2006-2010 period, an increase of 7.1%. In WNC, the comparable percentage was 38.9% in the 2005-2009 period and

40.5% in the 2006-2010 period, an increase of 4%. These percentages correspond to state figures of 43.0% and 44.0%, respectively, with a state-level increase of only 2%. The percent of *mortgaged* housing units in Rutherford County costing more than 30% of household income was 33.8% in 2005-2009 and 34.8% in 2006-2010, an increase of 3.0%. Comparable figures for mortgaged housing units in WNC stood at 33.0% in 2005-2009 and 32.6% in 2006-2010, a decrease of 1%. These percentages compare to state figures of 31.4% and 31.7% in the same periods, and a state-level increase of not quite 1%. From these data it appears that in Rutherford County, WNC and NC as a whole a higher proportion of renters than mortgage holders spend 30% or more of household income on housing costs.

Table 16. Estimated Housing Units Spending >30% Household Income on Housing 5-Year Estimates (2005-2009 and 2006-2010)

Geography	Renter Occupied Units				Mortgaged Housing Units			
	2005-2009		2006-2010		2005-2009		2006-2010	
	Total Units	% Units Spending >30%	Total Units	% Units Spending >30%	Total Units	% Units Spending >30%	Total Units	% Units Spending >30%
Rutherford County	7,532	36.5	7,735	39.1	10,344	33.8	11,174	34.8
Regional Total	82,441	38.9	86,022	40.5	122,383	33.0	132,668	32.6
State Total	1,131,480	43.0	1,157,690	44.0	1,634,410	31.4	1,688,790	31.7

Note: The percent of renter-occupied units spending greater than 30% of household income on rental housing was derived by dividing the number of renter-occupied units spending >30% on gross rent by the total renter-occupied units. Gross rent is defined as the amount of the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid for by the renter (or paid for the renter by someone else). Gross rent is intended to eliminate differentials which result from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment.

Employment and Unemployment

The following definitions will be useful in understanding the data in this section.

- *Labor force* – includes all persons over the age of 16 who, during the week, are employed, unemployed or in the armed services.
- *Civilian labor force* – excludes the Armed Forces from the labor force equation.
- *Unemployed* – civilians not currently employed but are available for work and have actively looked for a job within the four weeks prior to the date of analysis; also, laid-off civilians waiting to be called back to their jobs, as well as those who will be starting new jobs in the next 30 days.
- *Unemployment rate* – calculated by dividing the number of unemployed persons by the number of people in the civilian labor force.

Employment

Table 17 summarizes employment by sector. In Rutherford County the five sectors employing the greatest proportions of the workforce are, in descending order: (1) Health Care and Social Assistance (17.56%), (2) Manufacturing (14.84%), (3) Retail Trade (13.35%), (4) Educational

Services (11.88%), and (5) Accommodation and Food Service (9.61%). In WNC, the five leading employment sectors are: (1) Health Care and Social Assistance (18.52%), (2) Retail Trade (13.86%), (3) Accommodation and Food Services (11.43%), (4) Manufacturing (11.28%) and (5) Educational Services (9.19%). Statewide the comparably ordered list is composed of: (1) Health Care and Social Assistance (14.45%), (2) Retail Trade (11.66%), (3) Manufacturing (11.33%), (4) Educational Services (9.58%) and (5) Accommodation and Food Services (8.95%). The WNC and NC lists are quite similar, with variations in WNC stemming from its relative lack of manufacturing jobs and the regionally greater significance of the tourism industry, represented by the Accommodations and Food Service sector.

Table 17. Insured Employment by Sector, Annual Summary (2011)

Sector	Rutherford County		WNC	NC
	Avg. No. Employed	% Total Employment in Sector**	% Total Employment in Sector**	% Total Employment in Sector**
Agriculture, Forestry, Fishing & Hunting	54	0.31	0.58	0.74
Mining	*	n/a	0.24	0.08
Utilities	176	0.99	0.36	0.35
Construction	660	3.73	4.75	4.53
Manufacturing	2,625	14.84	11.28	11.33
Wholesale Trade	308	1.74	2.35	4.38
Retail Trade	2,362	13.35	13.86	11.66
Transportation & Warehousing	541	3.06	2.53	3.27
Information	780	4.41	1.35	1.82
Finance & Insurance	366	2.07	2.25	3.88
Real Estate & Rental & Leasing	115	0.65	0.93	1.23
Professional, Scientific & Technical Services	237	1.34	3.32	4.96
Management of Companies & Enterprises	123	0.70	0.49	2.01
Administrative & Waste Services	571	3.23	4.90	6.53
Educational Services	2,101	11.88	9.19	9.58
Health Care & Social Assistance	3,106	17.56	18.52	14.45
Arts, Entertainment & Recreation	165	0.93	1.73	1.58
Accommodation & Food Services	1,700	9.61	11.43	8.95
Public Administration	1,383	7.82	7.18	6.18
Other Services	317	1.79	2.76	2.49
Unclassified	*	n/a	0.00	n/a
TOTAL ALL SECTORS	17,690	100.00	100.00	100.00

Table 18 summarizes the annual average wage paid to employees in the various sectors. Data in Table 18 reveal that overall the annual wage per employee in Rutherford County ($32,860) is $716 higher than the comparable figure for employees region-wide ($32,144) but $13,912 lower than the average annual wage statewide ($46,772).

Table 18. Insured Wages by Sector, Annual Summary (2011)

Sector	Average Annual Wage per Employee		
	Rutherford County	WNC	NC
Agriculture, Forestry, Fishing & Hunting	$23,952	$23,145	$28,752
Mining	n/a	41,662	45,828
Utilities	79,814	72,196	76,552
Construction	29,258	31,190	41,316
Manufacturing	39,530	38,443	52,613
Wholesale Trade	36,913	36,182	61,194
Retail Trade	22,574	22,109	24,650
Transportation & Warehousing	26,863	39,117	43,400
Information	23,840	38,682	63,833
Finance & Insurance	37,191	42,881	75,088
Real Estate & Rental & Leasing	27,775	24,051	38,476
Professional, Scientific & Technical Services	30,071	36,584	66,951
Management of Companies & Enterprises	62,646	43,518	88,763
Administrative & Waste Services	29,483	25,753	30,258
Educational Services	31,826	32,604	39,787
Health Care & Social Assistance	32,884	32,843	42,811
Arts, Entertainment & Recreation	15,954	20,936	28,474
Accommodation & Food Services	13,995	14,424	14,877
Public Administration	31,090	33,818	43,641
Other Services	28,688	24,660	28,182
Unclassified	n/a	12,056	n/a
TOTAL ALL SECTORS	$32,860	$32,144	$46,772

Unemployment

Table 19 summarizes the annual unemployment rate for 2007 through 2011. From these data it appears that the unemployment rate in Rutherford County was higher than comparable figures for both WNC and NC as a whole throughout the period from 2007-2011.

Table 19. Unemployment Rate as Percent of Workforce, (2007 through 2011)

Geography	Annual Average				
	2007	2008	2009	2010	2011
Rutherford County	6.4	8.1	16.5	16.7	14.8
Regional Arithmetic Mean	4.9	6.8	11.8	11.8	11.5
State Total	4.8	6.3	10.5	10.9	10.5

Crime

Tables 20-22 present annual crime rates for Rutherford County, WNC and the state of NC for the 10 years from 2001 through 2010. Table 20 summarizes the "index crime rate", which is the sum of the violent crime rate (murder, forcible rape, robbery, and aggravated assault) *plus* the property crime rate (burglary, larceny, arson, and motor vehicle theft). Table 21 summarizes violent crime, and Table 22 summarizes property crime.

Data in Table 20 indicate that the index crime rate in Rutherford County was higher than the mean WNC index crime rate but lower than the state rate in all years cited in the table. The mean index crime rate in WNC was far lower than the comparable state rate for every year during the decade covered in the table. There is not enough information available from the data source to interpret annual variations in these rates.

Table 20. Index Crime Rate (2001-2010)

Geography	Index Crimes per 100,000 Population									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Rutherford County	3,746.7	3,123.3	3,256.8	4,021.6	3,568.5	3,173.6	3,969.7	3,945.9	3,390.9	3,600.1
Regional Arithmetic Mean	2,163.4	2,294.3	2,413.8	2,656.0	2,648.1	2,536.4	2,688.3	2,703.4	2,502.2	2,426.4
State Total	5,005.2	4,792.6	4,711.8	4,641.7	4,622.9	4,654.4	4,658.6	4,581.0	4,191.2	3,955.7

Table 21 separates the violent crime rate from the overall index crime rate for the same period cited above. As with overall index crime, violent crime rate in Rutherford County was higher than the comparable mean WNC rate but lower than the state rate for the period from 2001 through 2009. In 2010 the violent crime rate in the county was lower than both the mean WNC and NC violent crime rates. The mean violent crime rate in WNC was significantly lower than the rate for NC as a whole throughout the period cited in the table. According to data from the NC SCHS, there were a total of 148 homicides in the 16 WNC counties during the five-year period from 2006 through 2010, 10 of them in Rutherford County (*Data Workbook*).

Table 21. Violent Crime Rate (2001-2010)

Geography	Violent Crimes per 100,000 Population									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Rutherford County	298.2	224.0	214.7	354.7	299.0	334.9	372.0	327.4	242.9	251.8
Regional Arithmetic Mean	181.5	194.4	200.4	198.5	232.9	221.9	274.4	190.7	224.4	258.6
State Total	503.8	475.3	454.7	460.9	478.6	483.5	480.5	477.0	417.1	374.4

Table 22 separates the property crime rate from the overall index crime rate for the same period cited above. Comparing these figures to the index crime rate, it is clear that the majority of all index crime committed is property crime. In keeping with the pattern noted for index crime, the

property crime rates for Rutherford County were higher than the comparable mean WNC and NC rates for the period from 2001-2005 and again in 2008. The mean property crime rate for WNC was significantly lower than the comparable rate for NC as a whole from 2001 to 2010.

Table 22. Property Crime Rate (2001-2010)

Geography	Property Crimes per 100,000 Population									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Rutherford County	3,448.5	2,899.3	3,042.1	3,666.9	3,269.5	2,838.7	3,597.8	3,618.5	3,147.9	3,348.3
Regional Arithmetic Mean	1,981.9	2,093.9	2,215.2	2,423.1	2,410.3	2,298.7	2,468.3	2,494.0	2,262.1	2,228.4
State Total	4,501.4	4,317.3	4,257.1	4,180.7	4,144.3	4,170.9	4,178.1	4,103.9	3,774.1	3,581.4

CHAPTER 3 – HEALTH STATUS AND HEALTH OUTCOME PARAMETERS

Health Rankings

America's Health Rankings

Each year for 20 years, America's Health Rankings™, a project of United Health Foundation, has tracked the health of the nation and provided a comprehensive perspective on how the nation—and each state—measures up. America's Health Rankings is the longest running state-by-state analysis of health in the US (United Health Foundation, 2011).

America's Health Rankings are based on several kinds of measures, including *determinates* (socioeconomic and behavioral factors and standards of care that underlay health and well-being) and *outcomes* (measures of morbidity, mortality, and other health conditions). Together, the determinates and outcomes help calculate an overall rank. Table 23 shows where NC stood in the 2011 rankings relative to the "best" and "worst" states (where 1="best"). *When comparing county or regional health data with data for the state as a whole it is necessary to keep in mind that NC ranks 32nd overall, just outside the bottom third of the 50 US states.*

Table 23. State Rank of North Carolina in America's Health Rankings (2011)

Geography	National Rank (Out of 50)		
	Overall	Determinates	Outcomes
Vermont	1	1	5
North Carolina	32	31	38
Mississippi	50	48	50

Source: United Health Foundation, 2011. *America's Health Rankings*. Available at: http://www.americashealthrankings.org/mediacenter/mediacenter2.aspx

County Health Rankings

Building on the work of America's Health Rankings, the Robert Wood Johnson Foundation, collaborating with the University of Wisconsin Population Health Institute, supports a project to develop health rankings for the counties in all 50 states.

Each state's counties are ranked according to health outcomes and the multiple health factors that determine a county's health. Each county receives a summary rank for its health outcomes and health factors, and also for four different specific types of health factors: health behaviors, clinical care, social and economic factors, and the physical environment.

Below is a list of the parameters considered in each of the health outcome and health factor categories:

Health Outcomes – Mortality	**Social and Economic Factors**
Premature death	High school graduation
Morbidity	Some college
Poor or fair health	Unemployment
Poor physical health days	Children in poverty
Poor mental health days	Inadequate social support
Low birthweight	Children in single-parent households
Health Factors	Violent crime rate
Health Behaviors	**Physical Environment**
Adult smoking	Air pollution – particulate matter days
Adult obesity	Air pollution – ozone days
Physical inactivity	Access to recreational facilities
Excessive drinking	Limited access to healthy foods
Motor vehicle death rate	Fast food restaurants
Sexually transmitted infections	
Teen birth rate	
Clinical Care	
Uninsured	
Primary care physicians	
Preventable hospital stays	
Diabetic screening	
Mammography screening	

Table 24 presents the health outcome and health factor rankings for Rutherford County.

Table 24. County Health Rankings via MATCH (2012)

Geography	County Rank (Out of 100)[1]						
	Health Outcomes		Health Factors				Overall Rank
	Mortality	Morbidity	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment	
Rutherford County	87	75	59	52	93	28	84

Source: *County Health Rankings and Roadmaps, 2012*. Available at http://www.countyhealthrankings.org/app/north-carolina/2012/rankings/outcomes/overall

Pregnancy and Birth Data

Pregnancy Rate

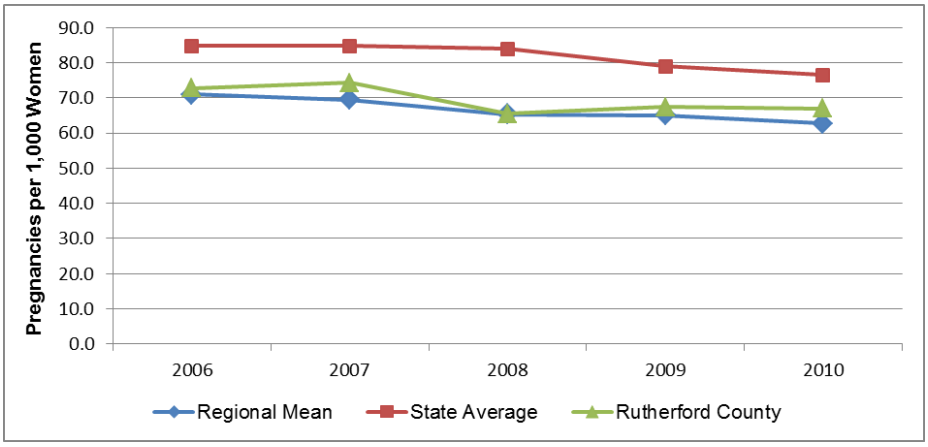
The following definitions and statistical conventions will be helpful in understanding the data on pregnancy:

- Reproductive age = 15-44
- Total pregnancies = live births + induced abortions + fetal death at >20 weeks gestation
- Pregnancy rate = number of pregnancies per 1,000 women of reproductive age
- Fertility rate = number of live births per 1,000 women of reproductive age
- Abortion rate = number of induced abortions per 1,000 women of reproductive age

The NC SCHS stratifies much of the pregnancy-related data it maintains into two age groups: ages 15-44 (all women of reproductive age) and ages 15-19 ("teens"). Figures 1 and 2 present pregnancy rate data for ages 15-44 and 15-19, respectively. Note that regional rates are presented as *arithmetic means* (sums of individual county rates divided by the number of county rates). These means are approximations of true regional rates, which NC SCHS does not compute.

Data in Figure 1 illustrate that the pregnancy rate for women ages 15-44 in Rutherford County was very close to the same as the mean WNC rate throughout the period cited. The pregnancy rates in all three jurisdictions decreased between 2006 and 2010, by 8.0% in Rutherford County, by 11.6% in WNC, and by 9.9% in NC. The 2010 pregnancy rate was 67.0 in Rutherford County, 62.7 in WNC, and 76.4 in NC.

Figure 1 – Pregnancy Rate Ages 15-44, Pregnancies per 1,000 Women (Single Years, 2006-2010)



The minority population in Rutherford County is large enough to permit calculation of pregnancy rates stratified by race and ethnicity. Table 25 presents pregnancy rates for the 14-55 year age group for 2010. In Rutherford County in 2010 the highest pregnancy rate was among non-Hispanic women of "other" races (93.8, a rate that is technically unstable), followed by Hispanic women (78.6) and African-American non-Hispanic women (70.3). In WNC, the mean pregnancy rate was highest among Hispanic women (111.8), followed by other non-Hispanic women (89.4), and white non-Hispanic women (58.9).

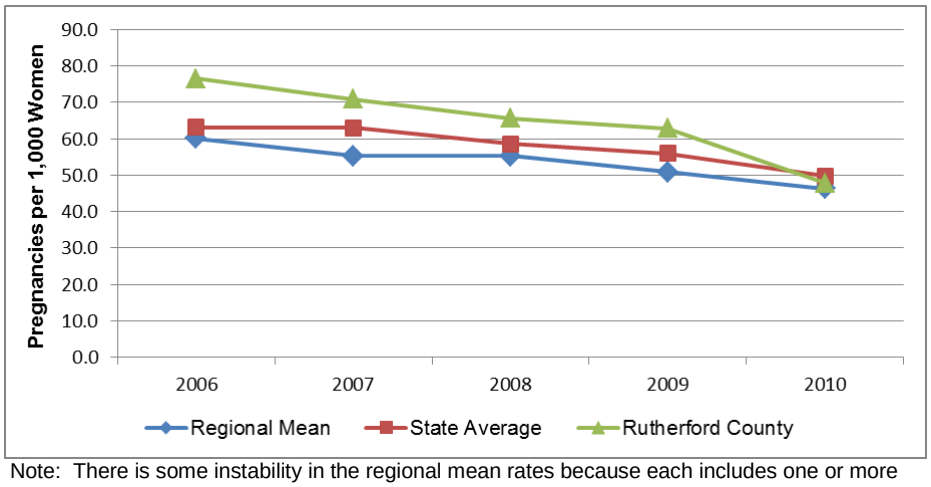
Table 25. Pregnancy Rate, Ages 15-44, by Race
Pregnancies per 1,000 Women
(2010)

County	Total		White Non-Hispanic		African American Non-Hispanic		Other Non-Hispanic		Hispanic	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Rutherford County	805	67.0	653	65.5	102	70.3	9	***93.8***[a]	40	78.6
Regional Total	8,630	n/a	6,835	n/a	490	n/a	336	n/a	962	n/a
Regional Arithmetic Mean	539	62.7	427	58.9	31	*47.3*	21	*89.4*	60	*111.8*
State Total	148,922	76.4	78,671	65.6	40,836	86.1	7,288	84.5	21,573	114.0

[a] – A figure in ***bold italics*** indicates an unstable rate based on a small number of events.
Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Data in Figure 2 illustrates that the pregnancy rate for teens (ages 15-19) in Rutherford County was higher than the comparable mean WNC and NC rates over most of the period cited. Note that the teen pregnancy rate in all three jurisdictions decreased between 2006 and 2009, by 37.5% in Rutherford County, by 22.9% in WNC, and by 21.2% in NC. The 2010 teen pregnancy rate was 47.8 in Rutherford County, 46.3 in WNC, and 49.7 in NC.

Figure 2 – Pregnancy Rate Ages 15-19, Pregnancies per 1,000 Women
(Single Years, 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

The minority population in Rutherford County is large enough to permit calculation of teen pregnancy rates stratified by race and ethnicity. Note that in Rutherford County there are stable teen pregnancy rates only for white, non-Hispanic girls (49.9) and African American non-Hispanic girls (34.5) (Table 26). In WNC, the mean teen pregnancy rate was highest among Hispanic teens (73.0), followed by African-American non-Hispanic teens (72.2), and other non-Hispanic teens (50.3).

Table 26. Pregnancy Rate, Ages 15-19, by Race, Pregnancies per 1,000 Women (2010)

County	Total		White Non-Hispanic		African American Non-Hispanic		Other Non-Hispanic		Hispanic	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Rutherford County	107	47.8	90	49.9	11	34.5	2	***222.2***	4	***37.7***
Regional Total	990	n/a	740	n/a	86	n/a	51	n/a	113	n/a
Regional Arithmetic Mean	62	46.3	46	*42.2*	5	*72.2*	3	*50.3*	7	*73.0*
State Total	15,957	49.7	6,525	34.4	6,292	70.2	609	48.9	2,456	82.7

a– A figure in ***bold italics*** indicates an unstable rate based on a small number of events
Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Pregnancy Risk Factors

Smoking During Pregnancy

Smoking during pregnancy is an unhealthy behavior that may have negative effects on both the mother and the fetus. Smoking can lead to fetal and newborn death, and contribute to low birth weight and pre-term delivery. In pregnant women, smoking can increase the rate of placental problems, and contribute to premature rupture of membranes and heavy bleeding during delivery (March of Dimes, 2010).

Table 27 presents data on the number and percent of births resulting from pregnancies in which the mother smoked during the prenatal period. The percentage frequency of smoking during pregnancy in Rutherford County was lower than the comparable mean percentage for WNC, but higher than the percentage statewide in all of the time periods cited in the table. Note that the WNC means were significantly higher than the comparable percentages statewide in all of the time periods cited in the table. The frequency of smoking during pregnancy in Rutherford County, WNC and NC all improved over the period cited, by 6.5% in Rutherford County, by 8.0% in WNC, and by 14.7% in NC.

Table 27. Births to Mothers Who Smoked During the Prenatal Period (Five-Year Aggregates, 2001-2005 through 2005-2009)

Geography	2001-2005		2002-2006		2003-2007		2004-2008		2005-2009	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	827	21.4	790	20.9	804	21.1	768	20.4	744	20.0
Regional Total	7,496	22.4	7,442	22.1	7,361	21.7	7,106	21.2	6,919	20.6
State Total	76,712	12.9	74,901	12.4	73,887	11.9	72,513	11.5	70,529	11.0

Late or No Prenatal Care

Good pre-conception health and early prenatal care can help assure women the healthiest pregnancies and best birth outcomes possible. Access to prenatal care is particularly important during the first three months of pregnancy (March of Dimes, 2012).

Table 28 shows data summarizing utilization of prenatal care during the first three months of pregnancy. The percent of births in Rutherford County that included early prenatal care was lower than the mean figure for WNC and higher than the total for NC as a whole for the entire period cited. The prenatal care frequency in Rutherford County has risen gradually over time, even as the frequencies in the other two jurisdictions have fallen. Overall, the Rutherford County percentage rose from 83.8% in 2001-2005 to 85.0% in 2005-2009, an increase of 1.4%. Among Rutherford County minority groups, African-Americans utilize early prenatal care at a frequency of 75.7%, and Native Americans at a frequency of 90.0% (*Data Workbook*).

The frequency of early prenatal care utilization was higher in WNC than in the state as a whole for every period noted in the figure, but the percentages for both the region and the state decreased over the period cited, by 2.7% in WNC and by 1.7% in NC. Among minority groups statewide, Native Americans utilize early prenatal care at a frequency of 77.1%, and African Americans at a frequency of 75.2% (*Data Workbook*).

Table 28. Births to Mothers Receiving Prenatal Care During the First Trimester (Five-Year Aggregates, 2001-2005 through 2005-2009)

Geography	2001-2005		2002-2006		2003-2007		2004-2008		2005-2009	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	3,237	83.8	3,167	83.8	3,211	84.1	3,182	84.6	3,156	85.0
Regional Total	35,375	89.3	35,799	89.0	36,433	88.9	36,806	88.0	37,049	86.9
State Total	497,895	83.5	503,331	83.0	510,954	82.5	519,098	82.1	524,902	82.1

Birth Outcomes

Low Birth Weight

Low birth weight can result in serious health problems in newborns (e.g., respiratory distress, bleeding in the brain, and heart, intestinal and eye problems), and cause lasting disabilities (mental retardation, cerebral palsy, and vision and hearing loss) or even death (March of Dimes, 2012).

Table 29 summarizes data on the number and percent of low birth weight (≤ 2500 grams or 5.5 pounds) births. (Note that NC SCHS also maintains data on *very* low birth weight [≤1500 grams or 3.3 pounds] births. There are so few very low birth weight births in WNC that county rates are too unstable to calculate a stable regional mean.) In WNC, the percentage of low-birth

weight births was lower than the comparable percentage for NC as a whole in each of the aggregate periods cited in the table. Further, the percentages were relatively static in both jurisdictions during the entire period.

In Rutherford County over the time span 2002-2006 through 2005-2009, the percentage of low birth weight births declined steadily from 9.0 to 8.0 (a total of 11.1%), before rising 7.5%, to 8.6, in the 2006-2010 aggregate period. The county low birth weight percentage was higher than the comparable figure for the region but lower than percentage for NC for every aggregate period except 2005-2009, when the county figure was the lowest of the three jurisdictions.

The highest percentage of low birth weight births in Rutherford County occurred among black women (12.2%), followed by white women (8.3%). Rates for women of other minority groups were unstable based on small numbers of low birth weight births (*Data Workbook*).

The frequency of *very* low birth weight births increased in Rutherford County, from 1.6% in 2002-2006 to 1.8% in 2006-2010 (*Data Workbook*).

Table 29. Low-Weight Births (Five-Year Aggregates, 2002-2006 through 2006-2010)

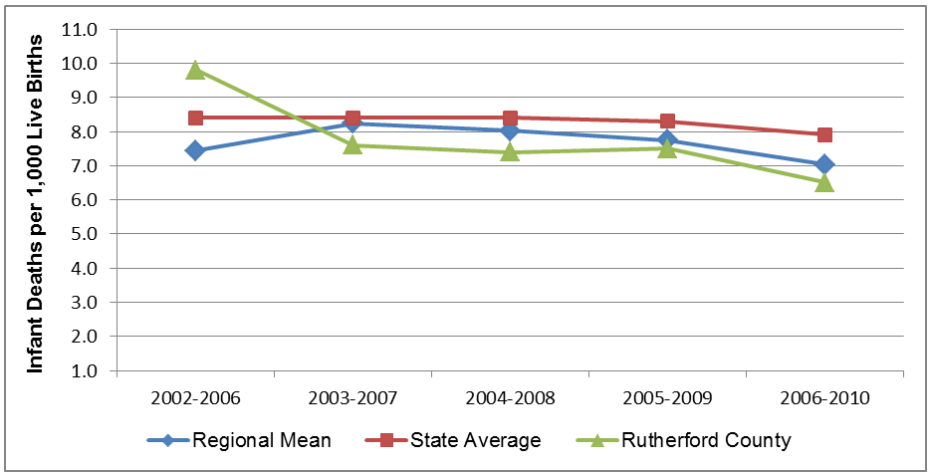
Geography	2002-2006		2003-2007		2004-2008		2005-2009		2006-2010	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	341	9.0	325	8.5	315	8.4	296	8.0	316	8.6
Regional Total	3,447	8.2	3,473	8.4	3,467	8.3	3,434	8,2	3,373	8.2
State Total	54,991	9.1	56,541	9.1	57,823	9.1	58,461	9.1	58,260	9.1

Infant Mortality

Infant mortality is the number of deaths of infants under one year of age per 1,000 live births. Figure 3 presents infant mortality data for WNC and the state. When interpreting this data it is important to remember that the infant mortality rate for NC as a whole is among the highest (i.e., worst) in the US, ranking 46th out of 50 according to the 2011 *America's Health Rankings*, cited previously.

The state's infant mortality rate recently has begun to decrease; after hovering near 8.5 for several years, it was 7.9 in the most recent aggregate period (2006-2010). The mean infant mortality rate for WNC has been lower than the state rate, and appears to be trending in the right direction; the mean WNC infant mortality rate was 7.0 in the 2006-2010 aggregate period. The infant mortality rate for Rutherford County was lower than the comparable mean WNC and NC rates throughout most of the period cited, and improved overall from 9.8 in the 2002-2006 period to 6.5 in the 2006-2010 period, a decrease of 33.7%

Figure 3. Infant Mortality Rate, Infant Deaths per 1,000 Live Births (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rates.

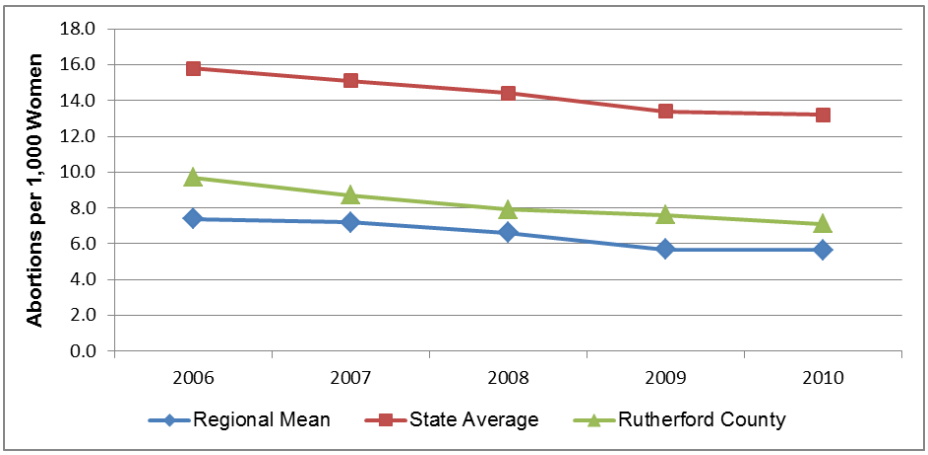
There is a strong racial component to infant mortality in NC. Statewide in 2006-2010, the infant mortality rate among non-Hispanic African Americans (14.7) was *two and one-half times* the comparable rate among non-Hispanic whites (5.9). Statewide in 2006-2010 the infant mortality rate among non-Hispanic other races was 6.3, and the rate among Hispanics was 5.8 (*Data Workbook*). In Rutherford County the numbers of infant deaths among minority groups were below the threshold for calculating stable racially-stratified infant mortality rates.

Abortion

Figures 4 and 5 depict abortion rates for Rutherford County, the region, and the state. Data in Figure 4 show that the mean abortion rate in WNC for women ages 15-44 was less than half the abortion rate for the state as a whole, and that the rate in both jurisdictions fell over the time period cited in the figure, by 24.3% in WNC and by 16.5% in NC. In 2010 the abortion rate was 5.6 in WNC and 13.2 in NC.

The abortion rate in Rutherford County was between the mean WNC and NC rates throughout the period cited. From 2006 through 2010 the abortion rate for this age group in Rutherford County decreased 26.8%, from 9.7 to 7.1.

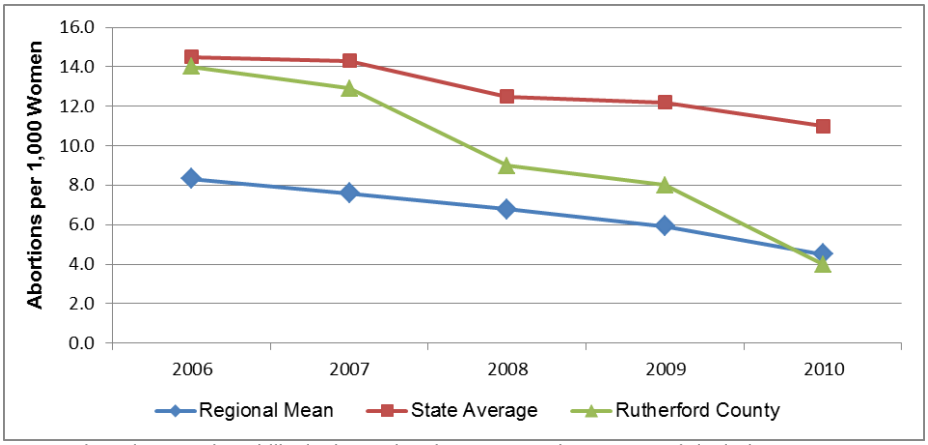
Figure 4. Pregnancies Ending in Abortion, Ages 15-44, per 1,000 Population (Single Years, 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rates.

Data in Figure 5 show that the mean abortion rate in WNC for teens ages 15-19 was slightly more than half the teen abortion rate for the state as a whole for the first three years cited in the figure and less than half the state rate in the most recent two years. The rate in both jurisdictions fell over the time period cited in the figure, by 45.8% in WNC and by 24.1% in NC. The teen abortion rate in Rutherford County was higher than the regional rate but lower than the state rate throughout the period cited. The 2010 county data point for teen abortion (4.0) was unstable. Between 2006 and 2009, however, the teen abortion rate in Rutherford County fell from 14.0 to 8.0, a decrease of 42.9%.

Figure 5. Pregnancies Ending in Abortion, Age 15-19, per 1,000 Population (Single Years, 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Mortality Data

This section describes mortality for the 15 leading causes of death, as well as mortality due to four major site-specific cancers. The list of topics and the accompanying data is derived from the NC SCHS *County Health Databook*. Unless otherwise noted, the numerical data are age-adjusted and represent overlapping five-year aggregate periods.

Leading Causes of Death

Table 30 compares the mean rank order of the 15 leading causes of death in Rutherford County, WNC and NC for the five-year aggregate period 2006-2010. (The causes of death are listed in descending rank order for WNC.) From this data it appears that chronic lower respiratory disease, pneumonia and influenza, motor vehicle injury and suicide rank higher as causes of death in WNC than in the state as a whole. Conversely, cerebrovascular disease, kidney disease, and septicemia rank lower as causes of death regionally than statewide.

The leading causes of death by rank order in Rutherford County match the rank order for WNC from the first through the seventh positions; however, four of the first seven county mortality rates (for heart disease, total cancer, chronic lower respiratory disease and cerebrovascular disease) are higher than the comparable rates for the region and for NC. Other differences in mortality statistics will be covered as each cause of death is discussed separately below. It should be noted from the onset, however, that for some causes of death (e.g., conditions ranked 14 and 15 below) there may not be stable county mortality rates, due to small numbers of deaths. Some unstable data will be presented in this document, but always accompanied by cautions regarding its use.

Table 30. Rank of Cause-Specific Mortality Rates for the Fifteen Leading Causes of Death (Five-Year Aggregate, 2006-2010)

Leading Cause of Death	Rutherford County		WNC Mean		NC	
	Rank	Rate	Rank	Rate	Rank	Rate
Heart Disease	1	223.7	1	194.4	1	184.9
Total Cancer	2	212.0	2	180.3	2	183.1
Chronic Lower Respiratory Disease	3	59.5	3	51.1	4	46.4
Cerebrovascular Disease	4	56.1	4	44.0	3	47.8
All Other Unintentional Injuries	5	41.0	5	42.9	5	28.6
Alzheimer's Disease	6	24.7	6	30.7	6	28.5
Diabetes Mellitus	7	21.4	7	19.6	7	22.5
Pneumonia and Influenza	10	17.0	8	19.1	9	18.6
Unintentional Motor Vehicle Injuries	9	18.8	9	16.7	10	16.7
Suicide	12	14.7	10	16.7	12	12.1
Nephritis, Nephrotic Syndrome & Nephrosis	8	19.3	11	16.2	8	18.9
Septicemia	11	16.1	12	13.4	11`	13.7
Chronic Liver Disease & Cirrhosis	13	6.4	13	13.2	13	9.1
Homicide	14	n/a	14	n/a	14	6.6
Acquired Immune Deficiency Syndrome	15	n/a	15	n/a	15	5.4

It should be noted that the rank order of leading causes of death varies somewhat among the 16 counties in WNC. Further, in 2005-2009 and 2006-2010 the NC SCHS did not release mortality rates for some causes of death in several counties (including Cherokee) because the number of deaths fell below the Center's threshold of 20 per five-year aggregate period. The mean WNC ranking displayed in Table 30 includes only stable rates presented in the *Data Workbook*.

Each age group tends to have its own leading causes of death. Table 31 lists the three leading causes of death by age group for the five-year aggregate period from 2006-2010. (Note that for this purpose it is important to use *non*-age adjusted death rates.) The WNC rankings were developed by a qualitative examination of the individual ranking lists for each of the counties in the region.

Causes of death in all age groups in Rutherford County are similar to those noted for WNC and NC as a whole, although other unintentional injuries ranks first in the 00-19 age group, and cancer ranks third in the 20-39 age group in Rutherford County; neither of these causes of mortality appear among the top three in those respective age groups in either WNC or NC.

Table 31. Leading Causes of Death by Age Group
Unadjusted Death Rates per 100,000 Population
(Five-Year Aggregate, 2006-2010)

Age Group	Rank	Leading Cause of Death		
		Rutherford County	WNC	NC
00-19	**1**	Other unintentional injuries	Perinatal conditions	Perinatal conditions
	2	Perinatal conditions	Motor vehicle injuries	Congenital abnormalities
	3	Motor vehicle injuries	Congenital abnormalities	Motor vehicle injuries
			Other unintentional injuries	
20-39	**1**	Other unintentional injuries	Other unintentional injuries	Motor vehicle injuries
	2	Motor vehicle injuries	Motor vehicle injuries	Other unintentional injuries
	3	Cancer – all sites	Suicide	Suicide
		Suicide		
40-64	**1**	Cancer – all sites	Cancer – all sites	Cancer – all sites
	2	Heart disease	Heart disease	Heart disease
	3	Other unintentional injuries	Other unintentional injuries	Other unintentional injuries
65-84	**1**	Cancer – all sites	Cancer – all sites	Cancer – all sites
	2	Heart disease	Heart disease	Heart disease
	3	Chronic lower respiratory disease	Chronic lower respiratory disease	Chronic lower respiratory disease
85+	**1**	Heart disease	Heart disease	Heart disease
	2	Cancer – all sites	Cancer – all sites	Cancer – all sites
	3	Cerebrovascular disease	Alzheimer's disease	Cerebrovascular disease

The following section examines in greater detail each of the causes of death listed in Table 30, in the order of highest mean WNC rank to lowest, beginning with heart disease.

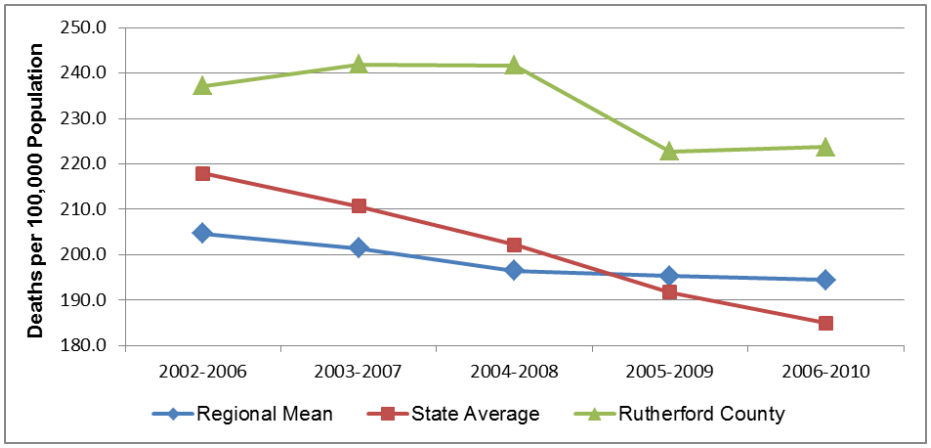
Heart Disease Mortality

Heart disease is an abnormal organic condition of the heart or of the heart and circulation. Heart disease is the number one killer in the U.S. It is also a major cause of disability. The most

common cause of heart disease, coronary artery disease, is a narrowing or blockage of the coronary arteries, the blood vessels that supply blood to the heart itself. This is the major reason people have heart attacks. Other kinds of heart problems may happen to the valves in the heart, or the heart may not pump well and cause heart failure (US National Library of Medicine).

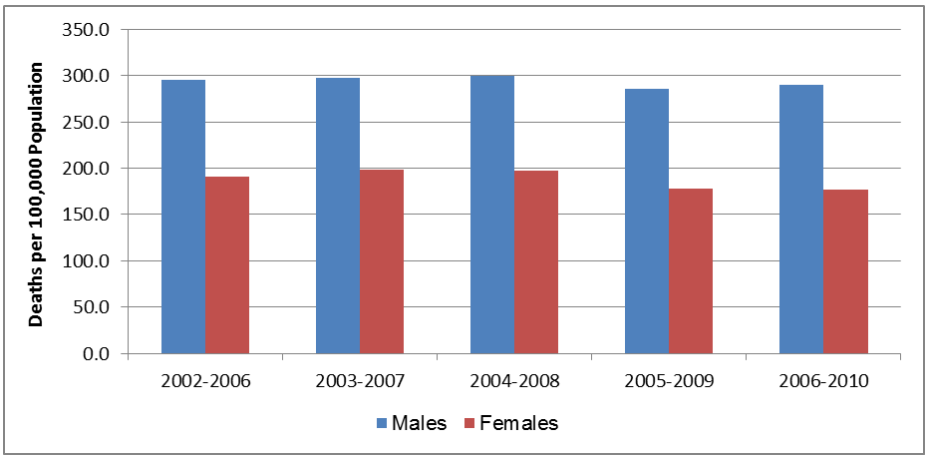
In the 2006-2010 aggregate period heart disease was the leading cause of death in WNC, NC, and Rutherford County (Table 30, cited previously). Figure 6 presents heart disease mortality trend data. This graph illustrates that the heart disease mortality rate in Rutherford County was higher than the comparable rates for WNC and NC throughout the period cited. The graph also illustrates that the heart disease mortality rate in Rutherford County fell from 237.2 in the 2002-2006 aggregate period to 223.7 in the 2006-2010 aggregate period, a decrease of 5.7%; most of the improvement was in the most recent two aggregate periods. Over the same interval the NC heart disease mortality rate fell from 217.9 for the 2002-2006 aggregate period to 184.9 for the 2006-2010 aggregate period, a decrease of 15.1%. The mean WNC rate, which for the first three periods cited was below the state rate, surpassed the state rate and leveled during the two most recent periods. For the 2002-2006 period the mean WNC heart disease mortality rate was 204.6; by the 2006-2010 period it had fallen to 194.4, a decrease of 4.9%.

Figure 6. Heart Disease Mortality Rate, Deaths per 100,000 Population Five-Year Aggregates (2002-2006 through 2006-2010)



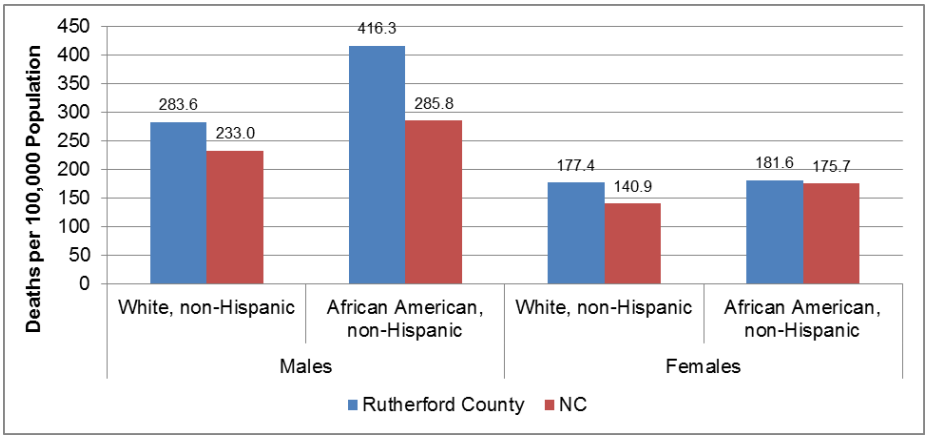
Further subdivision of heart disease mortality data reveals a striking gender disparity. Figure 7 plots heart disease mortality rates for Rutherford County, stratified by gender. From these data it is clear that Rutherford County males have had a higher heart disease mortality rate than females for the past decade, with the difference as high as 64%. This trend data also shows only modest improvements in heart disease mortality. The heart disease mortality rate among county males fell 1.8% (from 294.9 to 289.5) and the rate among county females fell 7.8% (from 191.3 to 176.3) from the beginning of the entire period cited to the end.

Figure 7. Gender Disparities in Heart Disease Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



Rutherford County has a large enough minority population to yield stable, gender-stratified heart disease mortality rates for some minority groups. Figure 8 shows these differences in 2006-2010 for Rutherford County in comparison with similar state data. At the state level, heart disease mortality demonstrates significant racial disparity, with the minority rate higher than the non-minority rate. For example, statewide the heart disease mortality rate among non-Hispanic African American males (285.8) was almost 23% higher than the comparable rate among non-Hispanic white males (233.0); in Rutherford County the comparable difference was 47%. In NC the rate among non-Hispanic African American females (175.7) was 25% higher than the rate among non-Hispanic white females (140.9); in Rutherford County, the comparable difference was 2%. Statewide, the heart disease mortality rates among Other non-Hispanics were 148.7 for males and 102.7 for females. Hispanics had the lowest heart disease mortality rates, 55.7 for males and 36.9 for females (*Data Workbook*).

Figure 8. Gender and Racial Disparities in Heart Disease Mortality Rutherford County and NC Five-Year Aggregate (2006-2010)



Total Cancer Mortality

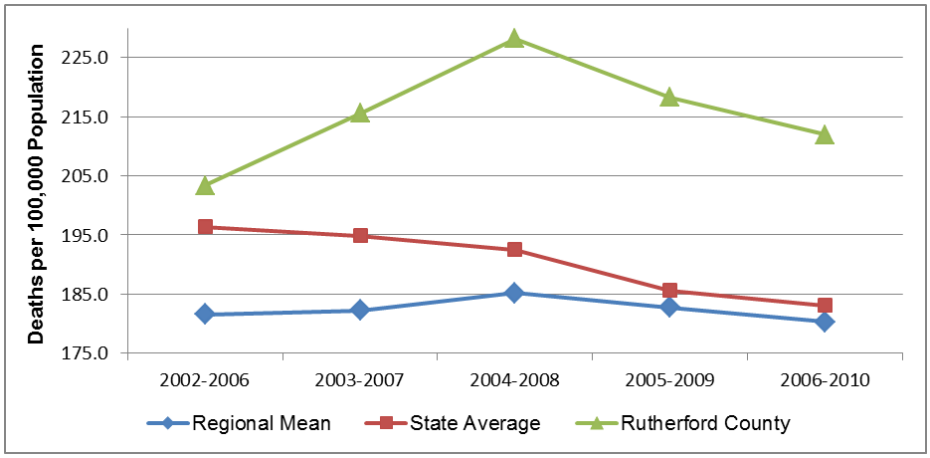
Cancer is a term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells also can spread to other parts of the body through the blood and lymph systems. If the disease remains unchecked, it can result in death (National Cancer Institute).

Taken together, cancers of all types compose the second leading cause of death in WNC, NC, and Rutherford County in the 2006-2010 aggregate period (Table 30, cited previously).

Figure 9 presents mortality trend data for total cancer. This graph illustrates how over the period cited the total cancer death rate in Rutherford County was not only higher than both the WNC and NC rates, but also increased over the period cited. The total cancer mortality rate in the county rose overall, from 203.4 in the 2002-2006 aggregate period to 212.0 in the 2006-2010, an increase of 4.2%. It is noteworthy, however, that in the 2004-2008 aggregate period the total cancer mortality rate in the county peaked at a rate (228.2) that was 23.2% higher than the mean WNC rate for the same period.

This graph also illustrates how over the period cited the total cancer death rate decreased at the state level, and the comparable mean regional rate fluctuated some but changed little in the net. Statewide, mortality attributable to all cancers decreased 6.8% over the period covered in the graph, from 196.4 in 2002-2006 to 183.1 in 2006-2010. In WNC the mean total cancer mortality rate decreased 0.6%, from 181.5 in 2002-2006 to 180.3 in 2006-2010. Nevertheless, the mean regional rate was lower than the comparable state rate in each of the periods cited in Figure 9, although the gap has narrowed.

Figure 9. Total Cancer Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



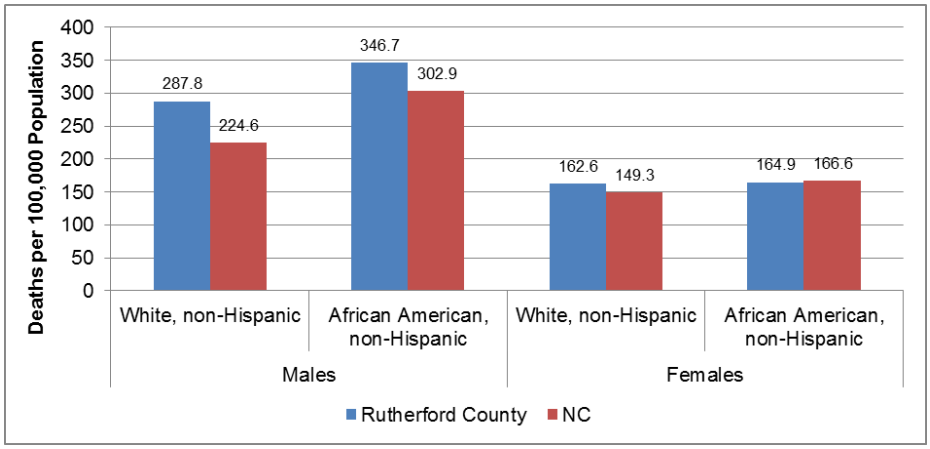
Like heart disease mortality, total cancer mortality demonstrates a gender disparity. Figure 10 plots total cancer mortality rates for Rutherford County, stratified by gender. From these data it is clear that males had and continue to have a higher total cancer mortality rate than females for the past decade. In the most recent aggregate period (2006-2010) the total cancer mortality rate for Rutherford County males (288.9) was 79.4% higher than the comparable rate for females (161.0).

Figure 10. Gender Disparities in Total Cancer Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

Rutherford County has a large enough minority population to yield stable, gender-stratified total cancer mortality rates for some minority groups. Figure 11 shows these differences in 2006-2010 for Rutherford County in comparison with similar state data. At the state level, total cancer mortality demonstrates significant racial disparity, with the minority rate higher than the non-minority rate. For example, statewide the total cancer mortality rate among non-Hispanic African American males (302.9) was almost 35% higher than the rate among non-Hispanic white males (224.6); in Rutherford County the comparable difference was 21%. In NC the rate among non-Hispanic African American females (166.6) was 12% higher than the rate among non-

Hispanic white females (149.3); in Rutherford County, the comparable difference was only 1%. Statewide, the comparable total cancer mortality rates for Other non-Hispanics were 145.7 for males and 103.2 for females. Hispanics had the lowest total cancer mortality rates, 66.0 for males and 61.2 for females (*Data Workbook*).

Figure 11. Gender and Racial Disparities in Total Cancer Mortality, Rutherford County and NC Five-Year Aggregate (2006-2010)

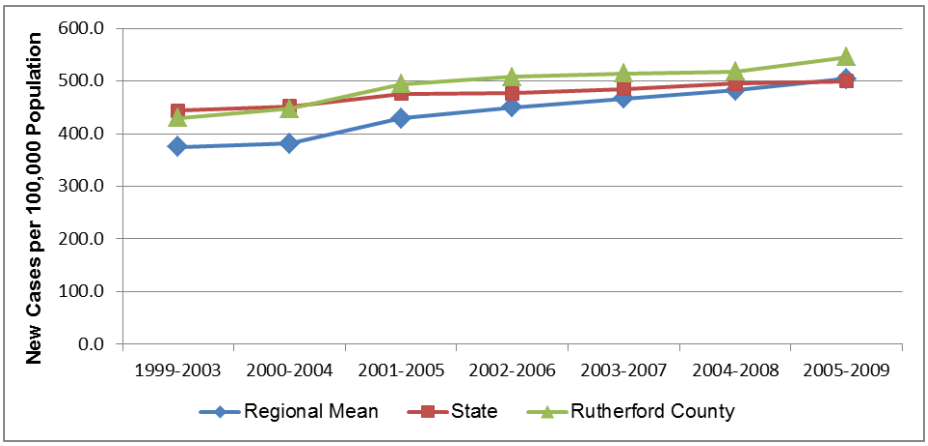


Since total cancer is a very significant cause of death, it is useful to examine patterns in the development of new cases of cancer in the county. The statistic important to understanding the growth of a health problem is *incidence*. Incidence is the population-based rate at which new cases of a disease occur and are diagnosed. It is calculated by dividing the number of newly diagnosed cases of a disease or condition during a given period by the population size during that period. Typically, the resulting value is multiplied by 100,000 and is expressed as cases per 100,000; sometimes the multiplier is a smaller number, such as 10,000 or 1,000. Cancer incidence rates were obtained from the NC Cancer Registry, which collects data on newly diagnosed cases from NC clinics and hospitals as well as on NC residents whose cancers were diagnosed at medical facilities in bordering states.

Figure 12 graphs the incidence rates for total cancer for seven five-year aggregate periods. From this data it appears that the incidence rate for total cancer increased in Rutherford County, WNC and NC between 1999-2003 and 2005-2009. In Rutherford County, the total cancer incidence rate rose from 430.1 at the beginning of the period cited to 545.8 at the end, an increase of 26.9%. The total cancer incidence rate in the county exceeded the comparable WNC and NC rates for the last five of the seven periods covered in the figure.

While both state and mean WNC total cancer incidence rates increased over the period cited in the graph, the slope of increase for WNC is greater than that for the state as a whole. The NC rate rose from 444.0 in 1999-2003 to 500.1 in 2005-2009, a 12.6% increase. The mean total cancer incidence rate in WNC rose from 374.5 in 1999-2003 to 503.8 in 2005-2009, an increase of 35%. Further, the regional incidence rate for total cancer, which for years had been below the comparable NC rate, surpassed the state rate for the first time in the 2005-2009 period.

Figure 12. Total Cancer Incidence Rate, New Cases per 100,000 Population (Five-Year Aggregates, 1999-2003 through 2005-2009)



To this point the discussion of cancer mortality and incidence has focused on figures for total cancer. In Rutherford County, as throughout both WNC and the state of NC, there are four site-specific cancers that cause most cancer deaths: breast cancer, colon cancer, lung cancer, and prostate cancer. Table 32 summarizes the age-adjusted mortality rates for the four site-specific cancers for the 2006-2010 aggregate period. In Rutherford County the mortality rates for lung, prostate, and colon cancer all were above both the mean WNC and NC rates, and the county mortality rate for breast cancer was above the comparable rate for NC but below the mean rate for WNC. In Rutherford County lung cancer was the site-specific cancer with the highest mortality rate, followed by prostate cancer, breast cancer, and colon cancer. In WNC, lung cancer was the site-specific cancer with the highest mortality, followed by breast cancer, prostate cancer, and colon cancer.

Table 32. Age-Adjusted Mortality Rates for Major Site-Specific Cancers (2006-2010)

Geography	Deaths per 100,000 Population			
	Lung Cancer	Breast Cancer	Prostate Cancer	Colon Cancer
Rutherford County	68.9	23.8	28.5	22.5
Regional Mean	54.7	24.3	22.9	16.6
State	55.9	23.4	25,5	16,0

Multi-year mortality rate trends for these four site-specific cancers will be presented subsequently, as each cancer type is discussed separately.

Table 33 summarizes the age-adjusted incidence rates for these four site-specific cancers for the 2005-2009 aggregate period. From this data it appears that in Rutherford County, as in WNC, breast cancer was the site-specific cancer with the highest incidence, followed by prostate cancer, lung cancer, and colon cancer. The Rutherford County incidence rates for breast cancer, lung cancer, and colon cancer all were above both the comparable mean WNC and NC rates; the

county incidence rate for prostate cancer was above the comparable mean WNC rate, but below the NC rate. Multi-year incidence rate trends for these four site-specific cancers will be presented subsequently, as each cancer type is discussed separately.

Table 33. Age-Adjusted Incidence Rates for Major Site-Specific Cancers (2005-2009)

Geography	New Cases per 100,000 Population			
	Breast Cancer	Prostate Cancer	Lung Cancer	Colon Cancer
Rutherford County	169.5	148.1	82.1	58.1
Regional Mean	154.0	139.2	75.4	46.0
State	154.5	158.3	75.9	45.5

Lung Cancer Mortality

Lung cancer was the leading cause of cancer mortality in Rutherford County in the 2006-2010 aggregate period (Table 32, cited above). Figure 13 plots lung cancer mortality rates for several aggregate periods. This data reveals that the lung cancer mortality rate in Rutherford County was above the comparable WNC and NC rates for most of the period cited in the figure and that while the rates in the region and state fell, the lung cancer mortality rate in Rutherford County rose. The lung cancer mortality rate in Rutherford County rose from 53.4 for 2002-2006 to 68.9 for 2006-2010, an increase of 29.0%. In the 2006-2010 aggregate period the county rate was approximately 25% higher than the WNC or NC rate. Statewide the lung cancer mortality rate fell from 59.8 for 2002-2006 to 55.9 for 2006-2010, a 6.5% decrease over the period. The comparable mean WNC rate fluctuated somewhat but was essentially the same at the end of the period (54.7) as at the beginning (54.2).

Figure 13. Lung Cancer Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)

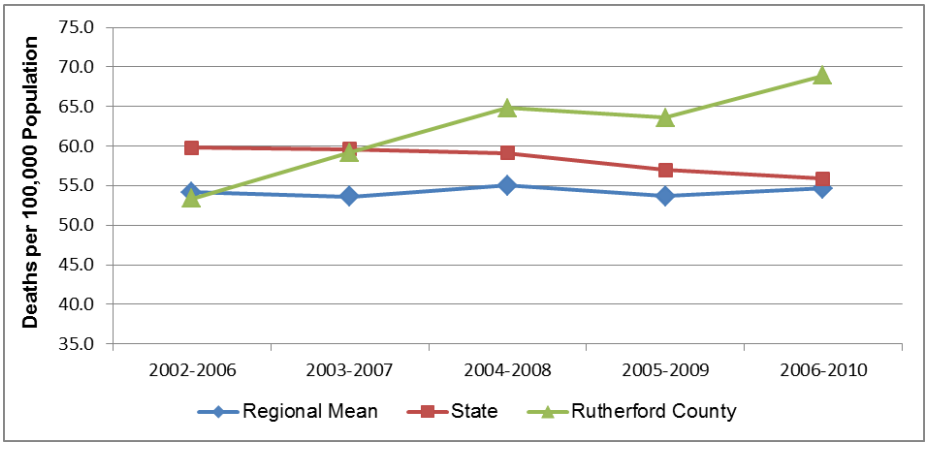
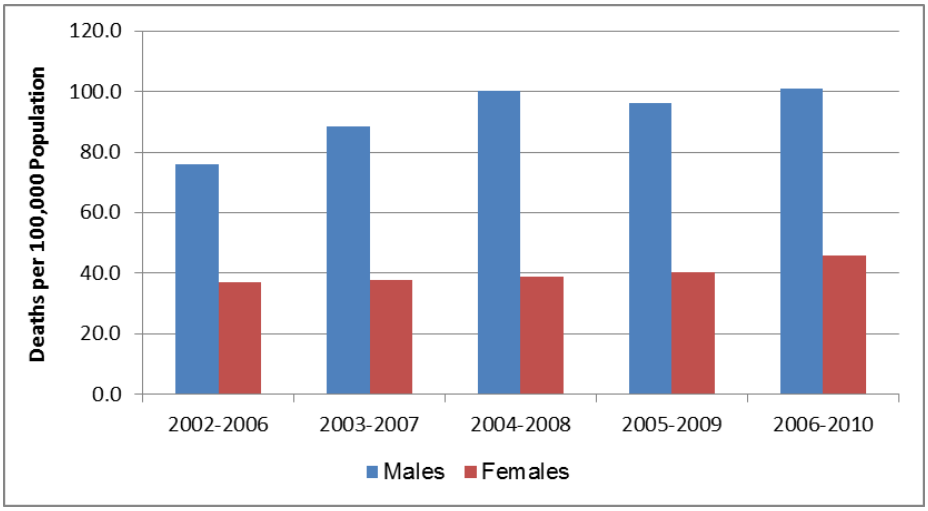


Figure 14 presents gender-stratified Rutherford County lung cancer mortality rates for several aggregate periods. From this data it is clear that males experience disproportionately higher lung cancer mortality than females, with the lung cancer mortality rate among men from 2.0 to

2.6 *times* the rate among women over the period cited. Of further note is an apparent increase in lung cancer mortality rates among both males and females in Rutherford County.

Figure 14. Gender Disparities in Lung Cancer Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

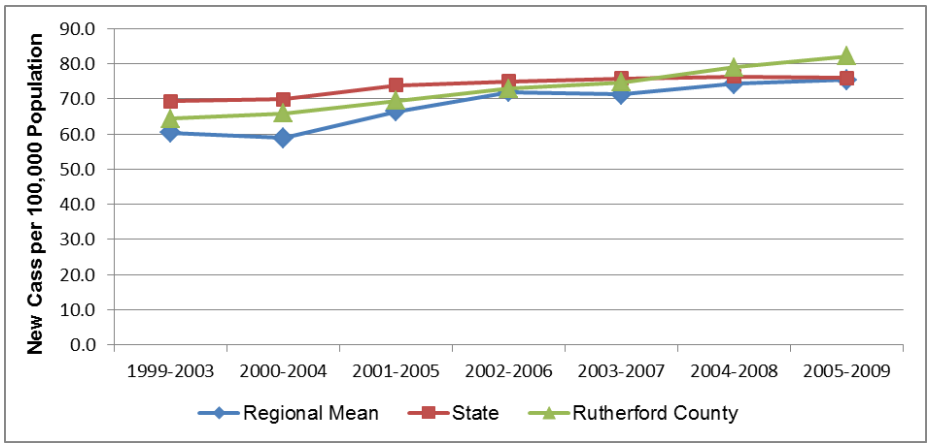


Rutherford County did not have a large enough minority population to yield stable, gender-stratified lung cancer mortality rates for minority groups. Statewide, lung cancer mortality rates demonstrate racial disparity. For example, statewide in 2006-2010 the lung cancer mortality rate among African American non-Hispanic males (90.9) was 19% higher than the comparable rate among white non-Hispanic males (76.1); however, the rate among African American non-Hispanic females (32.7) was 25% lower than the rate among white non-Hispanic females (43.7). The comparable rates among "Other" non-Hispanics were 47.2 for males and 24.6 for females. Hispanic males and females had the lowest lung cancer mortality rates, 12.7 and 8.6, respectively (*Data Workbook*).

Since lung cancer is a significant cause of mortality in Rutherford County, it is instructive to examine the trend of development of new lung cancer cases over time. Figure 15 depicts the seven-year trend of lung cancer incidence.

Lung cancer incidence in Rutherford County increased 17.2% (from 64.4 to 82.1) between 1999-2003 and 2005-2009. In the last two aggregate periods cited the county rate was above both the mean WNC and NC rates. The mean lung cancer incidence rate in WNC increased 25.0% from the 1999-2003 aggregate period (60.3) to the 2005-2009 aggregate period (75.4), while the statewide lung cancer incidence rate increased by 9.5% (from 69.3 to 75.9) over the same time frame. Since lung cancer mortality is already on the rise in the region, the increase in the incidence rate may portend additional lung cancer mortality in the future.

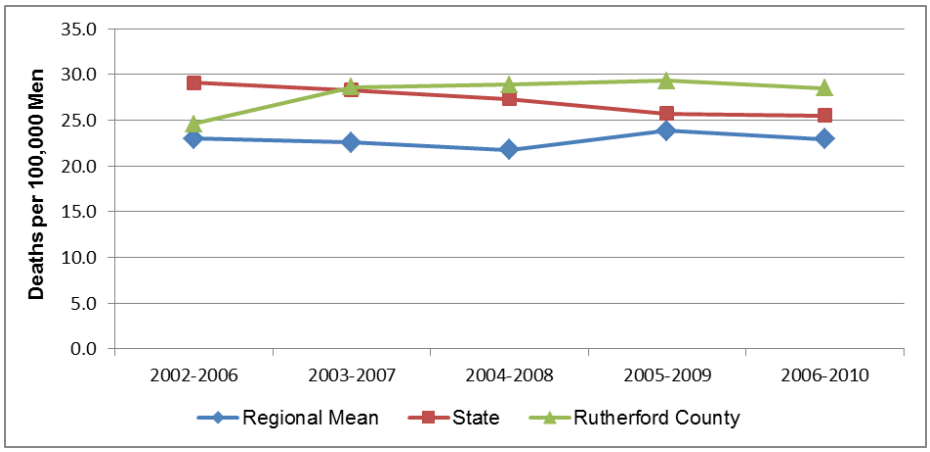
Figure 15. Lung Cancer Incidence, New Cases per 100,000 Population (Five-Year Aggregates, 1999-2003 through 2005-2009)



Prostate Cancer Mortality

Prostate cancer was the second leading cause of cancer deaths in Rutherford County in the 2006-2010 aggregate period; region-wide, prostate cancer was the third leading cause of cancer deaths (Table 32, cited previously). Figure 16 plots the prostate cancer mortality trend for several aggregate periods. Statewide, prostate cancer mortality demonstrates a slight downward trend, with the 2006-2010 rate (25.5) approximately 12% lower than the comparable rate in 2002-2006 (29.1). In WNC, there has been fluctuation but little net decrease in the mean prostate cancer mortality rate over the period cited in the graph (23.0 the first aggregate period; 22.9 the last aggregate period). In Rutherford County, the prostate cancer mortality rate rose over the period cited, from 24.6 for 2002-2006 to 28.5 for 2006-2010, an increase of 15.9%. The county prostate cancer mortality was higher than the mean WNC or NC rates over the last three aggregate periods cited in the figure.

Figure 16. Prostate Cancer Mortality Rate, Deaths per 100,000 Men (Five-Year Aggregates, 2002-2006 through 2006-2010)

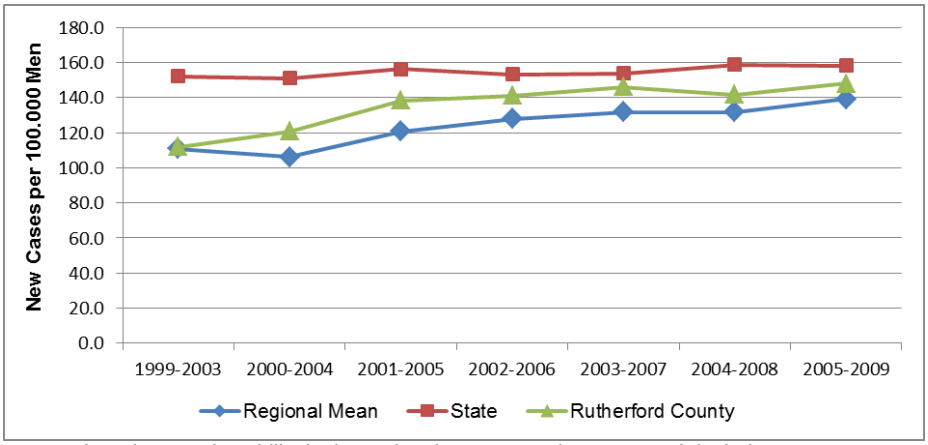


Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

In WNC, none of the 16 counties (including Rutherford County) had large enough minority populations to yield stable prostate cancer mortality rates for any minority group. Statewide, there is a significant racial disparity in prostate cancer mortality. For 2006-2010 in NC as a whole the prostate cancer mortality rate among non-Hispanic African American males (59.4) was *three times* the rate for either non-Hispanic white males (20.4) or "Other" non-Hispanic males (18.2). The prostate cancer mortality rate for Hispanic males (9.5) was the lowest of any minority group in NC (*Data Workbook*).

Prostate cancer incidence statewide has remained relatively stable in recent years, increasing by 4.1%, from 152.0 to 158.3, in the period from 1999-2003 through 2005-2009 (Figure 17). Over the same span of time, the mean prostate cancer incidence in WNC rose from 110.7 new cases per 100,000 men in the 1999-2003 period to 139.2 in 2005-2009 period, a total increase of 25.7%, or over six times the statewide percentage increase. In Rutherford County, the prostate cancer incidence rate was between the mean WNC and NC rate, and rose from 112.0 to 148.1 over the same period, an overall increase of 32.2%

Figure 17. Prostate Cancer Incidence, New Cases per 100,000 Men (Five-Year Aggregates, 1999-2003 through 2005-2009)



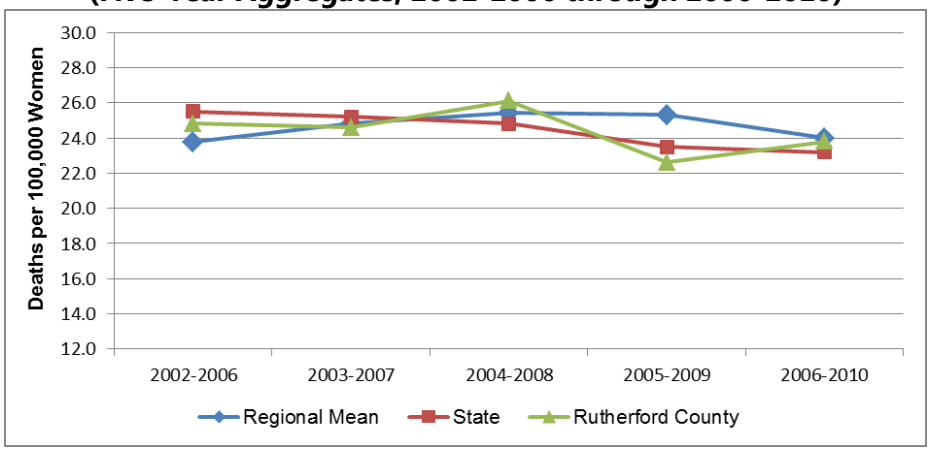
Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Breast Cancer Mortality

Breast cancer was the third leading cause of cancer death in Rutherford County in 2006-2010 (Table 32, cited previously). Data in Figure 18 demonstrate that the breast cancer mortality rate in Rutherford County and WNC changed little from 2002-2006 through 2006-2010. In WNC, the mean breast cancer mortality rate displayed some volatility, but increased 0.8% overall, from 23.8 in 2002-2006 to 24.0 in 2006-2010. In Rutherford County, the breast cancer mortality rate also displayed volatility, but decreased 4.0% overall, falling from 24.8 to 23.8 over the same period. At the state level, the breast cancer mortality rate fell over the period cited, from a high of 25.5 deaths per 100,000 women in 2002-2006 to a low of 23.2 in 2006-2010, a decrease of

9.0%. The breast cancer mortality rate in WNC and Rutherford County exceeded the state rate in two of the three most recent aggregate periods.

Figure 18. Breast Cancer Mortality Rate, Deaths per 100,000 Women (Five-Year Aggregates, 2002-2006 through 2006-2010)

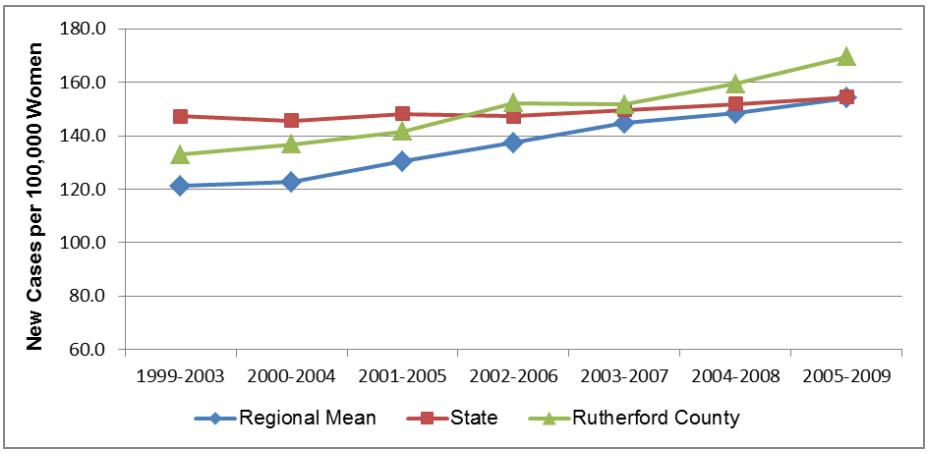


Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

In WNC, none of the 16 counties, including Rutherford, had large enough minority populations to yield stable breast cancer mortality rates for any minority group. At the state level, minority breast cancer mortality rates are higher than the non-minority rates. For example, statewide in 2006-2010 the breast cancer mortality rate among non-Hispanic African American women (30.7) was 40% higher than the comparable rate among non-Hispanic white women (21.9), and the rate among "Other" non-Hispanic women (11.7) was less than half the rate among non-Hispanic white women. The rate among Hispanic women (6.7) was far lower than the rate in any other population (*Data Workbook*).

Figure 19 demonstrates that the breast cancer incidence rate has been increasing in all three jurisdictions over the past several years. In Rutherford County, the breast cancer incidence rate rose from 133.0 new cases per 100,000 women in the 1999-2003 aggregate period to 169.5 in the 2005-2009 aggregate period, an increase of 27.4%. In WNC, the mean breast cancer incidence rate rose from 121.3 in the 1999-2003 aggregate period to 154.0 in the 2005-2009 aggregate period, an increase of 27.0%. At the state level, breast cancer incidence rate rose from 147.3 to 154.5 over the same period, an increase of approximately 5%.

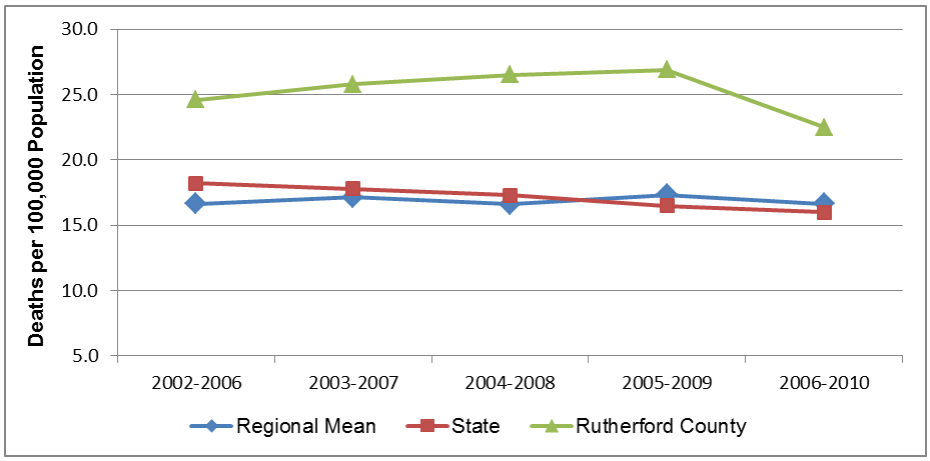
Figure 19. Breast Cancer Incidence, New Cases per 100,000 Women (Five-Year Aggregates, 1999-2003 through 2005-2009)



Colorectal Cancer Mortality

Cancer of the colon, rectum and anus (collectively "colorectal" cancer) caused the fourth largest mortality rate among the major site-specific cancers in Rutherford County, WNC and NC in the 2006-2010 aggregate period (Table 32, cited previously). Figure 20 plots the colorectal cancer mortality rate trend for several aggregate periods. The colorectal cancer mortality rate in Rutherford County rose slightly over the first four aggregate periods until falling to a recent low. The county rate fell from 26.9 in the 2002-2006 aggregate period to 22.5 in the 2006-2010 aggregate period, a decrease of 16.3%. However, the county colorectal cancer rate was from 35% to 55% higher than either the WNC or NC rate throughout the period cited in the figure. As seen for a number of other cancers, the state colorectal cancer mortality rate has fallen steadily in recent years, from a high of 18.2 in the 2002-2006 period to a low of 16.0 in the 2006-2010 period, a rate decrease of 12.1%. In WNC, the mean colorectal cancer mortality rate fluctuated considerably, possibly due to a high proportion of unstable county rates, but was the same at the end of the period cited as at the beginning (16.6). In the most recent two aggregate periods, the mean regional colorectal cancer incidence rate surpassed the state rate, after being below the state rate for the prior three aggregate periods.

Figure 20. Colorectal Cancer Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

As shown in Figure 21, the colorectal cancer mortality rate differs between males and females in Rutherford County, with the rate for males higher than the rate for females. It appears that the colorectal cancer rate for males increased while the comparable rate for females decreased over the period cited in the figure. The rate among females was 24.0 in the 2002-2006 period and 18.3 in the 2006-2010 period, a decrease of 23.8%. Over this same period, the colorectal cancer mortality rate among males in Rutherford County rose from 26.1 to 31.4, an increase of 20.3%.

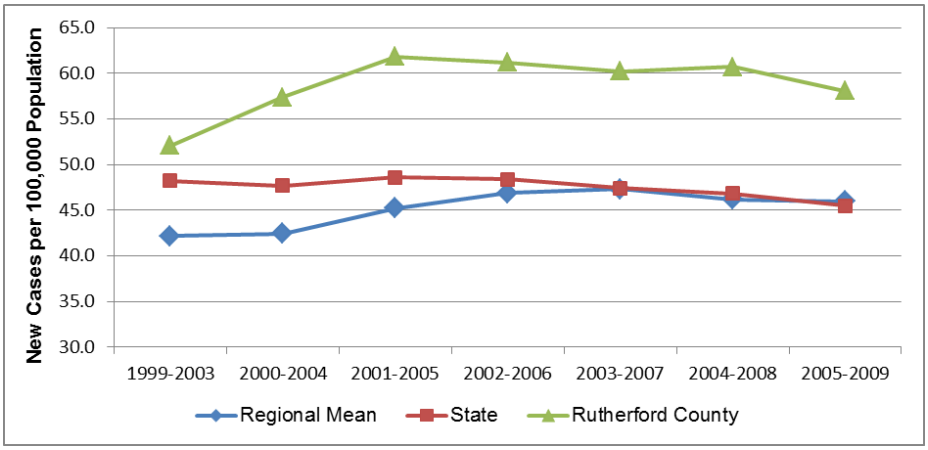
Figure 21. Gender Disparities in Colorectal Cancer Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties (including Rutherford County) had large enough minority populations to yield stable colorectal cancer mortality rates for any minority group, so it is not possible to calculate stable mean region-wide colorectal cancer mortality rates for minorities. Statewide, colorectal cancer mortality rates demonstrate some racial disparities. In the 2006-

2010 aggregate period, the colorectal cancer mortality rate among African American non-Hispanic males (29.0) was 58% higher than the comparable rate among white non-Hispanic males (18.4) and over three times the rate among Other non-Hispanic males (9.0). Statewide in the same period the colorectal cancer mortality rate was 18.5 for African American non-Hispanic females, 12.4 for white non-Hispanic females, and 9.9 for Other non-Hispanic females. Statewide, the colorectal cancer mortality rates were lowest for Hispanic males (7.4) and Hispanic females (5.4) (*Data Workbook*).

From data in Figure 22 it is apparent that the incidence rate for colorectal cancer in Rutherford County rose over the full period cited, from 52.1 in 1999-2003 to 60.2 in 2005-2009, an increase of 15.5%. The mean WNC colorectal cancer incidence rate has been, until recently, following a different trend than the comparable state rate. In the 1999-2003 aggregate period, the mean colorectal cancer incidence rate in WNC (42.2) was 12% lower than the comparable state rate (48.2). By the 2005-2009 aggregate period, the state colorectal cancer rate had fallen to 45.5 (a decrease of over 5%), but the mean WNC rate had risen to 46.0 (an increase of 9%). The colorectal cancer incidence rate in Rutherford County was higher than the WNC and NC rates throughout the period cited.

Figure 22. Colorectal Cancer Incidence, New Cases per 100,000 Population (Five-Year Aggregates, 1999-2003 through 2005-2009)



Chronic Lower Respiratory Disease (CLRD) Mortality

Chronic lower respiratory disease (CLRD) is composed of three major diseases, chronic bronchitis, emphysema, and asthma, all of which are characterized by shortness of breath caused by airway obstruction and sometimes lung tissue destruction. The obstruction is irreversible in chronic bronchitis and emphysema, reversible in asthma. Before 1999, CLRD was called chronic obstructive pulmonary disease (COPD). Some in the field still use the designation COPD, but limit it to mean chronic bronchitis and emphysema only. In the United States, tobacco use is a key factor in the development and progression of CLRD/COPD, but exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role (West Virginia Health Statistics Center, 2006).

CLRD/COPD was the third leading cause of death in WNC and in Rutherford County for the 2006-2010 aggregate period (Table 30, cited previously).

Figure 23 plots CLRD mortality rates for five aggregate periods. The CLRD mortality rate has been relatively stable in WNC and NC for the overall period from 2002-2006 through 2006-2010. In Rutherford County, which had the highest rate of the three jurisdictions over the entire period, the CLRD mortality rate rose from 57.6 in 2002-2006 to 59.5 in 2006-2010, an increase of 3.3%. The data also shows that CLRD mortality has been and remains higher in WNC than in the state as a whole. Neither the NC nor the mean WNC CLRD mortality rates improved significantly over the period. In 2006-2010, CLRD mortality rates were 59.5 in Rutherford County, 46.4 in NC, and 51.1 in WNC.

Figure 23. CLRD Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)

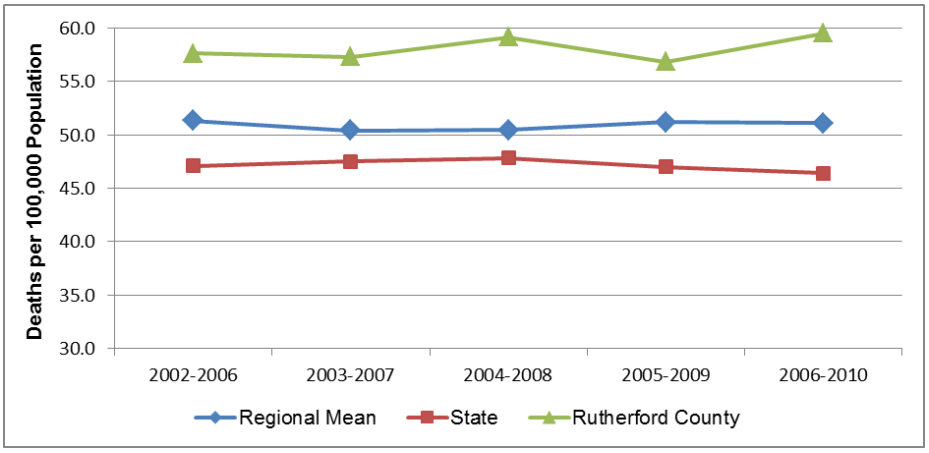


Figure 24 shows how in Rutherford County the CLRD mortality rate among males exceeded the comparable rate among females over the past decade. This gender gap, which in the 2003-2007 aggregate period appeared to be closing, subsequently appeared to be widening. In 2006-2010, the CLRD mortality difference between men and women in Rutherford County, which was 23% in the 2003-2007 period, was 46% in the 2006-2010 period. The mortality rate among males in the county increased 14.0% (from 65.6 to 74.8) over that interval, and the rate among females decreased 3.8% (from 53.1 to 51.1).

Figure 24. Gender Disparities in CLRD Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

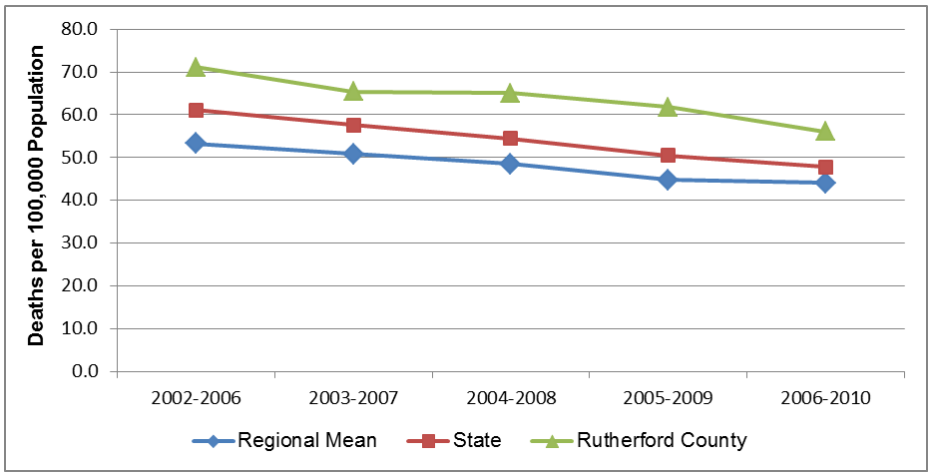
In WNC, none of the 16 counties, including Rutherford, had large enough minority populations to yield stable CLRD mortality rates for any minority group, so it is not possible to calculate a stable mean region-wide CLRD mortality rates for minorities. At the state level for the 2006-2010 aggregate period, the CLRD mortality rate was highest among non-Hispanic white males (58.7), followed by non-Hispanic white females (46.4), non-Hispanic African American males (45.1), Other non-Hispanic males (27.4), non-Hispanic females (21.1), and Other non-Hispanic females (15.6). CLRD mortality rates among Hispanic males and females are much lower (6.8 and 7.5, respectively) (*Data Workbook*).

Cerebrovascular Disease (Stroke) Mortality

Cerebrovascular disease describes the physiological conditions that lead to stroke. Strokes happen when blood flow to the brain stops and brain cells begin to die. There are two types of stroke. Ischemic stroke (the more common type) is caused by a blood clot that blocks or plugs a blood vessel in the brain. The other kind, called hemorrhagic stroke, is caused by a blood vessel that breaks and bleeds into the brain (US National Library of Medicine).

Cerebrovascular disease (stroke) was the fourth leading cause of death in both Rutherford County and WNC in the 2006-2010 aggregate period (Table 30, cited previously). Figure 25 plots stroke mortality rates for several aggregate periods. The cerebrovascular disease mortality rate in Rutherford County was higher than the comparable rates in the other two jurisdictions throughout the period cited in the figure. The stroke mortality rates for Rutherford County, WNC and NC all decreased over the period cited in the graph. The rate fell 21.1% in Rutherford County (from 71.1 to 56.1), 17.4% in WNC (from 53.3 to 44.9) and 21.8% in NC (from 61.1 to 47.8).

Figure 25. Cerebrovascular Disease Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Stroke is one cause of death for which there is little gender disparity in the WNC region (D*ata Workbook)*. As the data in Figure 26 show, the same is *not* the case in Rutherford County. In Rutherford County the stroke mortality rate among males varied from 23% to 48% higher than the comparable rate for females throughout the period cited. The county stroke mortality rates for both men and women in the county appear to have decreased over the same period, for men by 26.2% (from 83.8 to 61.5) and for women by 18.5% (from 61.5 to 50.1).

Figure 26. Gender Disparities in Cerebrovascular Disease Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

No county in WNC, including Rutherford, has large enough minority populations to yield stable cerebrovascular disease mortality rates for multiple minority groups. At the state level stroke

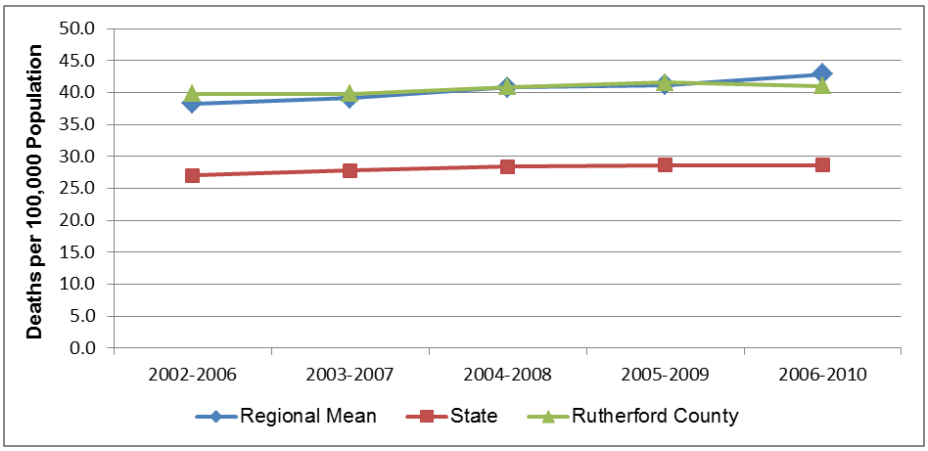
mortality demonstrates a significant racial disparity. Statewide in the 2006-2010 aggregate period African American non-Hispanic males and females had the highest stroke mortality rates, 71.4 and 60.1, respectively. The comparable rate for non-Hispanic white males was 44.9, and the rate for non-Hispanic white females was 43.6, and the rate for Other non-Hispanic males was 39.6 and the rate for Other non-Hispanic females was 30.0. The Hispanic population had the lowest stroke mortality rates statewide over the same period, 13.1 among males and 15.2 among females (*Data Workbook*).

Non-Motor Vehicle Injury Mortality ("All Other Injuries Mortality")

Mortality due to injuries *not* involving motor vehicles is the fifth leading cause of death in WNC and in Rutherford County in the 2006-2010 aggregate period (Table 30, cited previously). This "all other injuries" category includes death without purposeful intent due to poisoning, falls, burns, choking, animal bites, drowning, and occupational or recreational injuries. (Death due to injury involving motor vehicles is a separate cause of death and will be covered subsequently.)

Figure 27 plots the trend in mortality due to all other injuries for five aggregate periods. Throughout most of the period cited, the non-motor vehicle injury mortality rate in Rutherford County exceeded the comparable state figure, but was nearly the same as the mean WNC rate. While the state rate increased 5.9% (from 27.0 to 28.6) over the entire span cited, the mean WNC rate rose 12.3% from the first period (38.2) to the last (42.9). Over the same span, the comparable rate in Rutherford County rose 3.0%, from 39.8 to 41.0.

Figure 27. All Other Unintentional Injury Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

As in other leading causes of death, the mortality rate for non-motor vehicle injury in Rutherford County demonstrated a strong gender disparity (Figure 28). In each of the periods cited, the mortality rate for all other unintentional injuries among males was two to three *times* the comparable rate among females. The non-motor vehicle injury mortality rate among women in Rutherford County decreased 10.7% overall (from 27.0 to 24.1) between the 2002-2006 and

2006-2010 aggregate periods. The comparable rate among men in the county increased 10.7% over the same period, from 55.3 to 61.2.

Figure 28. Gender Disparities in All Other Unintentional Injury Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties, including Rutherford, had large enough minority populations to yield stable all other injury mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. At the state level for 2006-2010, mortality rates attributable to non-motor vehicle injury are higher among males of each race/ethnicity than females. All other injury mortality rates are highest among non-Hispanic white males (42.2), non-Hispanic African American males (31.7), Other non-Hispanic males (25.6) and Hispanic males (15.0). Comparable rates for females are 23.0 for non-Hispanic white females, 13.1 for non-Hispanic African American females, 12.5 for Other non-Hispanic females, and 6.2 for Hispanic females (*Data Workbook*).

Alzheimer's Disease Mortality

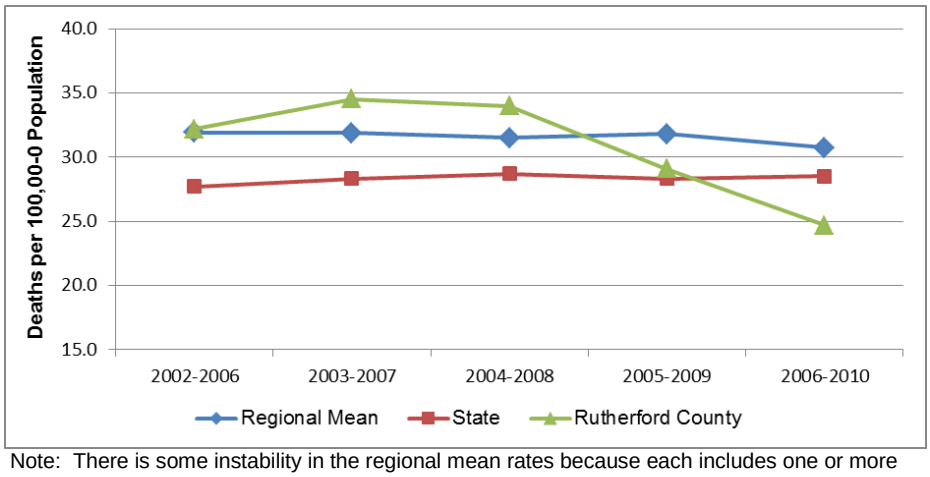
Alzheimer's disease is a progressive neurodegenerative disease affecting mental abilities including memory, cognition and language. Alzheimer's disease is characterized by memory loss and dementia. The risk of developing Alzheimer's disease increases with age (e.g., almost half of those 85 years and 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 (National Institute on Aging, 2012).

Alzheimer's disease was the sixth leading cause of death in WNC and in Rutherford County for the aggregate period 2006-2010 (Table 30, cited previously).

Figure 29 plots Alzheimer's disease mortality rates over several aggregate periods. In Rutherford County, the Alzheimer's disease mortality rate rose for two aggregate periods before

falling to a rate below both the mean WNC and NC rates; between 2004-2008 and 2006-2010 the county mortality rate fell 27.4%. The mean Alzheimer's disease mortality rate in WNC was higher than the comparable state rate throughout the span of time cited in Figure 29, despite the fact that the data used are all age-adjusted. Note, however, that NC SCHS made the age-adjustment calculations on the basis of the 2000 US Census, and as we have seen, the "elderly" population in WNC has grown considerably since 2000. It should be noted that the difference between the WNC and NC rates may look different once the 2010 Census becomes the basis of the age adjustment. In the 2006-2010 aggregate period the Alzheimer's disease mortality rate was 24.7 in Rutherford County, 30.7 in WNC, and 28.5 in NC.

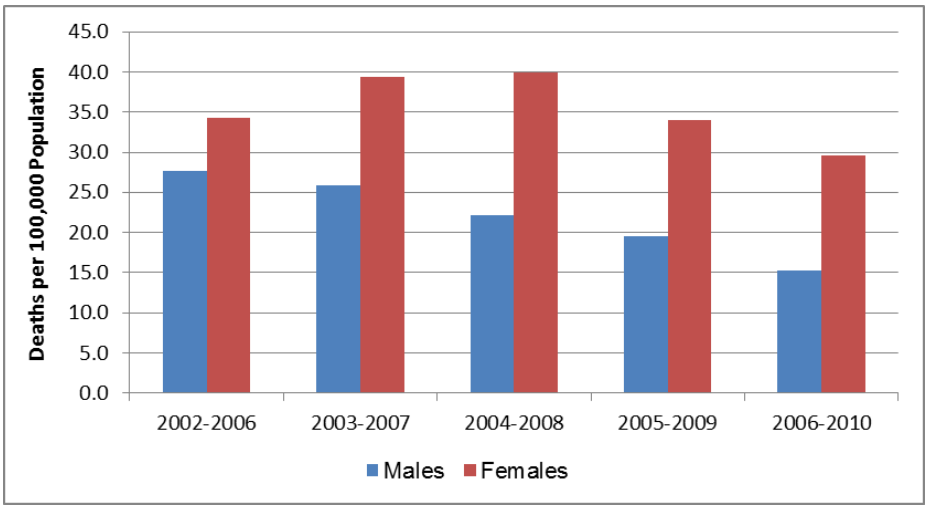
Figure 29. Alzheimer's Disease Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Alzheimer's disease mortality has a strong gender component, with mortality rates traditionally much higher among women than among men. In WNC, for example, the mean Alzheimer's disease mortality among women was from 51% to 62% higher than the rate among men over the past decade (*Data Workbook*). Figure 30 plots gender-stratified data for Alzheimer's disease mortality in Rutherford County. Gender-stratified Alzheimer's disease mortality rates for Rutherford County demonstrate some variability over the period covered in the figure, but the rate for county females were from 24% to 93% higher than comparable rate for county males over the period cited. The Alzheimer's disease mortality rate among county males decreased 44.8% over the period cited, from 27.7 in 2002-2006 to 15.3 in 2006-2010. Over the same span of time, the rate among county females rose for two aggregate periods before falling to 29.6 in 2006-2010. In Rutherford County in the 2006-2010 aggregate period, the Alzheimer's disease mortality rate for males was 15.3 and the rate for females was 29.6, 93.5% higher than the rate for males.

Figure 30. Gender Disparities in Alzheimer's Disease Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



In WNC, none of the 16 counties, including Rutherford, had large enough minority populations to yield stable Alzheimer's disease mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. Statewide, the disparity in Alzheimer's disease mortality may be more gender-based than race-based. In NC as a whole in the 2006-2010 aggregate period, the Alzheimer's disease mortality rate for white non-Hispanic females was 32.5, compared to 23.3 for white, non-Hispanic males; the rate for African American non-Hispanic females was 27.6 compared to 20.9 for African American non-Hispanic males; and the rate for Other non-Hispanic females was 21.1 compared to 17.3 for Other non-Hispanic males. The Alzheimer's disease mortality rate for Hispanic females was 9.7; due to a small number of events, the NC SCHS did not release a comparable rate for Hispanic males (*Data Workbook*).

Diabetes Mellitus Mortality

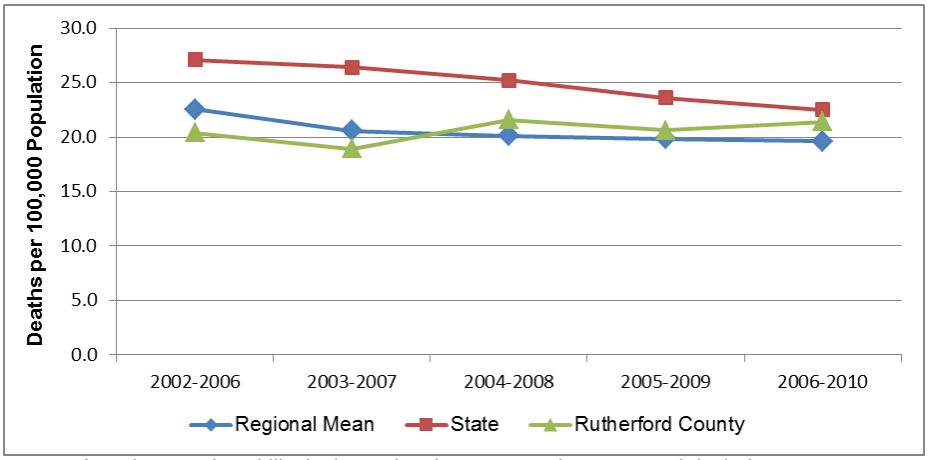
Diabetes is a disease in which the body's blood glucose levels are too high due to problems with insulin production and/or utilization. Insulin is a hormone that helps the glucose get to cells where it is used to produce energy. With type 1 diabetes, the body does not make insulin. With type 2 diabetes, the more common type, the body does not make or use insulin well. Without enough insulin, glucose stays in the blood. Over time, having too much glucose in the blood can damage the eyes, kidneys, and nerves. Diabetes can also lead to heart disease, stroke and even the need to remove a limb (US National Library of Medicine).

Diabetes is the seventh leading cause of death in WNC and in Rutherford County in the 2006-2010 aggregate period (Table 30, cited previously).

Figure 31 plots trend data for diabetes mortality for several aggregate periods. According to data in Figure 31, the diabetes mortality rate in Rutherford County was below both the mean

WNC and NC rates for the first two aggregate periods before rising to above the mean WNC rate. The mean diabetes mortality rate in WNC was and had been lower than the state rate. Statewide, the diabetes mortality rate fell from 27.1 to 22.5 (17.0%) over the period cited in the figure. Region-wide, the mean diabetes mortality rate fell from 22.6 to 19.6 (13.3%) over the same period. In Rutherford County the diabetes mortality rate rose 4.9% from the beginning of the period cited (20.4) to the end (21.4).

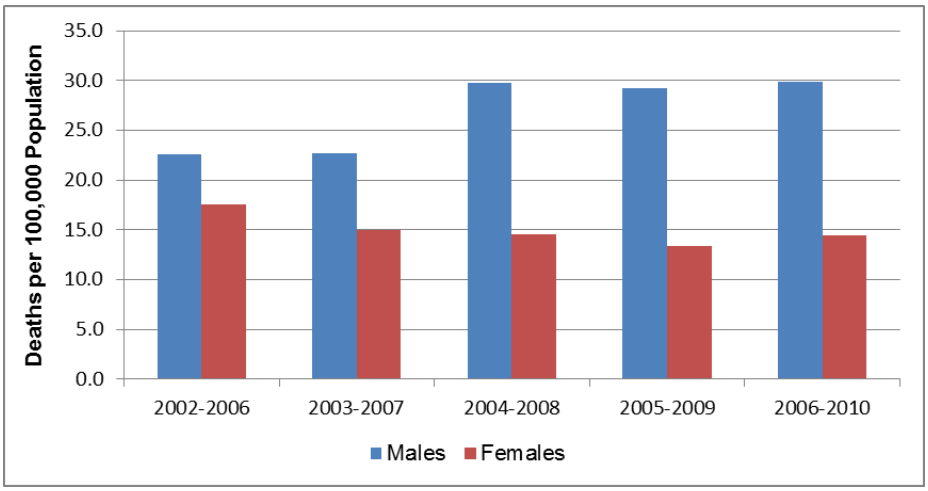
Figure 31. Diabetes Mellitus Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Figure 32 plots gender-stratified diabetes mortality rates for Rutherford County, where diabetes mortality demonstrates a significant and changing gender disparity. From this data it would appear that the difference in diabetes mortality between men and women has grown as the rate for males increased and the rate for females decreased. Over the period cited in the figure, the diabetes mortality rate among Rutherford County males rose from 22.6 to 29.9, an increase of 32.3%. At the same time, the diabetes mortality rate among county females fell from 17.6 to 14.4, a decrease of 18.2%.

Figure 32. Gender Disparities in Diabetes Mellitus Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



In WNC, none of the 16 counties had large enough minority populations to yield stable diabetes mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. Statewide, diabetes mortality demonstrates significant racial disparities. At the state level in the 2006-2010 aggregate period, the highest diabetes mortality rates were observed among African American non-Hispanic males and females, with rates of 51.3 and 42.5, respectively. The next highest rates occurred among Other non-Hispanic persons, both male and female, with rates of 25.0 and 25.5, respectively. The diabetes mortality rate during this period for white non-Hispanics was 22.2 for males and 14.4 for females. The lowest diabetes mortality was observed in the Hispanic population, with a rate of 11.2 for men and 7.1 for women (*Data Workbook*).

Pneumonia and Influenza Mortality

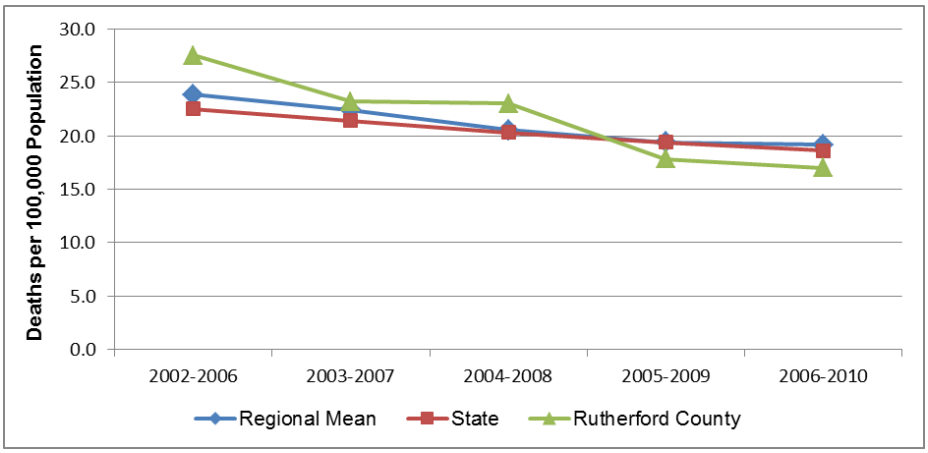
Pneumonia and influenza are diseases of the lungs. Pneumonia is an inflammation of the lungs caused by either bacteria or viruses. Bacterial pneumonia is the most common and serious form of pneumonia, and among individuals with suppressed immune systems, it may follow influenza or the common cold. Influenza (the "flu") is a contagious infection of the throat, mouth and lungs caused by an airborne virus (US National Library of Medicine).

The joint mortality category pneumonia and influenza was the eighth leading cause of death in WNC but the tenth leading cause of death in Rutherford County for the period 2006-2010 (Table 30, cited previously).

Figure 33 plots the mortality trend for pneumonia and influenza for several aggregate periods. From this data it is apparent that the mean pneumonia/influenza mortality rate in WNC closely paralleled the comparable NC rate throughout the period cited in the figure. Both the regional and state mortality rates for this cause of death decreased in the net over the period. The mean WNC rate decreased from 23.8 to 19.1 (19.7%) and the comparable NC rate decreased from 22.5 to 18.6 (17.3%). A corresponding decrease in pneumonia/influenza mortality in Rutherford County was somewhat more erratic but in the end more dramatic, falling 38.2%, from 27.5 in

2002-2006 to 17.0 in 2006-2010. The county rate was lower than both the comparable WNC and NC rates by the end of the period shown in the figure.

Figure 33. Pneumonia and Influenza Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Figure 34 plots gender-stratified pneumonia/influenza mortality rates for Rutherford County for several aggregate periods. According to data displayed in the figure, males in the county had higher pneumonia/influenza mortality rates than females over the period cited, even as the rates among both Rutherford County males and females fell substantially. The rate among county males fell 41.7% from 33.6 to 19.6, and the rate among county females fell 36.7% from 24.5 to 15.5. In the 2006-2010 period the pneumonia/influenza mortality rate among Rutherford County males was 26.5% higher than the comparable rate among county females.

Figure 34. Gender Disparities in Pneumonia/Influenza Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties had large enough minority populations to yield stable pneumonia/influenza mortality rates for any minority group, so it is not possible to calculate

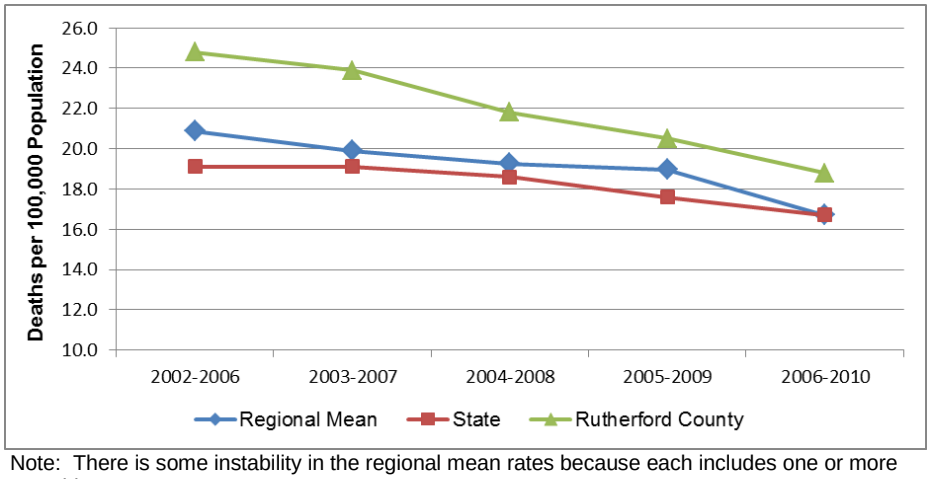
stable mean region-wide rates for minorities. At the state level pneumonia and influenza mortality rates demonstrate moderate racial disparities. Statewide in the 2006-2010 aggregate period the highest pneumonia/influenza mortality rate (24.1) occurred among African American non-Hispanic males, followed in order by white non-Hispanic males (21.5), white non-Hispanic females (17.3), African American non-Hispanic females (15.8), other non-Hispanic males (11.1), and other non-Hispanic females (9.0). The Hispanic population, both male and female, experienced the lowest pneumonia and influenza mortality rates, 5.8 and 7.1, respectively (*Data Workbook*).

Unintentional Motor Vehicle Injury (UMVI) Mortality

Death due to injuries incurred in unintentional motor vehicle crashes was the ninth leading cause of death in WNC and in Rutherford County in the 2006-2010 aggregate period (Table 30, cited previously).

Figure 35 plots UMVI mortality rates over several aggregate periods. From this data it appears that the mortality rate attributable to UMVI in Rutherford County was higher than both the mean WNC and NC rates throughout the period cited. UMVI mortality rates fell in WNC and NC over the period cited in the figure. In WNC, the mean UMVI mortality rate fell 20.1%, from 20.9 to 16.7, and in NC the rate fell 12.5%, from 19.1 to 16.7. More overall change was apparent in Rutherford County, where the rate fell from 24.8 in the 2002-2006 aggregate period to 18.8 in the 2006-2010 aggregate period, a decrease of 24.2%.

Figure 35. Unintentional Motor Vehicle Injury Mortality Rate
Deaths per 100,000 Population
(Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Figure 36 plots UMVI mortality differences between WNC men and women in Rutherford County for several aggregate periods. From this data it is apparent that UMVI mortality among Rutherford County males was from 1.9 to 2.5 times the comparable rate among females over the period cited. While UMVI mortality rates among Rutherford County males decreased 30.1%

(from 35.9 to 25.1) over the period shown, the comparable rate for county females decreased 7.8%, from 14.1 to 13.0.

Figure 36. Gender Disparities in Unintentional Motor Vehicle Injury Mortality Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

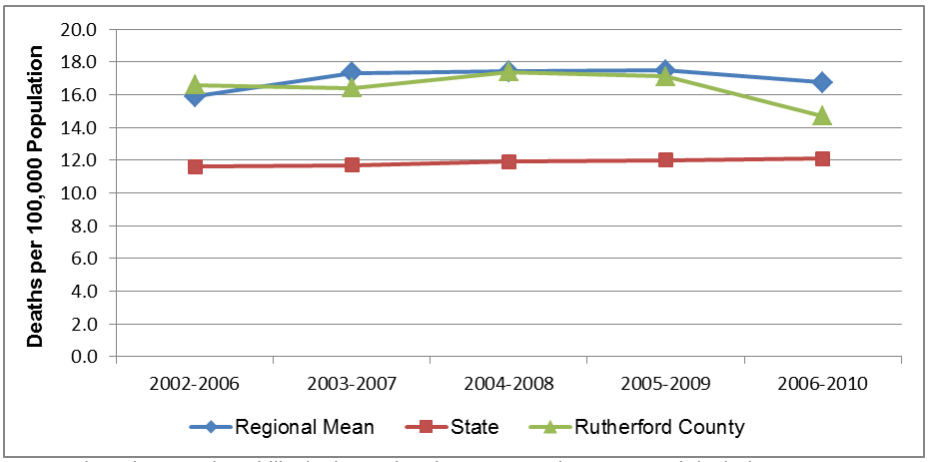
In WNC, none of the 16 counties, including Rutherford County, had large enough minority populations to yield stable UMVI mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. Statewide, disparities in UMVI mortality appear more gender-based than racially-based. At the state level in 2006-2010, the highest UMVI mortality rates all occurred among males with the following rates, in decreasing order: 27.1 for African American non-Hispanic males, 24.2 for non-Hispanic males of other races, and 23.6 for both white non-Hispanic males and Hispanic males. Among women statewide the highest rates were noted among non-Hispanic females of other races (10.4), followed by white non-Hispanic females (9.9), African American non-Hispanic females (7.9) and Hispanic females (7.3) (*Data Workbook*).

Suicide Mortality

Suicide was the tenth leading cause of death in WNC and the twelfth leading cause of death in Rutherford County for the 2006-2010 aggregate period (Table 30, cited previously).

Figure 37 plots suicide mortality rates for several aggregate periods. From these data it appears that mortality due to suicide is about the same in Rutherford County as in the WNC region, but higher than in NC as a whole. The mean suicide mortality rate in WNC ranged from 37% to 48% higher than the state rate over the period cited in Figure 37. While the suicide mortality rates in WNC and NC changed little over the period cited (with increases of 5.0% and 4.3%, respectively), the comparable rate in Rutherford County fell from 16.6 to 14.7, a decrease of 11.4%.

Figure 37. Suicide Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Suicide mortality in Rutherford County demonstrates a very pronounced gender disparity. It must be noted that all the rates for females shown in Figure 38 are either unstable or were not released due to small numbers of events. Nevertheless it appears from the data plotted that over the span of years cited in the figure, the suicide mortality rate for Rutherford County males was 2.8 to 3.7 times the comparable rate for county females.

Figure 38. Gender Disparities in Suicide Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties, including Rutherford County, had large enough minority populations to yield stable suicide mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. At the state level, suicide mortality demonstrates a racial disparity as well as a gender disparity. Statewide in the 2006-2010 aggregate period the highest suicide mortality rates occurred among white non-Hispanic males

(23.9) followed by other non-Hispanic males (10.8), African American non-Hispanic males (8.6) and Hispanic males (7.4). Among females, the highest suicide mortality rates occurred among white non-Hispanic females (6.7) followed by other non-Hispanic females (4.7), Hispanic females (1.7) and African American non-Hispanic females (1.5) (*Data Workbook*).

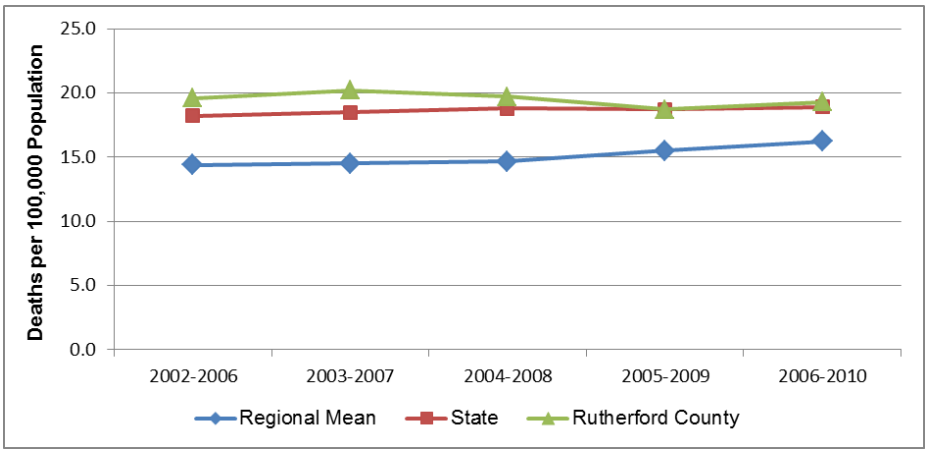
Nephritis, Nephrotic Syndrome and Nephrosis (Kidney Disease) Mortality

Nephritis refers to inflammation of the kidney, which causes impaired kidney function. Nephritis can be due to a variety of causes, including kidney disease, autoimmune disease, and infection. *Nephrotic syndrome* refers to a group of symptoms that include protein in the urine, low blood protein levels, high cholesterol levels, high triglyceride levels, and swelling. *Nephrosis* refers to any degenerative disease of the kidney tubules, the tiny canals that make up much of the substance of the kidney. Nephrosis can be caused by kidney disease, or it may be a complication of another disorder, particularly diabetes (MedineNet.com, March 2012; PubMed Health, 2011).

Kidney disease was the eleventh leading cause of death in WNC, but the eighth leading cause of death in Rutherford County for the 2006-2010 aggregate period (Table 30, cited previously).

Figure 39 plots kidney disease mortality over several aggregate periods. The mean kidney disease mortality rate in WNC was below the comparable figure for NC as a whole throughout the period cited, but the comparable rate in Rutherford County was entirely above the WNC rate, and even above the NC rate for part of the period cited. Between the 2002-2006 and 2006-2010 aggregate periods the mean WNC kidney disease mortality rate climbed from 14.4 to 16.2 (12.5%), and the NC rate increased slightly, from 18.2 to 18.9 (3.8%). In Rutherford County the kidney disease mortality rate decreased 1.5%, from 19.6 to 19.3 over the same period.

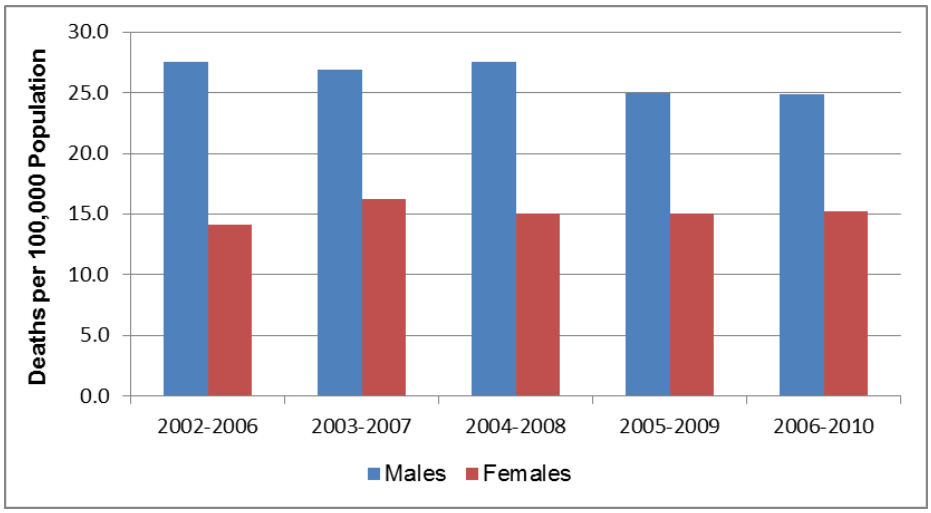
Figure 39. Kidney Disease Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Figure 40 displays gender-stratified kidney disease mortality data for Rutherford County. According to data presented in Figure 40, the kidney disease mortality rate among Rutherford County men was from 31% to 49% higher than the comparable rate among county women throughout the span of time cited in the figure.

Figure 40. Gender Disparities in Kidney Disease Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



No county in WNC, including Rutherford, has large enough minority populations to yield stable kidney disease mortality rates for multiple minority groups. However, there is a valid kidney disease mortality rate for African American non-Hispanic women in Rutherford County for 2006-2010. This rate (50.4) is 3.7 times the comparable rate among white non-Hispanic women in the county (13.5). This large racial disparity among Rutherford County women was noted in the 2005-2009 aggregate period as well, when the difference was a factor of 3.5 (46.6 vs. 13.2). Statewide for 2006-2010 kidney disease mortality rates demonstrate both racial and gender disparities. Men of all racial groups suffer kidney disease mortality at rates higher than their female counterparts in the same racial group, and non-Hispanic African Americans of either gender have the highest kidney disease mortality rates among their gender group. For instance, kidney disease mortality among non-Hispanic African American males in this period was 42.4, compared to 19.7 among non-Hispanic white males, 18.0 among other non-Hispanic males, and 7.1 among Hispanic males. Similarly, the kidney disease mortality rate among non-Hispanic African American females was 34.6, followed by 15.3 among other non-Hispanic females, 12.5 among non-Hispanic white females, and 5.4 among Hispanic females (*Data Workbook*).

Septicemia Mortality

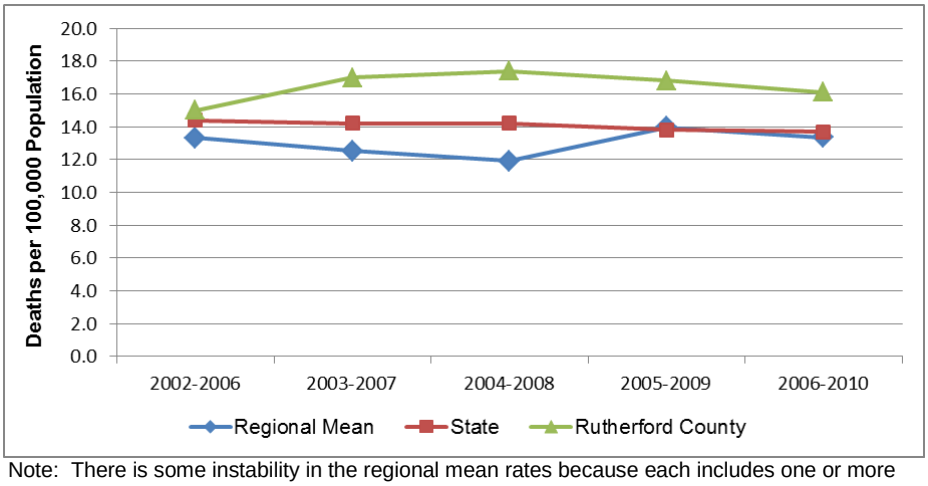
Septicemia is a rapidly progressing infection resulting from the presence of bacteria in the blood. The disease often arises from other infections throughout the body, such as meningitis, burns, and wound infections. Septicemia can lead to septic shock in which case low blood pressure and low blood flow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

septicemia can be community-acquired, some cases are acquired by patients hospitalized initially for other conditions; these are referred to as nosocomial infections. Sepsis is now a preferred term for septicemia, but NC SCHS continues to use the older term.

Septicemia was the twelfth leading cause of death in WNC and the eleventh leading cause of death in Rutherford County for the aggregate period 2006-2010 (Table 30, cited previously).

Figure 41 plots septicemia mortality data for several aggregate periods. This data shows that the mean WNC septicemia mortality rate fluctuated over the period cited in approaching the state rate, while the state rate decreased 4.9%, from 14.1 to 13.7. Fluctuation at the WNC-level may be attributed partly to unstable regional mean rates. In Rutherford County from the 2002-2006 aggregate period to the 2006-2010 aggregate period, the septicemia mortality rate rose 7.3% overall, from 15.0 to 16.1. Throughout the period cited in the figure the Rutherford County septicemia mortality rate was above both the mean WNC and NC rates.

Figure 41. Septicemia Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Gender-stratified septicemia mortality rates plotted for Rutherford County in Figure 42 demonstrate a gender disparity, with the rate for males higher than the rate for females. While the septicemia mortality rate among county females appeared to have stabilized around 15.0, the comparable rate for county males both rose and fell. In the 2006-2010 aggregate period, the septicemia mortality rate among Rutherford County males had diminished to a point (17.9) 20.1% higher than the rate among county females (14.9).

Figure 42. Gender Disparities in Septicemia Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties, including Rutherford County, had large enough minority populations to yield stable septicemia mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. At the state level, where the calculation of stable septicemia mortality rates is possible, mortality is highest among African American non-Hispanics, both male and female. Statewide the septicemia mortality rate for African American non-Hispanic males in the 2002-2010 aggregate period was 23.7; for females of the same population group the rate was 18.8. For white non-Hispanic males the comparable rate was 13.7; for white non-Hispanic females the rate was 11.5. Among other non-Hispanic males the septicemia mortality rate was 10.6; among other non-Hispanic females the rate was 7.6. The lowest septicemia mortality rates occurred among Hispanics; for males the rate was 5.3, and for females, 4.9 (*Data Workbook*).

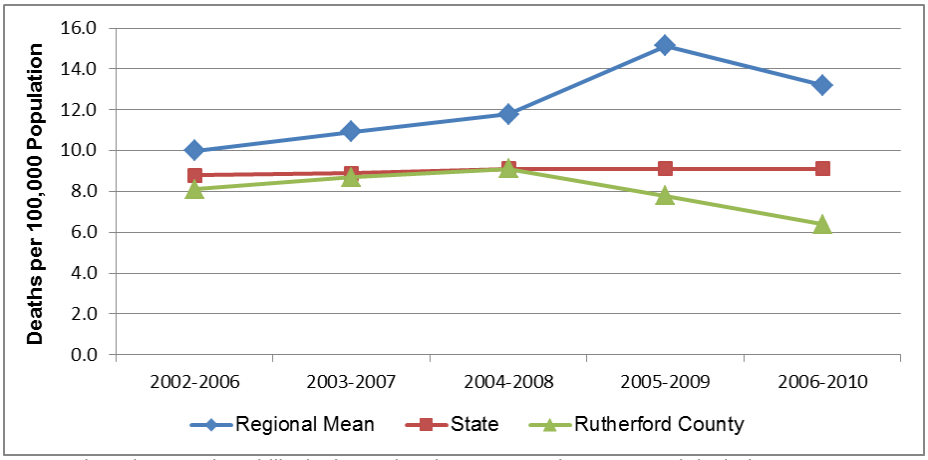
Chronic Liver Disease and Cirrhosis Mortality

Chronic liver disease describes an ongoing disturbance of liver function that causes illness. Liver disease, also referred to as hepatic disease, is a broad term that covers all the potential problems that cause the liver to fail to perform its designated functions. Usually, more than 75% or three quarters of liver tissue needs to be affected before decrease in function occurs. Cirrhosis is a term that describes permanent scarring of the liver. In cirrhosis, the normal liver cells are replaced by scar tissue that cannot perform any liver function (MedicineNet.com, June 2012).

Chronic liver disease and cirrhosis was the thirteenth leading cause of death in WNC and in Rutherford County in the 2006-2010 aggregate period (Table 30, cited previously).

Figure 43 plots mortality data for liver disease over several aggregate periods. This data shows that the liver disease mortality rate in Rutherford County was lower than both the mean WNC and NC rates throughout the period cited. The mean WNC rate exceeded the state rate throughout the period cited. In WNC, the mean chronic liver disease mortality rate rose from 10.0 for 2002-2006 to 13.2 for 2006-2010, an increase of 32%. In Rutherford County, the liver disease mortality rate fell from 8.1 to 6.4, a 21.0% increase. Throughout this period the state liver disease mortality rate has been stable at or near 9.1.

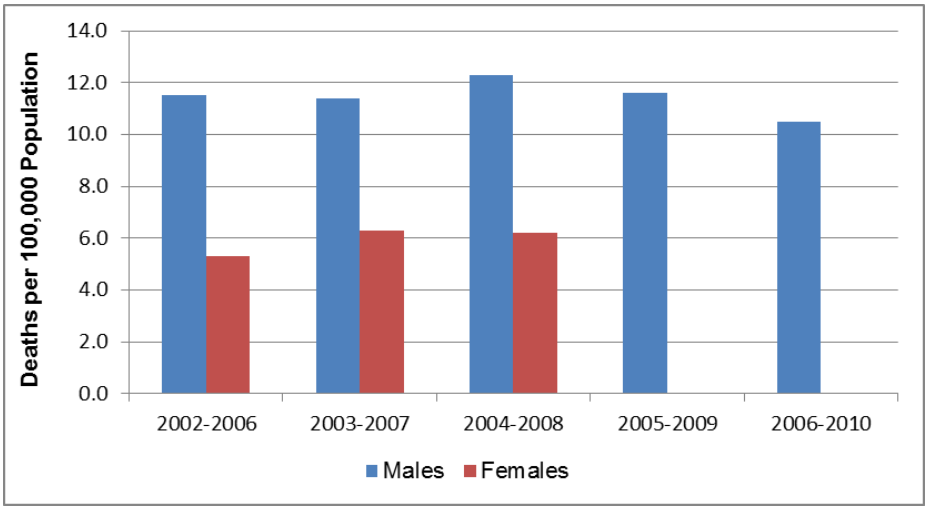
Figure 43. Chronic Liver Disease and Cirrhosis Mortality Rate
Deaths per 100,000 Population
(Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Gender-stratified data presented in Figure 44 reveals a strong gender-based disparity in liver disease mortality rates in Rutherford County. It must be noted, however, that all the rates for females either are unstable or were not released. Nevertheless, it appears from this data that the liver disease mortality rate among Rutherford County men ranged from 1.8 to 2.2 times the comparable rate among Rutherford County women. In the 2004-2008 aggregate period the liver disease mortality rate for females was 6.2 and the comparable rate for males was 12.3, twice the rate for females.

Figure 44. Gender Disparities in Chronic Liver Disease and Cirrhosis Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)



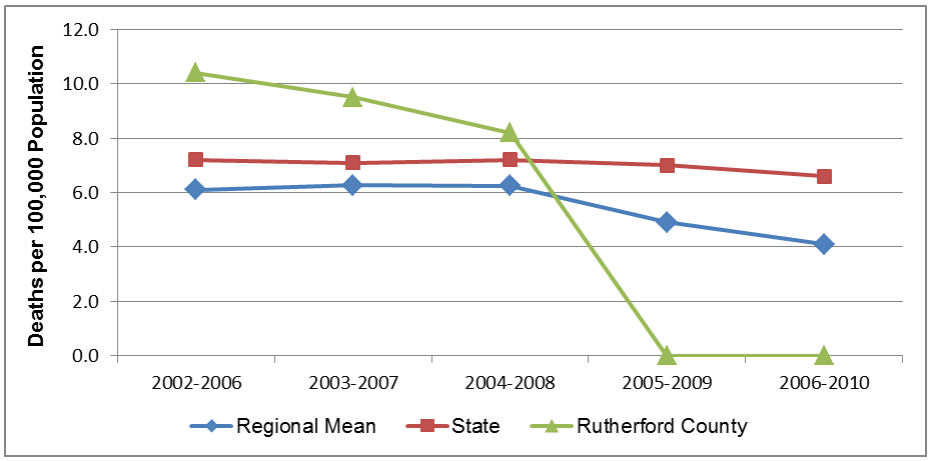
In WNC, none of the 16 counties, including Rutherford County, had large enough minority populations to yield stable chronic liver disease/cirrhosis mortality rates for any minority group, so it is not possible to calculate stable mean region-wide rates for minorities. At the state level, liver disease mortality rates demonstrate some differences among racial groups but a consistent trend of higher mortality rates among men than women. For example, the liver disease mortality rate is highest among white non-Hispanic men (13.8), followed by African American non-Hispanic men (11.2). The liver disease mortality rates among other non-Hispanic men was 7.5, and the rate among Hispanic men was 6.8. Liver disease mortality rates among females were highest for white non-Hispanic women (6.0), followed by other non-Hispanic women (5.2), and African American women non-Hispanic women (5.1). There were too few liver disease deaths among Hispanic women statewide to calculate a stable rate (*Data Workbook*).

Homicide Mortality

Death by homicide was the fourteenth leading cause of death in WNC and Rutherford County for the 2006-2010 aggregate period (Table 30, cited previously).

Figure 45 plots the homicide mortality rate trend over several aggregate periods. From this data it is apparent that the homicide mortality rate in Rutherford County, once higher than comparable rates for both WNC and NC as a whole, was on a downward trajectory due to falling numbers of homicide deaths. The "zero" rates for 2005-2009 and 2006-2010 signify that the number of deaths fell below the threshold the NC SCHS uses for calculating rates. The homicide mortality rate fell in WNC and NC over the period cited, from 6.1 to 4.1 (32.8%) in WNC, and from 7.2 to 6.6 (8.3%) in NC.

Figure 45. Homicide Mortality Rate, Deaths per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

According to data presented in Figure 46, the homicide mortality rate among Rutherford County males is approximately two to two-and-one-half times the rate among Rutherford County females. It should be noted, however, that the three rates shown in the graph are technically unstable except for the first data point for males. The NC SCHS did not compute homicide mortality rates for county males or females in the last two aggregate periods due to small numbers of events.

Figure 46. Gender Disparities in Homicide Mortality, Rutherford County (Five-Year Aggregates, 2002-2006 through 2006-2010)

In WNC, none of the 16 counties, including Rutherford County, had large enough minority populations to yield stable homicide mortality rates for any minority group, so it is not possible

to calculate stable mean region-wide rates for minorities. At the state level homicide mortality demonstrates strong racial and gender disparities. In NC for the 2006-2010 aggregate period the highest homicide mortality rates were among African American non-Hispanic males (25.6), and Hispanic males and other non-Hispanic males (13.0). The next highest homicide mortality rate occurred among African American non-Hispanic females (5.2), followed by white, non-Hispanic males (4.6), other non-Hispanic females (3.4), Hispanic females (2.6), and white non-Hispanic females (2.2) (*Data Workbook*).

Acquired Immune Deficiency Syndrome (AIDS) Mortality

The human immunodeficiency virus (HIV) is the virus that causes AIDS. HIV attacks the immune system by destroying CD4 positive (CD4+) T cells, a type of white blood cell that is vital to fighting off infection. The destruction of these cells leaves people infected with HIV vulnerable to other infections, diseases and other complications. The acquired immunodeficiency syndrome (AIDS) is the final stage of HIV infection. A person infected with HIV is diagnosed with AIDS when he or she has one or more opportunistic infections, such as pneumonia or tuberculosis, and has a dangerously low number of CD4+ T cells (less than 200 cells per cubic millimeter of blood) (National Institutes of Health, 2012).

AIDS was the fifteenth leading cause of death in WNC for the aggregate period 2006-2010 (Table 30, cited previously).

Because of small numbers of AIDS deaths across WNC, AIDS mortality rates are unstable or non-existent in 15 of the 16 counties in the region. A stable rate is available only for Buncombe County; hence it is not possible to plot meaningful regional AIDS mortality data.

Even at the state level it is not possible to calculate a stable AIDS mortality rate for several minority population groups. Using the stable NC rates available, it is apparent that non-Hispanic African Americans suffered mortality attributable to AIDS at rates much higher than did other groups. For example, in the 2006-2010 aggregate period, the AIDS mortality rate for African American non-Hispanic men (20.2) was almost 12 times the rate among white non-Hispanic men (1.7), and the rate among African American non-Hispanic women (9.8) was almost 25 times the rate among white non-Hispanic women (0.4). The AIDS mortality rate among Hispanic men statewide during this period was 4.1; rates were not released for any other minority group because of below-threshold numbers of AIDS deaths (*Data Workbook*).

Life Expectancy

Life expectancy is the average number of additional years that someone at a given age would be expected to live if current mortality conditions remained constant throughout their lifetime. As the above data has demonstrated, there are many factors, from the prenatal period through the senior years, which can affect life expectancy. Table 34 presents a fairly recent summary of life expectancy for Rutherford County, WNC, and NC as a whole. From this data it appears that

females born in Rutherford County in the period cited could expect to live 7.5 years longer than males born at the same time. Similarly, females born in WNC in the period cited in the table could expect to live 5.5 years longer on average than males born under the same parameters. African Americans born in Rutherford County at the same time could expect to live a 4.9 year shorter lifespan than their white counterparts; in WNC the comparable difference is 3.3 years. Life expectancy overall in Rutherford County (74.3 years) is 2.7 years shorter than life expectancy in WNC (77.0 years), where life expectancy in turn is 0.3 years shorter than for the state as a whole (77.3 years).

Table 34. Life Expectancy at Birth (2006-2008)

Geography	Overall	Gender		Race	
		Male	Female	White	African American
Rutherford County	74.3	70.6	78.1	74.9	70.0
Regional Arithmetic Mean	77.0	74.3	79.8	77.3	74.0
State Total	77.3	74.5	80.0	78.1	73.8

Morbidity Data

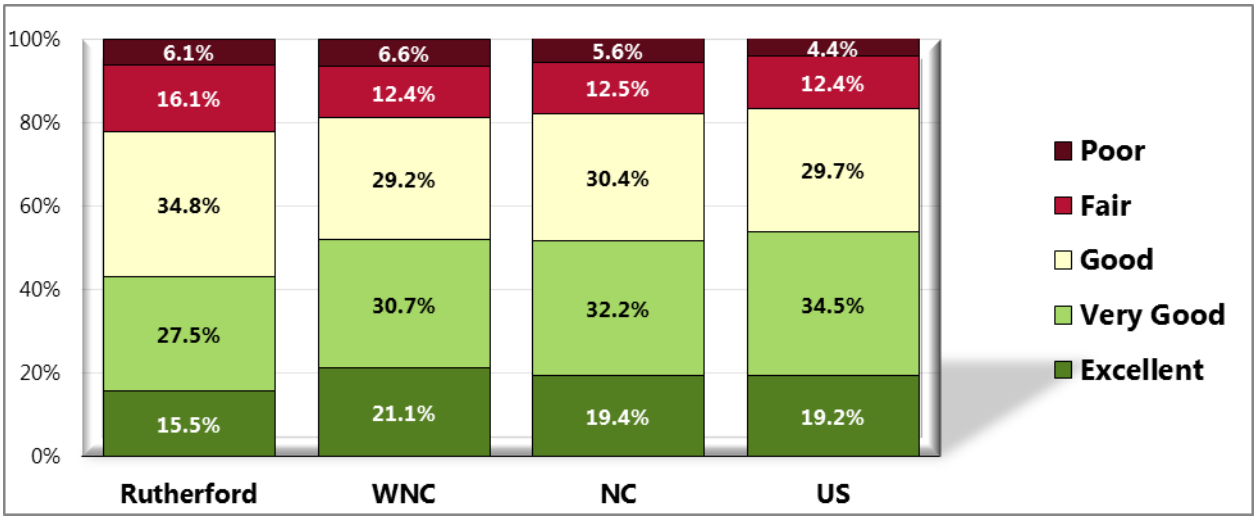
Morbidity as used in this report refers generally to the current presence of injury, sickness or disease (and sometimes the symptoms and/or disability resulting from those conditions) in the living population. In this report disability, diabetes, obesity, injury, communicable disease (including sexually-transmitted infections) and mental health conditions are the topics covered under morbidity.

The parameter most frequently used to describe the current extent of any condition of morbidity in a population is *prevalence*. Prevalence is the number of existing cases of a disease or health condition in a population at a defined point in time or during a period. Prevalence usually is expressed as a proportion, not a rate, and often represents an estimate rather than a direct count.

Self-Reported Health Status

Survey respondents were asked, "Would you say that in general your health is excellent, very good, good, fair, or poor?"

Figure 47. Self-Reported Health Status (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 12]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

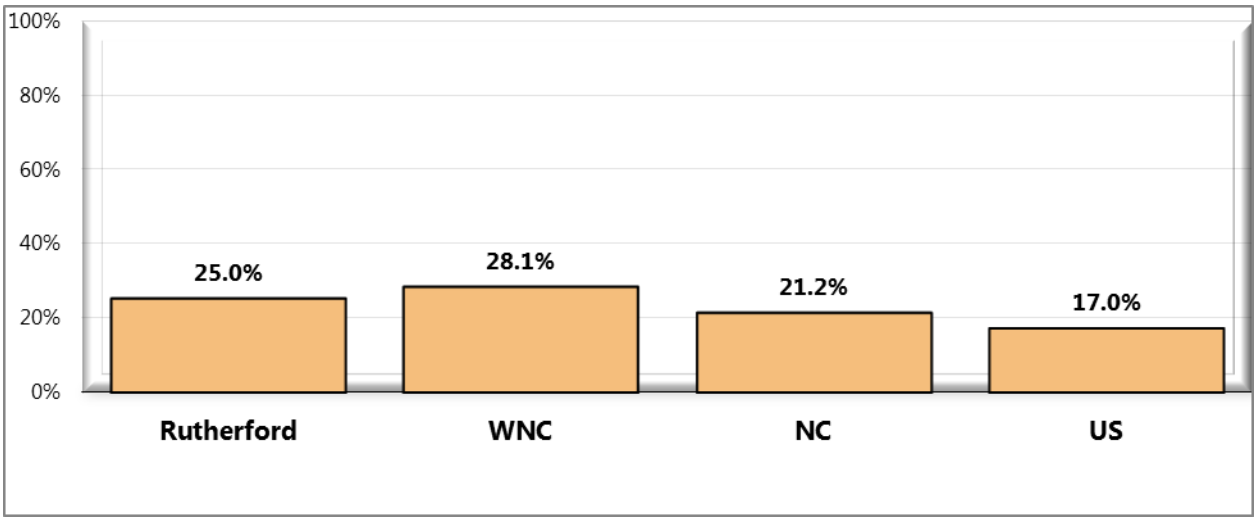
Disability and Limitations in Physical Activity

An individual can get a disabling impairment or chronic condition at any point in life. Compared with people without disabilities, people with disabilities are more likely to (DHHS, 2010):

- Experience difficulties or delays in getting the health care they need.
- Not have had an annual dental visit.
- Not have had a mammogram in past 2 years.
- Not have had a Pap test within the past 3 years.
- Not engage in fitness activities.
- Use tobacco.
- Be overweight or obese.
- Have high blood pressure.
- Experience symptoms of psychological distress.
- Receive less social-emotional support.
- Have lower employment rates.

Survey respondents were asked, "Are you limited in any way in any activities because of physical, mental or emotional problems?" Those who responded, "yes," were then asked to name the major impairment or health problem that limits them. Due to small county-level sample sizes, only regional data is shown for the latter question.

Figure 48. Limited in Activities in Some Way
Due to Physical, Mental or Emotional Problem (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 67]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents

Table 35. Type of Problem That Limits Activities (WNC Healthy Impact Survey)
(Among Those Reporting Activity Limitations)
(Western North Carolina, 2012)

	Arthritis/ Rheumatism	Back/Neck Problem	Difficulty Walking	Fracture/Bone/ Joint Injury	Heart Problem	Lung/Breathing Problem	Mental/ Depression	Other (<3%)
Rutherford	8.4%	5.1%	12.5%	7.8%	4.7%	2.7%	0.0%	58.8%

Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 68]

Notes:
- Asked of those respondents reporting activity limitations.

Diabetes

Table 36 presents trend data from the US Centers for Disease Control and Prevention (CDC) on the estimated prevalence of diagnosed diabetes in Rutherford County and WNC. The prevalence of diagnosed diabetes and selected risk factors by county was estimated using data from CDC's Behavioral Risk Factor Surveillance System (BRFSS) and data from the U.S. Census Bureau's Population Estimates Program. Three years of data were used to improve the precision of the year-specific county-level estimates of diagnosed diabetes and selected risk factors.

From these data it appears that the estimated prevalence of diagnosed diabetes among adults in Rutherford County rose from 8.1% in 2005 to 9.9% in 2009, an increase of 22.2%. In WNC the

estimated mean percent prevalence of diagnosed diabetes among adults rose from 8.5% in 2005 to 9.0% in 2009, an increase of 5.9%.

Table 36. Estimate of Diagnosed Diabetes Among Adults Age 20 and Older (2005-2009)

Geography	2005		2006		2007		2008		2009	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	4,297	8.1	5,106	9.6	5,154	9.6	5,376	9.9	5,537	9.9
Regional Total	49,896	-	52,045	-	55,160	-	55,442	-	58,378	-
Regional Arithmetic Mean	3,119	8.5	3,253	8.7	3,448	8.9	3,465	8.8	3,649	9.0

In 2010, inpatient hospitalizations for diabetes among Rutherford County residents totaled 132 cases, or 1.7% of all inpatient hospitalizations listed for the county. In the same year, there were 1,240 inpatient hospital cases associated with treatment of diabetes in WNC. This number of cases represented 1.6% of all hospitalizations in the region. Statewide, diabetes hospitalizations composed 1.9% of all hospitalizations in NC (*Data Workbook*).

Obesity

Obesity is a problem throughout the population. However, among adults in the U.S., vast disparities in obesity exist. Within the U.S., the prevalence of obesity is highest for middle-aged people and for non-Hispanic black and Mexican American women. Among children and adolescents, the prevalence of obesity is highest among older and Mexican American children and non-Hispanic black girls. The association of income with obesity varies by age, gender, and race/ethnicity. Social and physical factors affecting diet and physical activity have an impact on weight (DHHS, 2010).

Body Mass Index (BMI), which describes relative weight for height, is significantly correlated with total body fat content. The BMI should be used to assess overweight and obesity and to monitor changes in body weight. In addition, measurements of body weight alone can be used to determine efficacy of weight loss therapy. BMI is calculated as weight (kg)/height squared (m^2). To estimate BMI using pounds and inches, use: [weight (pounds)/height squared ($inches^2$)] x 703.

In this report, underweight is defined as a BMI of <18.5 kg/m^2, normal is defined as a BMI of 18.5 to 24.9 kg/m^2, overweight is defined as a BMI of 25.0 to 29.9 kg/m^2 and obesity as a BMI ≥30 kg/m^2. The rationale behind these definitions is based on epidemiological data that show increases in mortality with BMIs above 25 kg/m^2. The increase in mortality, however, tends to be modest until a BMI of 30 kg/m^2 is reached. For persons with a BMI ≥30 kg/m^2, mortality rates from all causes, and especially from cardiovascular disease, are generally increased by 50 to 100 percent above that of persons with BMIs in the range of 20 to 25 kg/m^2 (NIH, 1998).

Adult Obesity

Table 37 presents trend data from the CDC on the estimated prevalence of diagnosed adult obesity in Cherokee County and WNC. The prevalence of diagnosed obesity and selected risk factors by county was estimated using data from CDC's Behavioral Risk Factor Surveillance System (BRFSS) and data from the U.S. Census Bureau's Population Estimates Program. Three years of data were used to improve the precision of the year-specific county-level estimates of diagnosed diabetes and selected risk factors.

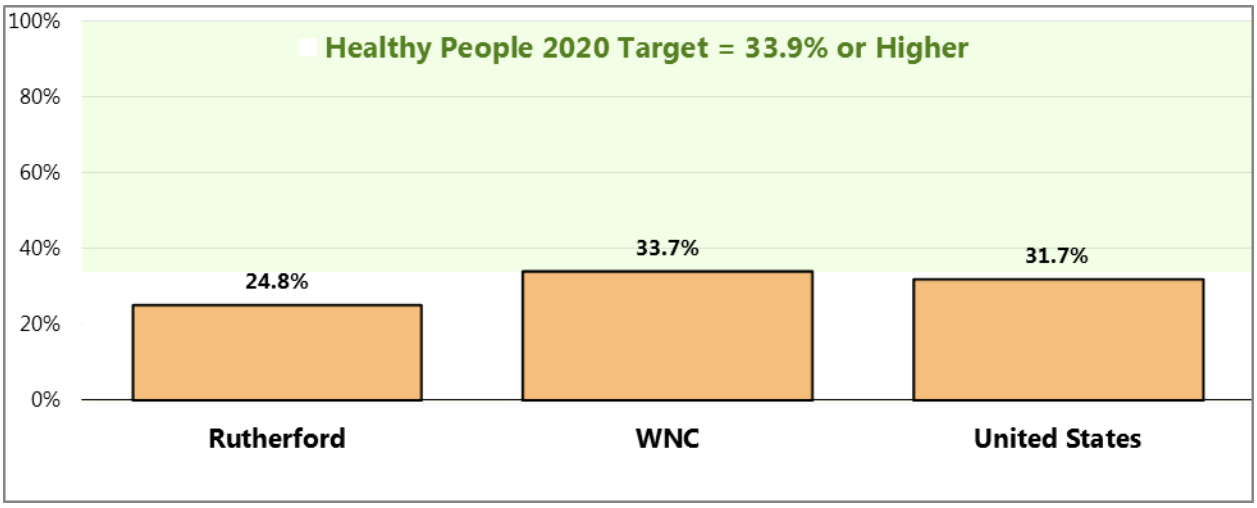
From these data it appears that the estimated prevalence of diagnosed obesity among adults in Rutherford County rose overall from 25.1% in 2005 to 31.2% in 2009, an increase of 24.3%. The estimated mean prevalence of adult obesity in WNC increased annually throughout the period cited. Between 2005 and 2009 the estimated mean percent of the WNC population diagnosed as obese rose from 25.2% to 28.0%, a total increase of 11.1%.

Table 37. Estimate of Diagnosed Obesity Among Adults Age 20 and Older (2005-2009)

Geography	2005		2006		2007		2008		2009	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	11,810	25.1	12,560	26.4	13,030	27.9	14,000	29.9	14,480	31.2
Regional Total	128,908	-	136,661	-	139,114	-	143,681	-	148,403	-
Regional Arithmetic Mean	8,057	25.2	8,541	26.4	8,695	26.7	8,980	27.4	9,275	28.0

Based on self-reported heights and weights, the survey data below shows 2012 county and regional estimates of the prevalence of healthy weight, overweight, and obesity.

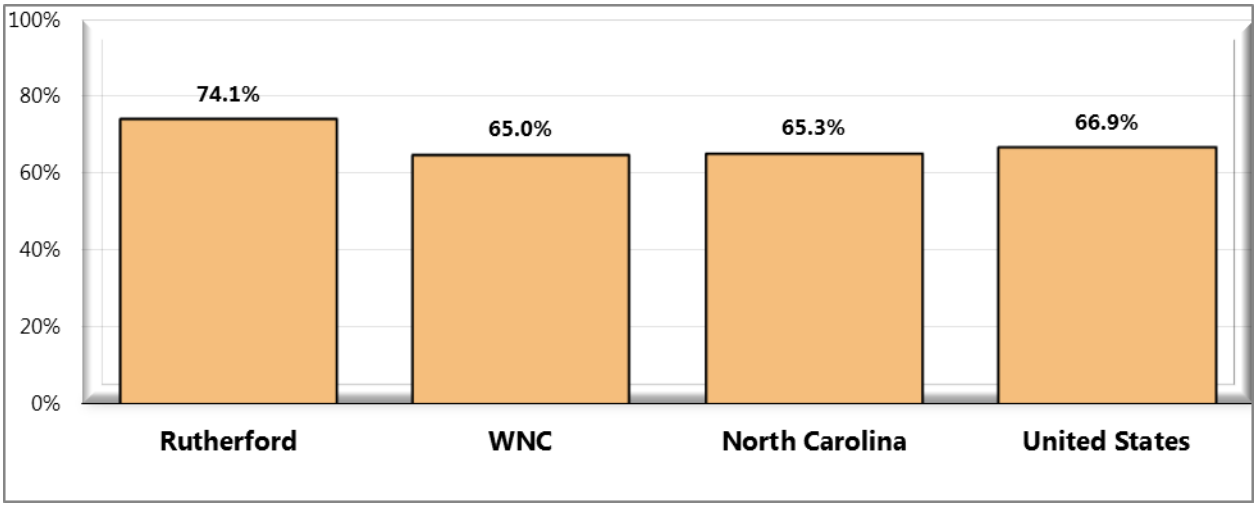
Figure 49. Healthy Weight (WNC Healthy Impact Survey)
(Percent of Adults With a Body Mass Index Between 18.5 and 24.9)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Based on reported heights and weights, asked of all respondents.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov Objective NWS-8]
- The definition of healthy weight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), between 18.5 and 24.9.

Figure 50. Prevalence of Total Overweight (WNC Healthy Impact Survey)
(Percent of Overweight or/Obese Adults; Body Mass Index of 25.0 or Higher)

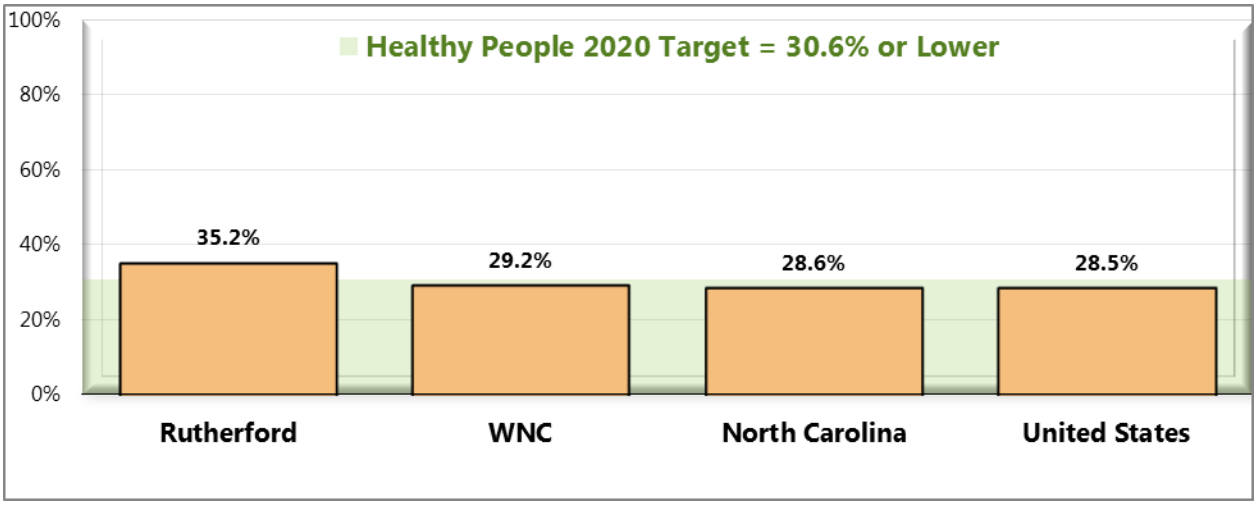


Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Based on reported heights and weights, asked of all respondents.

- The definition of overweight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 25.0, regardless of gender. The definition for obesity is a BMI greater than or equal to 30.0.

Figure 51. Prevalence of Obesity (WNC Healthy Impact Survey)
(Percent of Obese Adults; Body Mass Index of 30.0 or Higher)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 85]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective NWS-9]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Based on reported heights and weights, asked of all respondents.
- The definition of obesity is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 30.0, regardless of gender.

Childhood Obesity

The NC Healthy Weight Initiative, using the NC Nutrition and Physical Activity Surveillance System (NC NPASS), collects height and weight measurements from children seen in NC DPH-sponsored WIC and Child Health Clinics, as well as some school-based Health Centers (NC DHHS – Nutrition Services Branch, 2012). (Note that this data is not necessarily representative of the county-wide or region-wide population of children.) This data is used to calculate Body Mass Indices (BMIs) in order to gain some insight into the prevalence of childhood obesity.

BMI is a calculation relating weight to height by the following formula:

BMI = (weight in kilograms) / (height in meters)

For children, a BMI in the 95th percentile or above is considered "obese" (formerly defined as "overweight"), while BMIs that are between the 85th and 94th percentiles are considered "overweight" (formerly defined as "at risk for overweight").

Tables 38, 39 and 40 present NC NPASS data for 2010 on children in three age groups: ages 2-4, ages 5-11, and ages 12-18.

From data presented in Table 38 it appears that the prevalence of healthy weight among 2-4 year-olds in Rutherford County (65.1%) was higher than the comparable figures for either WNC (64.5%) or NC (63.5%). The prevalence of *overweight* among children ages 2-4 was lower in Rutherford County (15.8%) than in WNC (17.2%) or NC as a whole (16.1%). The prevalence of *obesity* in Rutherford County 2-4 year-olds (13.7%) was higher than the mean prevalence in WNC (13.6%) but lower than the prevalence in NC as a whole (15.6%). It must be noted that the regional means denoted in *italics* contained one or more county percentages that were unstable due to small numbers of children participating in the program.

Table 38. Prevalence of Obesity, Overweight, Healthy Weight and Underweight
Children 2 through 4 years
(2010)

Geography	Total	Underweight		Healthy Weight		Overweight		Obese	
		<5th Percentile		≥5th to <85th Percentile		≥85th to <95th Percentile		≥95th Percentile	
	#	#	%	#	%	#	%	#	%
Rutherford County	879	48	5.5	572	65.1	139	15.8	120	13.7
Regional Total	6,814	316	-	4,410	-	1,139	-	949	-
Regional Arithmetic Mean	426	20	*4.8*	276	64.5	71	*17.2*	59	*13.6*
State Total	105,410	4,935	4.7	66,975	63.5	17,022	16.1	16,478	15.6

From data presented in Table 39 it appears that the prevalence of children ages 5-11 with healthy weight in Rutherford County (67.6%) was higher than the comparable figure for both WNC (63.4%) and NC (54.3%). The prevalence of *overweight* children ages 5-11 in Rutherford County (14.9%) was higher than the comparable mean prevalence in WNC (14.3%) but lower than the prevalence statewide (17.1%). The prevalence of *obesity* in this age group in Rutherford County (16.2%) was lower than the comparable figures for WNC (19.4%) and NC (25.8). It should be noted that the overweight and obesity percentages for Rutherford County were based on relatively small (n=11-12) numbers of participants. It must also be noted that the regional means denoted in *italics* contained one or more county percentages that were unstable due to small numbers of children participating in the program.

Table 39. Prevalence of Obesity, Overweight, Healthy Weight and Underweight
Children 5 through 11 years

Geography	Total	Underweight		Healthy Weight		Overweight		Obese	
		<5th Percentile		≥5th to <85th Percentile		≥85th to <95th Percentile		≥95th Percentile	
	#	#	%	#	%	#	%	#	%
Rutherford County	74	1	**1.4**	50	67.6	11	14.9	12	16.2

Regional Total	1,243	26	-	721	-	208	-	288	-
Regional Arithmetic Mean	78	2	*2.9*	45	*63.4*	13	*14.3*	18	*19.4*
State Total	12,633	353	2.8	6,859	54.3	2,157	17.1	3,264	25.8

(2010)

Too few children in the 12-18 age group in Rutherford County participate in the NC NPASS program for there to be stable rates in any of the weight categories (Table 40). Examining instead regional data it appears that the prevalence of healthy weight children ages 12-18 was higher in WNC (56.3%) than statewide (51.9%), that the prevalence of *overweight* children ages 12-18 was higher in WNC (19.0%) than in NC as a whole (18.1%), but that the prevalence of *obesity* in this age group was smaller in WNC (23.8%) than statewide (28.0%). It must be noted that the regional means denoted in *italics* contained one or more county percentages that were unstable due to small numbers of children participating in the program.

Table 40. Prevalence of Obesity, Overweight, Healthy Weight and Underweight Children 12 through 18 years (2010)

Geography	Total	Underweight		Healthy Weight		Overweight		Obese	
		<5th Percentile		≥5th to <85th Percentile		≥85th to <95th Percentile		≥95th Percentile	
	#	#	%	#	%	#	%	#	%
Rutherford County	9	0	**n/a**	7	**n/a**	0	**n/a**	2	**n/a**
Regional Total	1,348	13	-	729	-	245	-	361	-
Regional Arithmetic Mean	84	1	*1.0*	46	*56.3*	15	*19.0*	23	*23.8*
State Total	6,854	133	1.9	3,560	51.9	1,241	18.1	1,920	28.0

For further details regarding this NC NPASS data, consult the *Data Workbook*.

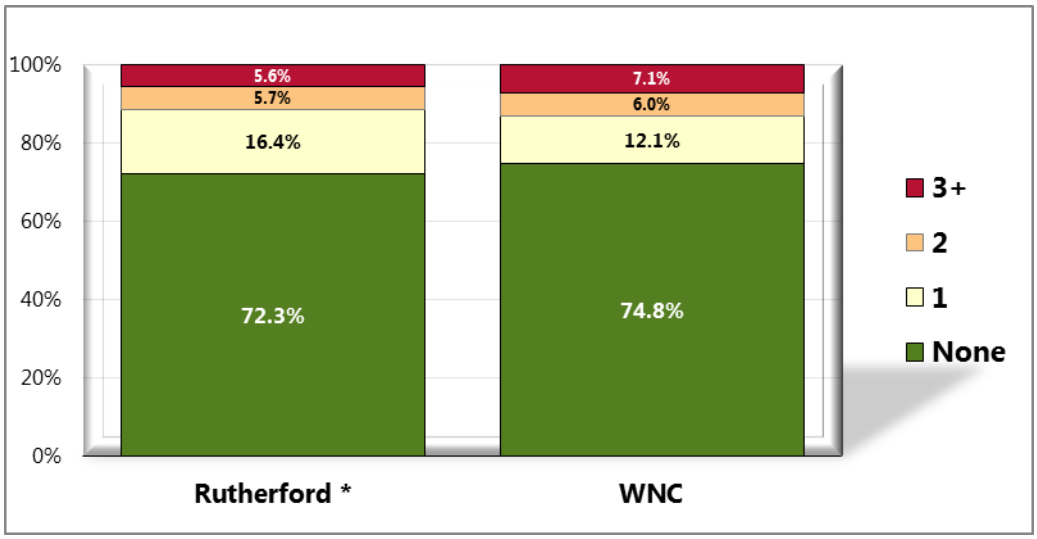
Injuries

Falls

There were 19 deaths due to falls in Rutherford County in the period 2006-2010. In 2009 alone there were 9, five of them in the over-65 age group (two in the 65-74 year age group, one in the 75-84 age group, and two in the 85-and-over age group) (*Data Workbook*).

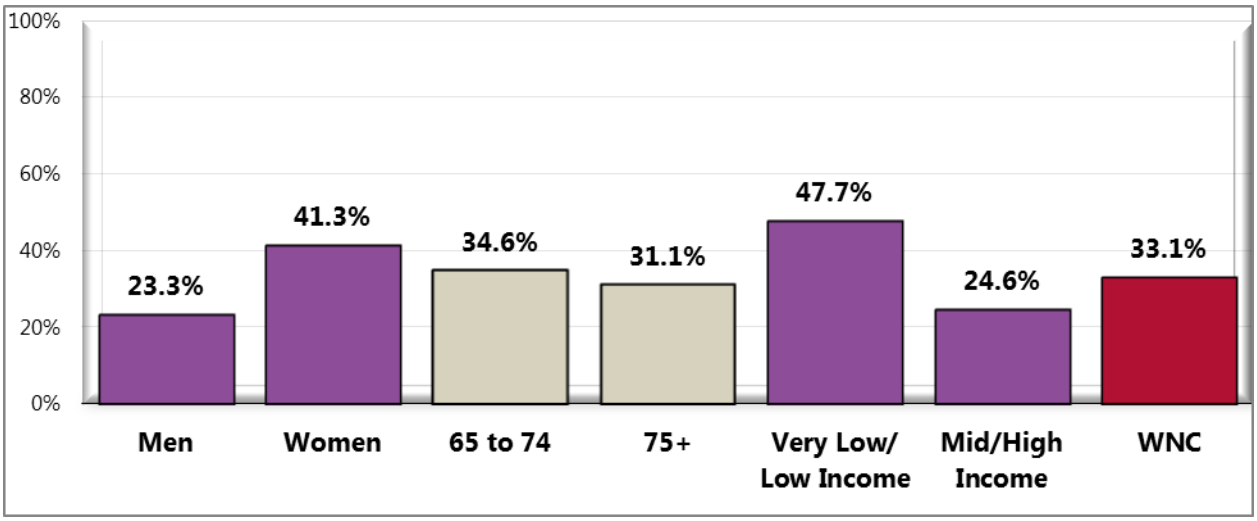
Survey respondents were also asked how many times they have fallen in the past 12 months, and how many of these falls caused an injury. Data is shown below for adults age 65 and older. Due to small county-level sample sizes, fall-related injury data is provided at the regional level.

Figure 52. Number of Falls in the Past Year (WNC Healthy Impact Survey)
(Among Adults Age 65 and Older)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 40]
Notes: ● Asked of respondents age 65 and older.
* These counties have sample sizes deemed unreliable (n<50).

Figure 53. Sustained a Fall-Related Injury in the Past Year (WNC Healthy Impact Survey)
(Among Adults 65+ Who Have Fallen in the Past Year)
(Western North Carolina, 2012)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 41]
Notes: ● Asked of respondents age 65 and older who have fallen in the past year.
● Includes falls that caused respondent to limit his/her regular activities for at least a day or caused him/her to go see a doctor.
● Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., "White" reflects non-Hispanic White respondents).
● Income categories reflect respondent's household income as a ratio to the federal poverty level (FPL) for their household size. "Low Income" includes households with incomes up to 200% of the federal poverty level; "Mid/High Income" includes households with incomes at 200% or more of the federal poverty level.

Vehicle Crashes

The Highway Safety Research Center at the University of North Carolina at Chapel Hill tracks information about vehicle crashes across the state on an annual basis, including detail on the fraction of crashes that are alcohol-related. Table 41 presents trend data on vehicle crashes for the period from 2006 through 2010. The data presented for Rutherford County demonstrated some variability, but the percentage of alcohol-related crashes in the county was above the comparable percentage for WNC every year except 2008. The percentage of alcohol-related traffic crashes in the county was above the comparable state rate in every year cited in the table. The data in the table also shows that the percentage alcohol-related vehicle crashes in WNC were higher than the comparable percentages for the state as a whole throughout the period cited, with the difference varying from 16% to 27% depending on the year.

Table 41. Alcohol-Related Traffic Crashes (2006-2010)

Geography	2006		2007		2008		2009		2010	
	# Crashes	% Alcohol-Related	# Crashes	% Alcohol-Related	# Crashes	% Alcohol-Related	# Crashes	% Alcohol-Related	# Crashes	% Alcohol-Related
Rutherford County	1,223	6.3	1,206	7.0	1,209	7.0	1,178	7.1	1,340	6.0
Regional Total	15,004	6.2	15,216	6.5	13,997	7.1	14,075	6.6	14,763	5.8
State Total	220,307	5.1	224,307	5.3	214,358	5.6	209,695	5.4	213,573	5.0

Table 42 presents additional detail on the nature of vehicular crashes for a single year, 2010. In Rutherford County 6.0% of *all* crashes were alcohol-related; although the following number may be unstable since it is based on only three events, 30.0% of the *fatal* crashes in the county were alcohol-related. In both WNC and NC as a whole, the proportion of *all* crashes that were alcohol-related was less than 6%, but the proportion of *fatal* crashes that were alcohol-related was over 30%. It is noteworthy that the percentages of crashes that were alcohol-related were higher in WNC than in NC for every outcome category displayed in Table 42.

Table 42. Outcomes of Traffic Crashes (2010)

Geography	Total Crashes		Property Damage Only Crashes		Non-Fatal Crashes		Fatal Crashes	
	# Reportable Crashes	% Alcohol-Related Crashes	# Reportable Crashes	% Alcohol-Related Crashes	# Reportable Crashes	% Alcohol-Related Crashes	# Reportable Crashes	% Alcohol-Related Crashes
Rutherford County	1,340	6.0	793	3.3	537	9.7	10	**30.0**
Regional Total	14,763	5.8	9,469	4.0	5,192	8.3	102	36.3
State Total	213,573	5.0	143,211	3.4	69,138	7.8	1,224	32.4

Distracted Drivers
There is no comparable data for Rutherford County, WNC or NC, but in 2010 in the US as a whole, 3,092 people died and 416,000 were injured as a result of distracted driving (*Data Workbook*).

Workplace Injury
There is no comparable data for Rutherford County, WNC or the US, but in NC as a whole, the mortality rate associated with work-related injury was 3.9 deaths per 100,000 full-time equivalent workers in 2008, and 3.3 in 2009 (*Data Workbook*).

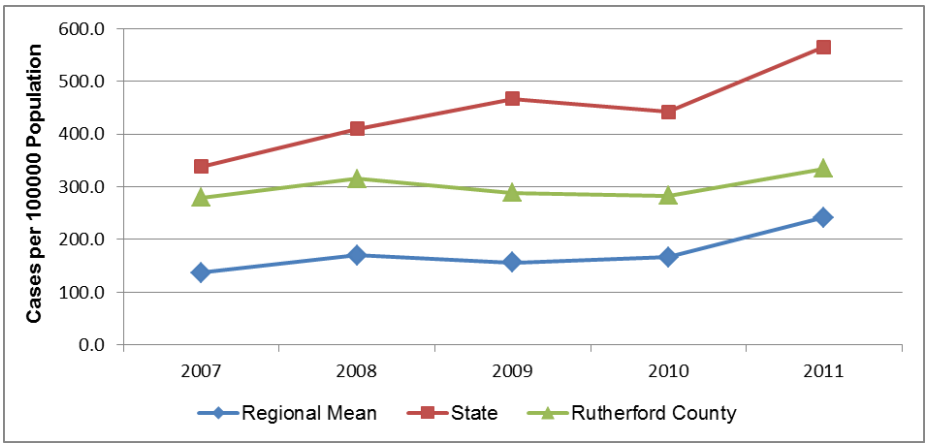
Poisonings
For the five-year aggregate period 2006-2010 there were 75 unintentional poisoning deaths in Rutherford County, with a corresponding age-adjusted mortality rate of 24.2 per 100,000 population. The comparable mean unintentional poisoning mortality rate for WNC was 23.1 over the same period.

Communicable Disease
A communicable disease is a disease transmitted through direct contact with an infected individual or indirectly through a vector (Merriam-Webster.com). The topic of communicable diseases includes sexually transmitted infections (STIs). The STIs of greatest regional interest are chlamydia and gonorrhea. HIV/AIDS is sometimes grouped with STIs, since sexual contact is one mode of HIV transmission. While AIDS, as the final stage of HIV infection, was discussed previously among the leading causes of death, HIV is discussed here as a communicable disease.

Chlamydia is the most frequently reported bacterial STI in the US. It is estimated that there are approximately 2.8 million new cases of chlamydia in the US each year. Chlamydia cases frequently go undiagnosed and can cause serious problems in men and women, such as penile discharge and infertility respectively, as well as infections in newborn babies of infected mothers (CDC, 2012).

Figure 54 plots chlamydia rates for several years. From this data is appears that chlamydia infection is less prevalent in Rutherford County than in NC, but more prevalent than in WNC. In WNC, the mean chlamydia infection rate, which varied between 136.9 and 241.5, was 57% to 66% lower than the comparable rate for NC as a whole for the time span cited. Chlamydia rates in both NC and WNC increased overall between 2007 and 2011, as the NC rate rose 67.2% (from 337.7 to 564.8) and the WNC rate rose 76.4% (from 136.9 to 241.5). In Rutherford County over the same period the chlamydia infection rate increased 20.0%, from 278.9 to 334.8.

Figure 54. Chlamydia Rate, All Ages, Cases per 100,000 Population (Five Single Years, 2007-2011)

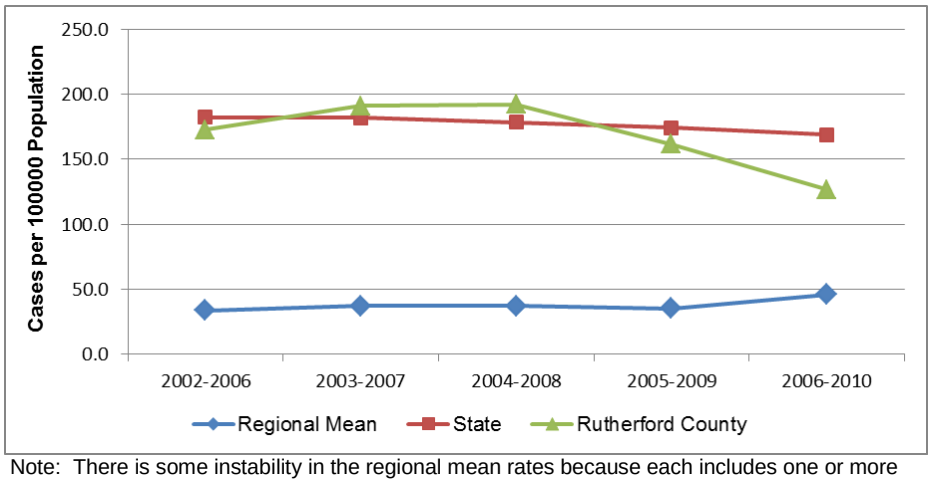


Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Gonorrhea is the second most commonly reported bacterial STI in the US. The highest rates of gonorrhea have been found in African Americans, people 20 to 24 years of age, and women, respectively. In women, gonorrhea can spread into the uterus and fallopian tubes, resulting in pelvic inflammatory disease (PID). PID affects more than 1 million women in the US every year and can cause tubal pregnancy and infertility in as many as 10 percent of infected women. In addition, some health researchers think gonorrhea adds to the risk of getting HIV infection (CDC, 2012).

Figure 55 plots gonorrhea rates for several aggregate periods. From this data it appears that for several aggregate periods gonorrhea was about as prevalent in Rutherford County as in NC as a whole, and far more prevalent than in WNC. In the last two aggregate periods shown in the figure, the gonorrhea infection rate in Rutherford County fell significantly. The mean gonorrhea rate in WNC was 72% to 82% lower than the state rate for the span of aggregate periods shown in Figure 55. It is noteworthy that as the state gonorrhea rate decreased 7.2% (from 182.0 to 168.9) over the period cited, the mean WNC gonorrhea rate increased 36.2% (from 33.7 to 45.9) in the same time span. In Rutherford County the gonorrhea infection rate decreased 26.6% over the period cited, falling from 172.5 to 126.6.

Figure 55. Gonorrhea Rate, Cases per 100,000 Population (Five-Year Aggregates, 2002-2006 through 2006-2010)



Note: There is some instability in the regional mean rates because each includes one or more unstable county rate.

Gonorrhea infection displays a strong racial disparity in Rutherford County. Table 43 presents data on gonorrhea prevalence in Rutherford County, WNC and NC for the aggregate period 2006-2010. From this data it is apparent that in Rutherford County during the period cited, the gonorrhea infection rate was highest among African American non-Hispanics (579.3) followed by white non-Hispanics (70.9) and Hispanics (60.9). Region-wide, the pattern is the same, although it should be noted that the regional mean rates are inherently unstable since they contain unstable county rates. Statewide, the highest gonorrhea infection rates are seen among non-Hispanic African Americans, followed by non-Hispanics of other races, then Hispanics.

Table 43. Gonorrhea Rate, by Racial/Ethnic Group, Cases per 100,000 Population Five-Year Aggregate (2006-2010)

County	Total		White, Non-Hispanic		African American, Non-Hispanic		Other, Non-Hispanic		Hispanic	
	# Cases	Rate	# Cases	Rate	# Cases	Rate	# Cases	Rate	# Cases	Rate
Rutherford County	406	126.6	195	70.9	206	579.3	0	**0.0**	5	**60.9**
Regional Total	2,305	-	1,064	-	1,119	-	23	-	99	-
Regional Arithmetic Mean	144	*45.9*	67	*20.5*	70	*1341.5*	1	*10.0*	6	*31.1*
State Total	77,867	168.9	16,488	52.9	58,041	581.6	1,485	96.7	1,853	54.2

HIV infection, an important communicable disease in some regions of NC, is a rare occurrence throughout most of WNC. Only one county in the region (Buncombe) has reported enough cases in some years to calculate a stable incidence rate. The total number of HIV cases in WNC in 2008 was 58; in 2009 the total was 46, and in 2010 the total was 40 (*Data Workbook*).

CHAPTER 4 – HEALTH BEHAVIORS

Physical Activity

Regular physical activity can improve the health and quality of life of Americans of all ages, regardless of the presence of a chronic disease or disability. Among adults and older adults, physical activity can lower the risk of: early death; coronary heart disease; stroke; high blood pressure; type 2 diabetes; breast and colon cancer; falls; and depression. Among children and adolescents, physical activity can: improve bone health; improve cardiorespiratory and muscular fitness; decrease levels of body fat; and reduce symptoms of depression. For people who are inactive, even small increases in physical activity are associated with health benefits.

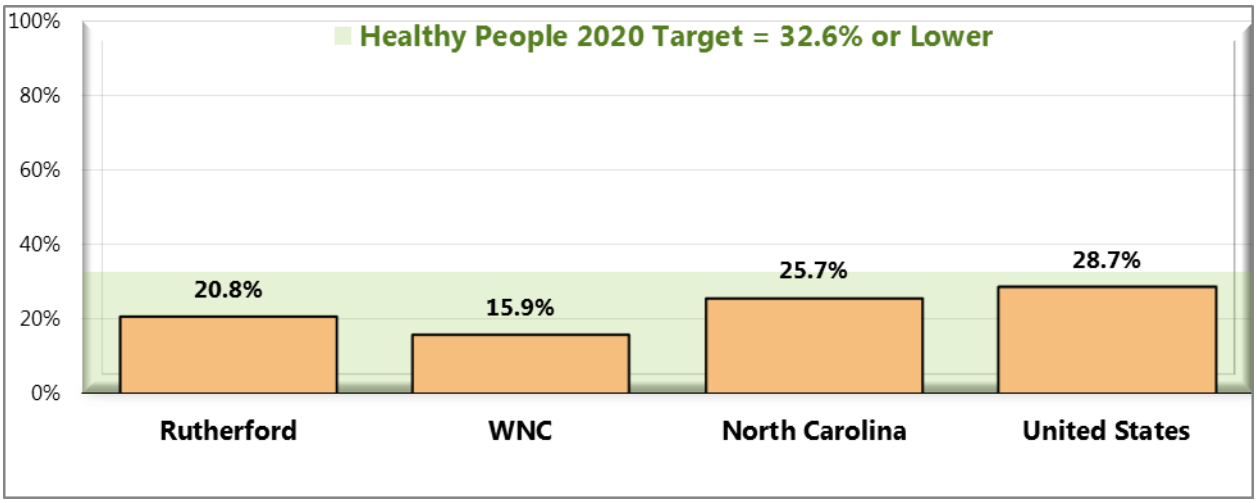
Personal, social, economic, and environmental factors all play a role in physical activity levels among youth, adults, and older adults. Factors **positively** associated with adult physical activity include: postsecondary education; higher income; enjoyment of exercise; expectation of benefits; belief in ability to exercise (self-efficacy); history of activity in adulthood; social support from peers, family, or spouse; access to and satisfaction with facilities; enjoyable scenery; and safe neighborhoods. Factors **negatively** associated with adult physical activity include: advancing age; low income; lack of time; low motivation; rural residency; perception of great effort needed for exercise; overweight or obesity; perception of poor health; and being disabled. Older adults may have additional factors that keep them from being physically active, including lack of social support, lack of transportation to facilities, fear of injury, and cost of programs (DHHS, 2010).

Adults (age 18–64) should do 2 hours and 30 minutes a week of moderate-intensity, or 1 hour and 15 minutes (75 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity. Aerobic activity should be performed in episodes of at least 10 minutes, preferably spread throughout the week. Additional health benefits are provided by increasing to 5 hours (300 minutes) a week of moderate-intensity aerobic physical activity, or 2 hours and 30 minutes a week of vigorous-intensity physical activity, or an equivalent combination of both.

Older adults (age 65 and older) should follow the adult guidelines. If this is not possible due to limiting chronic conditions, older adults should be as physically active as their abilities allow. They should avoid inactivity. Older adults should do exercises that maintain or improve balance if they are at risk of falling.

For all individuals, some activity is better than none. Physical activity is safe for almost everyone, and the health benefits of physical activity far outweigh the risks (DHHS, 2008).

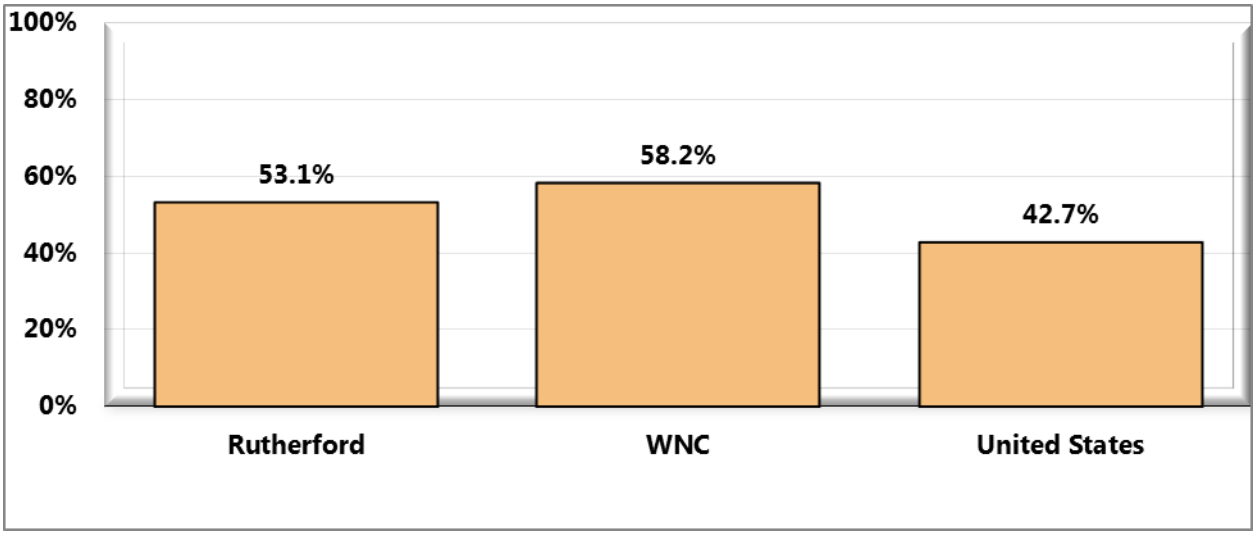
Figure 56. No Leisure-Time Physical Activity in the Past Month (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 56]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective PA-1]

Notes:
- Asked of all respondents.

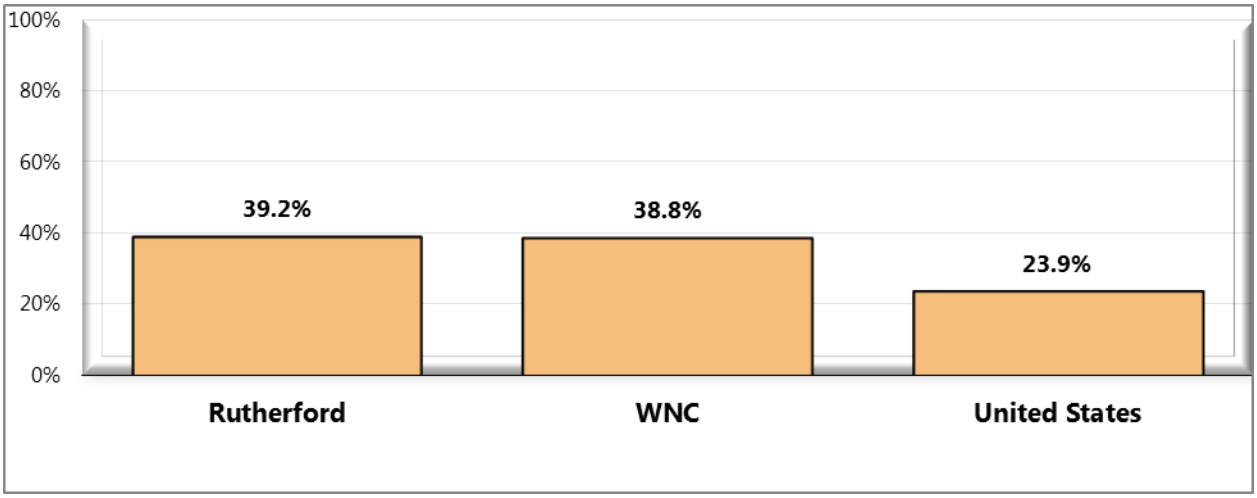
Figure 57. Meets Physical Activity Recommendations (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 80]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- In this case the term "meets physical activity recommendations" refers to participation in moderate physical activity (exercise that produces only light sweating or a slight to moderate increase in breathing or heart rate) at least 5 times a week for 30 minutes at a time, and/or vigorous physical activity (activities that cause heavy sweating or large increases in breathing or heart rate) at least 3 times a week for 20 minutes at a time.

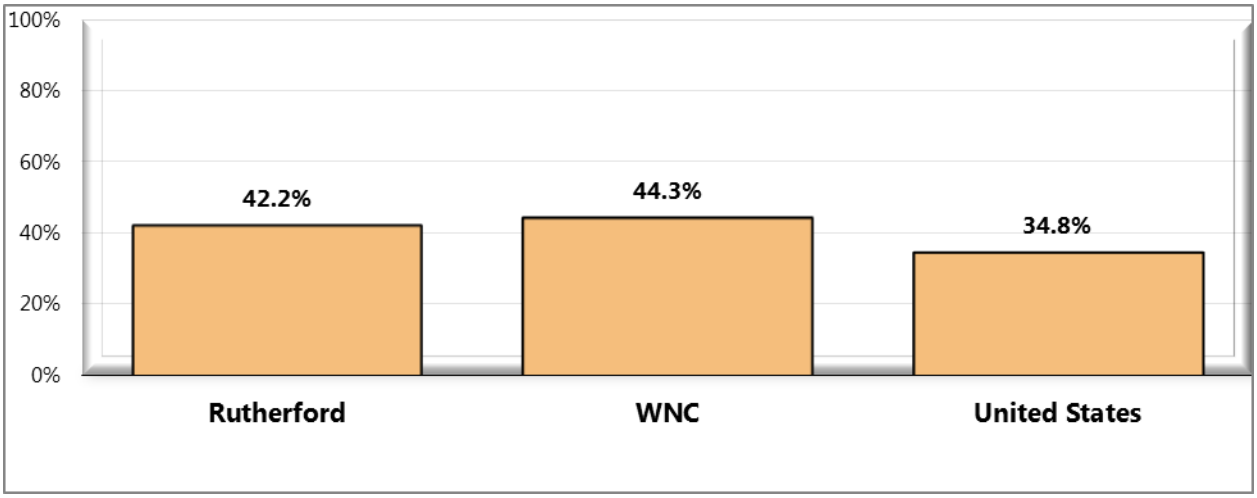
Figure 58. Moderate Physical Activity (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 81]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Moderate Physical Activity: Takes part in exercise that produces only light sweating or a slight to moderate increase in breathing or heart rate at least 5 times per week for at least 30 minutes per time.

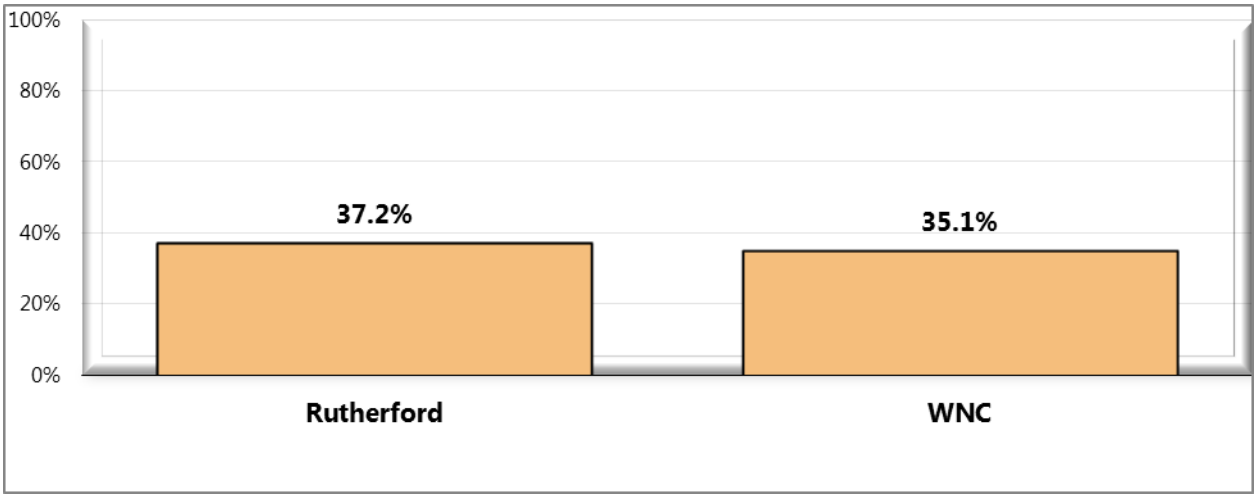
Figure 59. Vigorous Physical Activity (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 82]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Asked of all respondents.
- Vigorous Physical Activity: Takes part in activities that cause heavy sweating or large increases in breathing or heart rate at least 3 times per week for at least 20 minutes per time.

Figure 60. Strengthening Physical Activity (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 83]

Notes:
- Asked of all respondents.
- Strengthening Physical Activity: Takes part in physical activities or exercises that strengthen muscles at least 2 times per week.

Diet and Nutrition

Strong science exists supporting the health benefits of eating a healthful diet and maintaining a healthy body weight. Diet and body weight are related to health status. Good nutrition is important to the growth and development of children. A healthful diet also helps Americans reduce their risks for many health conditions, including: overweight and obesity; malnutrition; iron-deficiency anemia; heart disease; high blood pressure; dyslipidemia (poor lipid profiles); type 2 diabetes; osteoporosis; oral disease; constipation; diverticular disease; and some cancers. Efforts to change diet and weight should address individual behaviors, as well as the policies and environments that support these behaviors in settings such as schools, worksites, healthcare organizations, and communities.

Social Determinants of Diet. Social factors thought to influence diet include:

- Knowledge and attitudes
- Skills
- Social support
- Societal and cultural norms
- Food and agricultural policies
- Food assistance programs
- Economic price systems

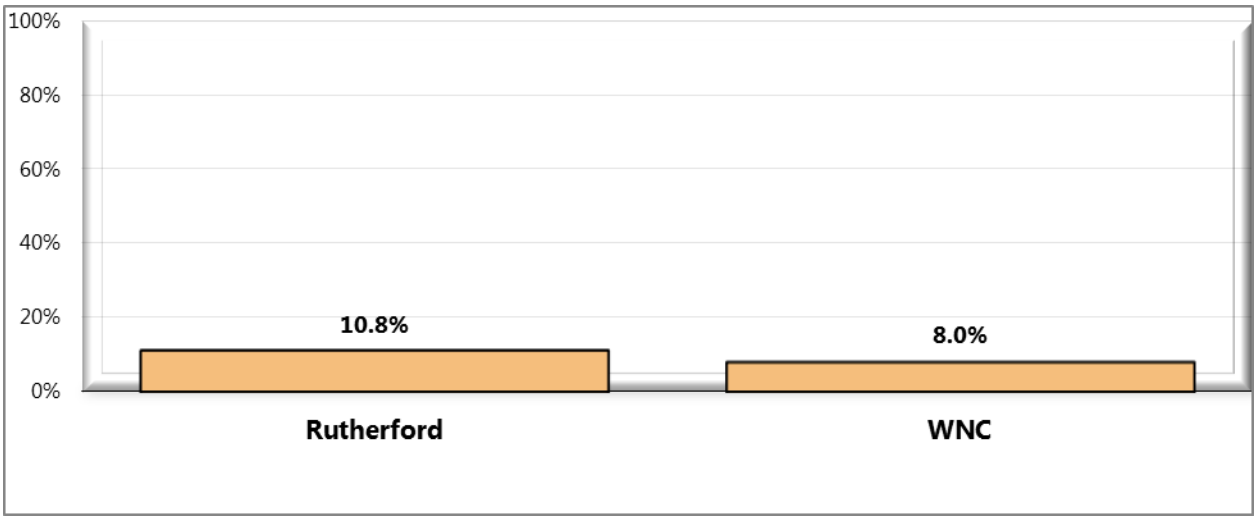
Physical Determinants of Diet.

The places where people eat appear to influence their diet. For example, foods eaten away from home often have more calories and are of lower nutritional quality than foods prepared at home. Marketing also influences people's—particularly children's—food choices (DHHS, 2010).

More information is available elsewhere in this report about some of these determinants.

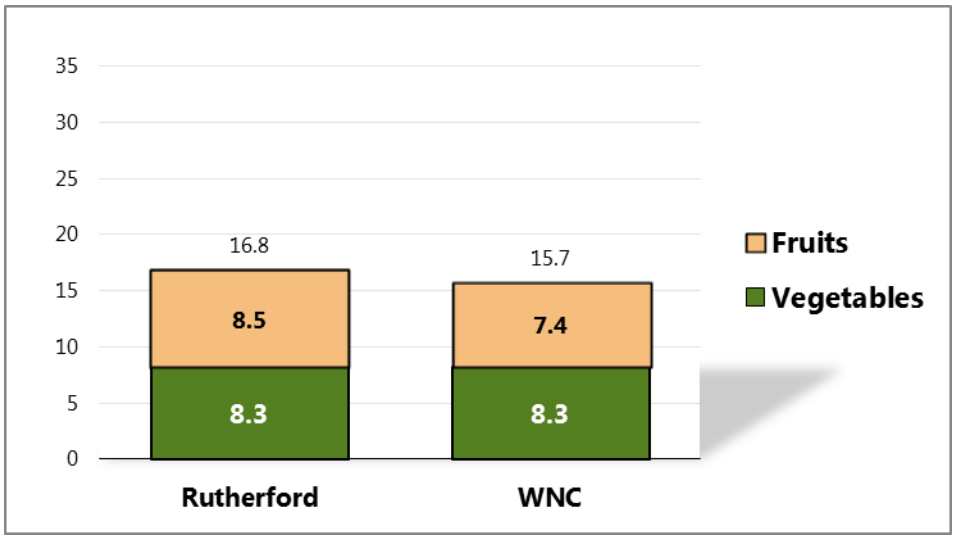
To measure fruit and vegetable consumption, survey respondents were asked how many one-cup servings of fruit and one-cup servings of vegetables (not counting lettuce salad or potatoes) they ate over the past week. Survey respondents from Rutherford County were also asked, "How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious means?"

Figure 61. Had an Average of Five or More Servings of Fruits/Vegetables per Day in the Past Week (WNC Healthy Impact Survey)



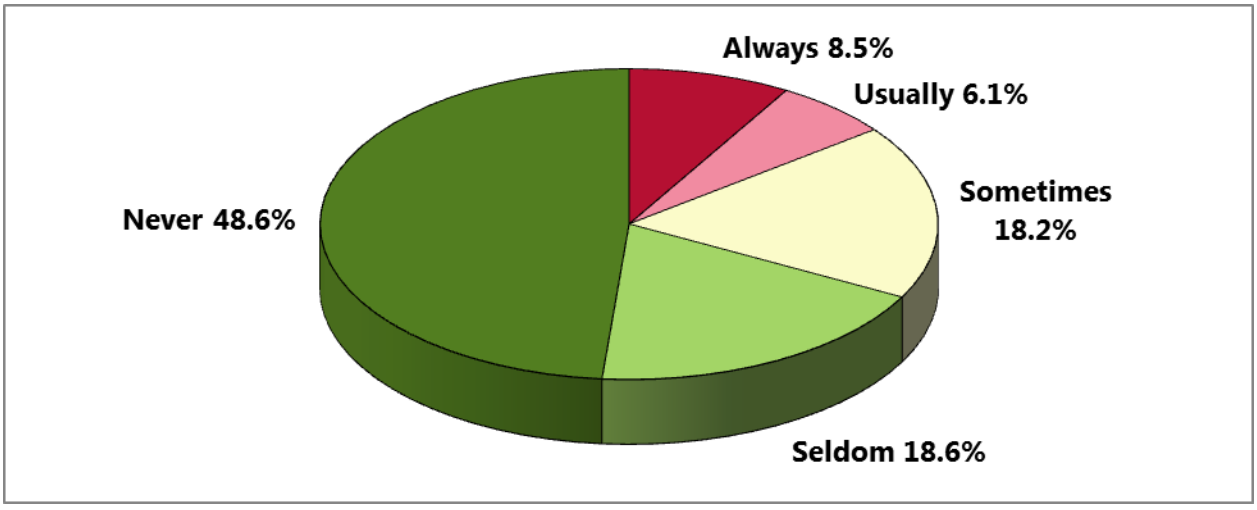
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 79]
Notes: ● Asked of all respondents.
● For this issue, respondents were asked to recall their food intake during the previous week. Reflects 35 or more 1-cup servings of fruits and/or vegetables in the past week, excluding lettuce salad and potatoes.

Figure 62. Average Servings of Fruits/Vegetables in the Past Week (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 53-54]
Notes: ● Asked of all respondents.
● For this issue, respondents were asked to recall their food intake during the previous week. Reflects 35 or more 1-cup servings of fruits and/or vegetables in the past week, excluding lettuce salad and potatoes.

Figure 63. Frequency of Worry/Stress in the Past Year About Having Enough Money to Buy Nutritious Meals (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 114]
Notes: ● Asked of all respondents.

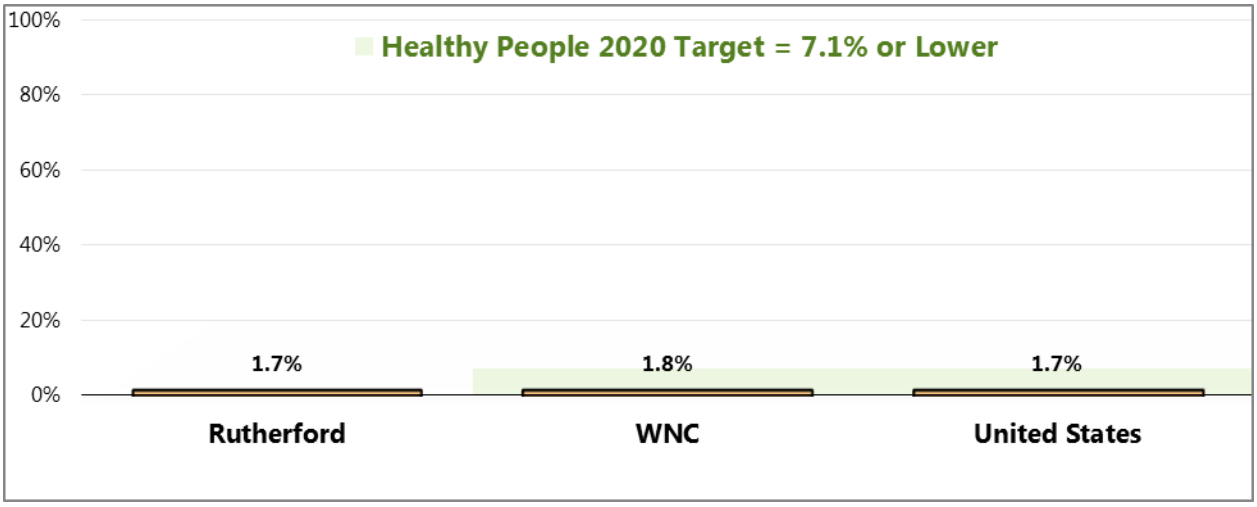
Substance Use/Abuse

Substance abuse refers to a set of related conditions associated with the consumption of mind- and behavior-altering substances that have negative behavioral and health outcomes. Social attitudes and political and legal responses to the consumption of alcohol and illicit drugs make substance abuse one of the most complex public health issues. In 2005, an estimated 22 million Americans struggled with a drug or alcohol problem. Almost 95% of people with substance use problems are considered unaware of their problem. Of those who recognize their problem, 273,000 have made an unsuccessful effort to obtain treatment. These estimates highlight the importance of increasing prevention efforts and improving access to treatment for substance abuse and co-occurring disorders. Substance abuse has a major impact on individuals, families, and communities. The effects of substance abuse are cumulative, significantly contributing to costly social, physical, mental, and public health problems (DHHS, 2010).

Illicit Drugs

For the purposes of the survey, "illicit drug use" includes use of illegal substances or of prescription drugs taken without a physician's order. It is important to note that as a self-reported measure – and because this indicator reflects potentially illegal behavior – it is reasonable to expect that it might be underreported, and that actual illicit drug use in the community is likely higher. Survey residents were asked, "During the past 30 days, have you used an illegal drug or taken a prescription drug that was not prescribed to you?" Rutherford County residents were also asked if they have ever given their prescription medicine to anyone else to use, and if they keep their medicine in a locked place so.

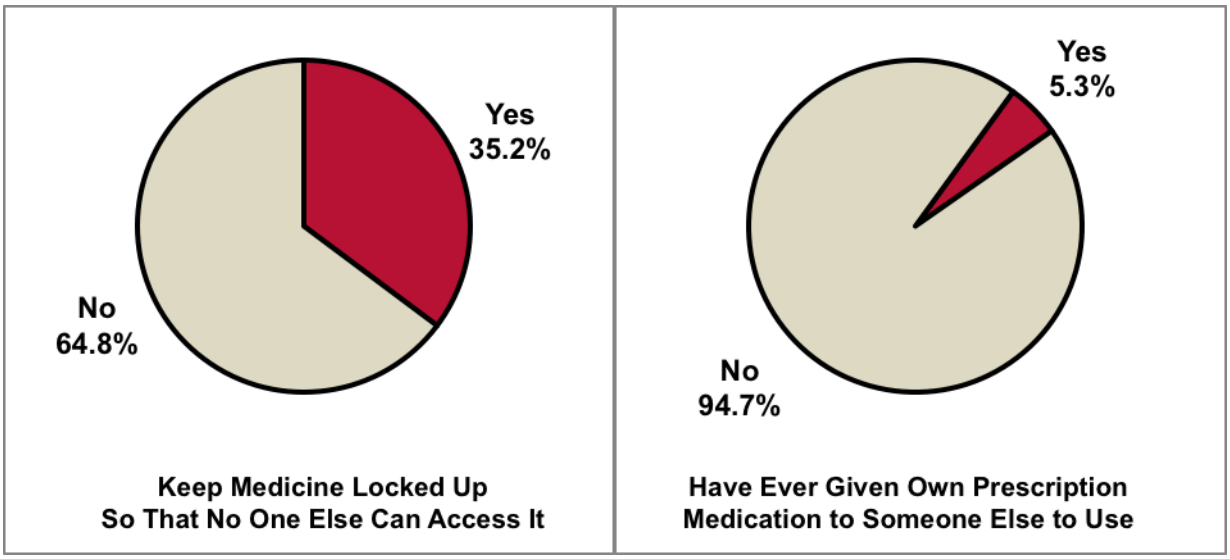
Figure 64. Illicit Drug Use in the Past Month (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 52]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective SA-13.3]

Notes:
- Asked of all respondents.
- Includes reported use of an illegal drug or of a prescription drug not prescribed to the respondent.

Figure 65. Prescription Medication (WNC Healthy Impact Survey)



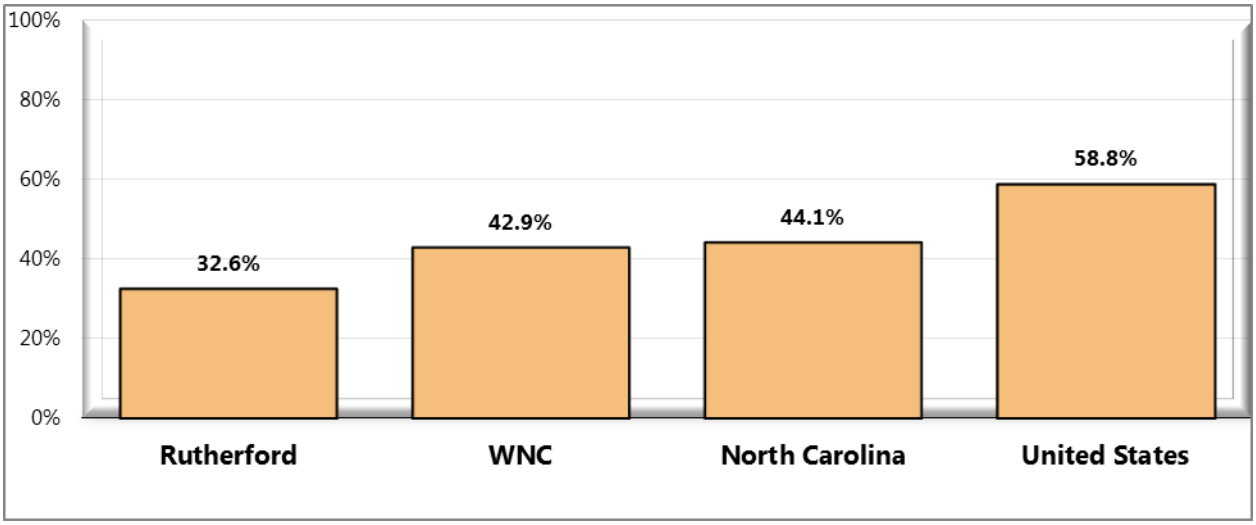
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Items 106-107]
Notes: ● Asked of all respondents.

Alcohol

"**Current drinkers**" include survey respondents who had at least one drink of alcohol in the month preceding the interview. For the purposes of this study, a "drink" is considered one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. "**Chronic drinkers**" include survey respondents reporting 60 or more drinks of alcohol in the month preceding the interview.

In this assessment, "**binge drinkers**" include adults who report drinking 5 or more alcoholic drinks on any single occasion during the past month. Note that state and national data reflect different thresholds for men (5+ drinks) and women (4+ drinks), so county and regional data is not directly comparable to state and national figures.

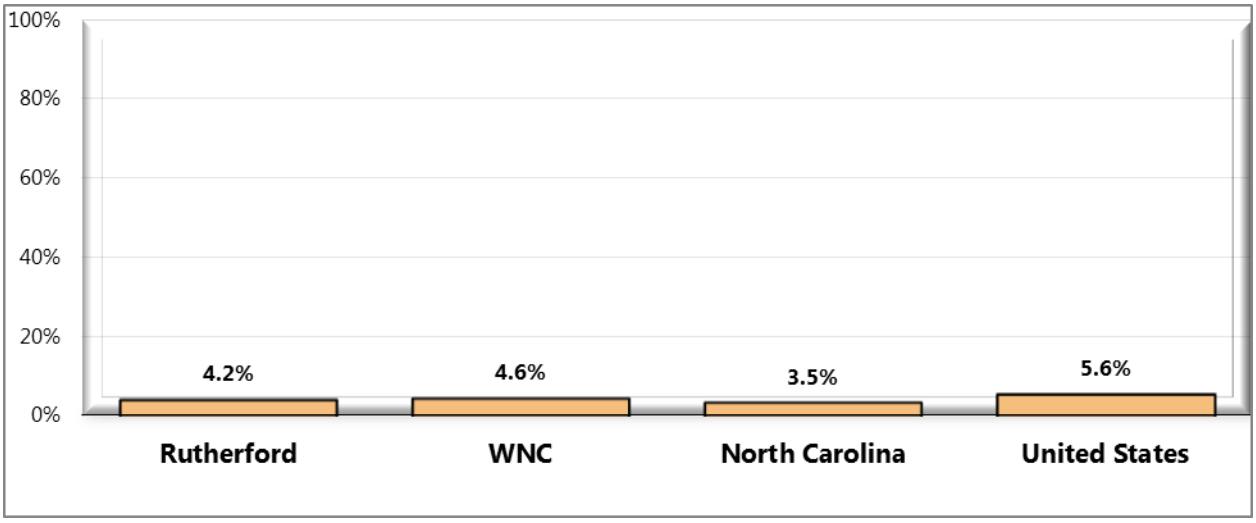
Figure 66. Current Drinkers (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 88]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Current drinkers had at least one alcoholic drink in the past month.

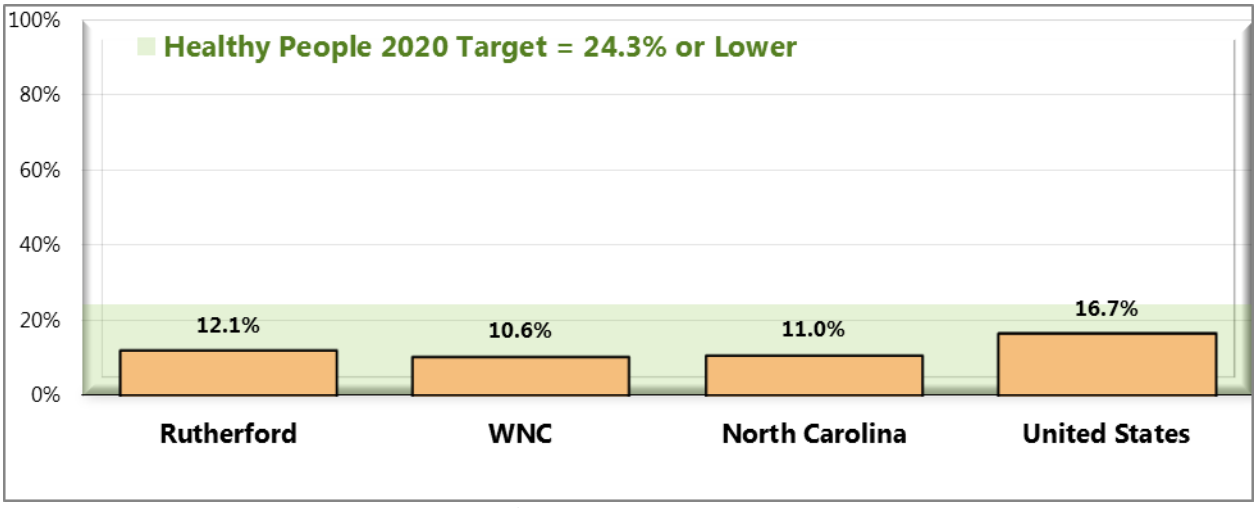
Figure 67. Chronic Drinkers (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 89]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Chronic drinkers are defined as having 60+ alcoholic drinks in the past month.
- *The state definition for chronic drinkers is males consuming 2+ drinks per day and females consuming 1+ drink per day in the past 30 days.

Figure 68. Binge Drinkers (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 90]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective SA-14.3]

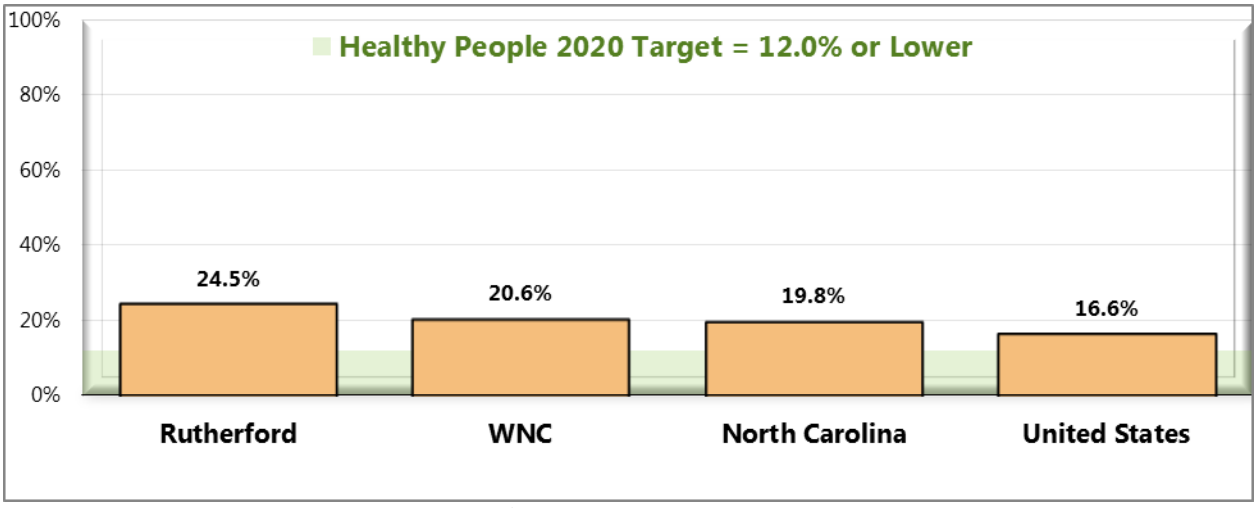
Notes:
- Asked of all respondents.
- Binge drinkers are defined as those consuming 5+ alcoholic drinks on any one occasion in the past 30 days; * note that state and national data reflect different thresholds for men (5+ drinks) and women (4+ drinks).

Tobacco

Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 443,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 20 more people suffer with at least one serious tobacco-related illness. In addition, tobacco use costs the US $193 billion annually in direct medical expenses and lost productivity. Preventing tobacco use and helping tobacco users quit can improve the health and quality of life for Americans of all ages. People who stop smoking greatly reduce their risk of disease and premature death. Benefits are greater for people who stop at earlier ages, but quitting tobacco use is beneficial at any age.

Many factors influence tobacco use, disease, and mortality. Risk factors include race/ethnicity, age, education, and socioeconomic status. Significant disparities in tobacco use exist geographically; such disparities typically result from differences among states in smoke-free protections, tobacco prices, and program funding for tobacco prevention (DHHS, 2010).

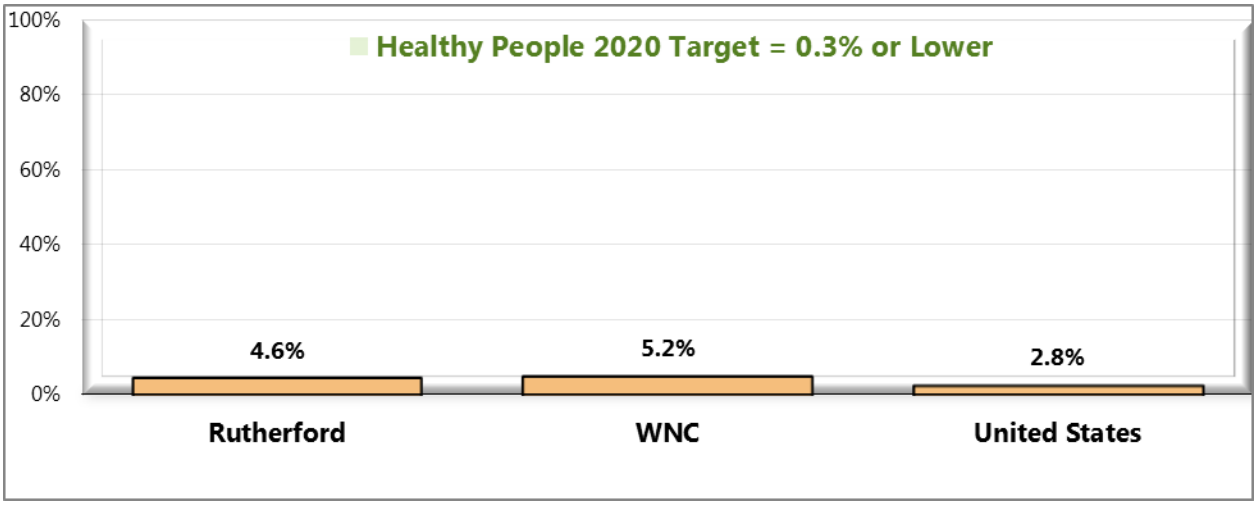
Figure 69. Current Smokers (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 86]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective TU-1.1]

Notes:
- Asked of all respondents.
- Includes regular and occasional smokers (every day and some days).

Figure 70. Currently Use Smokeless Tobacco Products (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 43]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective TU-1.2]

Notes:
- Asked of all respondents.
- Includes regular and occasional users (every day and some days).

Table 44. Top Three Resources Respondents Would Go to for Help Quitting Tobacco (WNC Healthy Impact Survey)

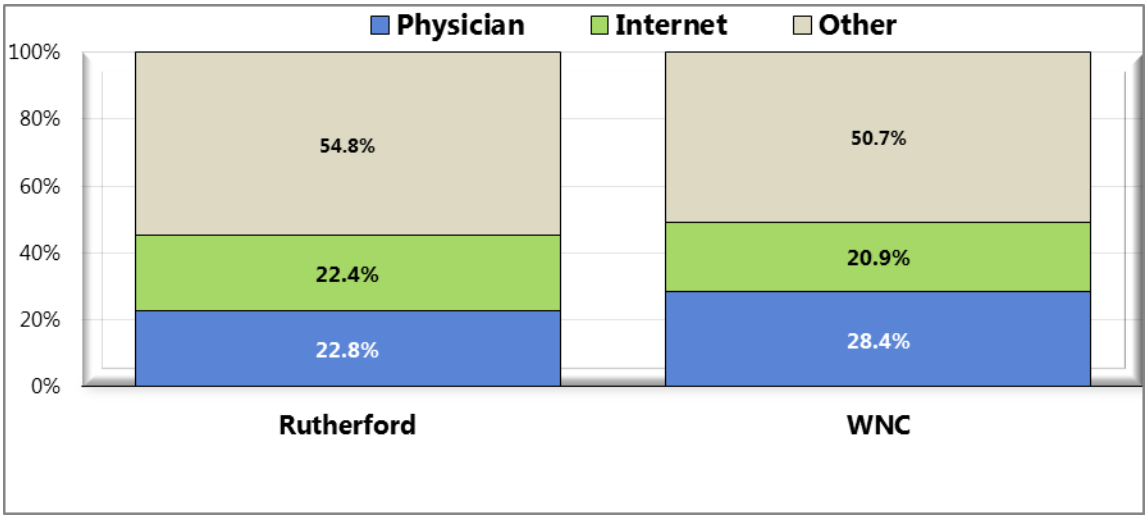
	Doctor	On My Own/Cold Turkey	Don't Know
Rutherford	✓	✓	✓
WNC	✓	✓	✓

Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 48]
Notes: • Asked of all respondents.

Health Information

Survey respondents were asked about where they get their healthcare information.

Figure 71. Primary Source of Healthcare Information (WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 11]
Notes: • Asked of all respondents.

CHAPTER 5 – CLINICAL CARE PARAMETERS

Medical Care Access

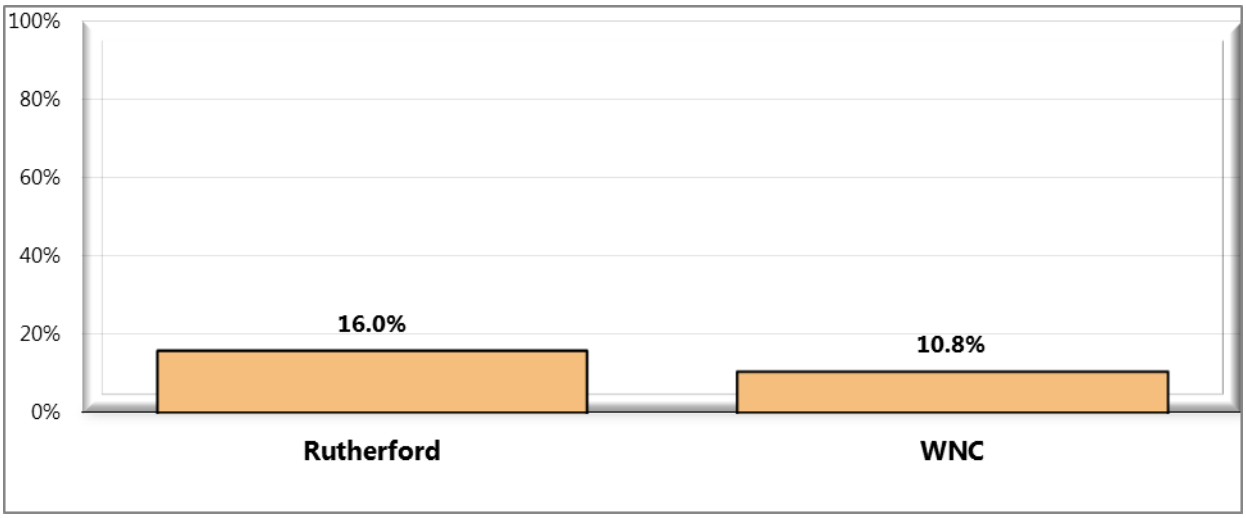
Access to comprehensive, quality health care services is important for the achievement of health equity and for increasing the quality of a healthy life for everyone. It impacts: overall physical, social, and mental health status; prevention of disease and disability; detection and treatment of health conditions; quality of life; preventable death; and life expectancy.

Access to health services means the timely use of personal health services to achieve the best health outcomes. It requires three distinct steps: 1) gaining entry into the health care system; 2) accessing a health care location where needed services are provided; and 3) finding a health care provider with whom the patient can communicate and trust (DHHS, 2010).

Self-Reported Access

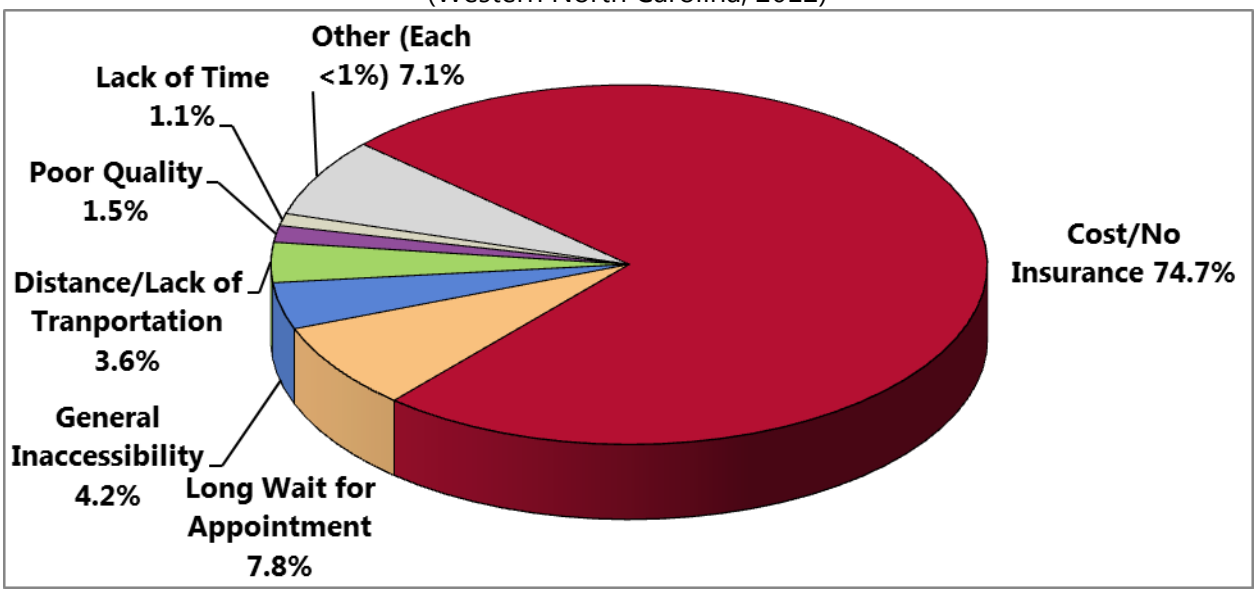
Survey respondents were asked if there was a time in the past 12 months when they needed medical care, but could not get it. If they responded, "yes," they were asked to name the main reason they could not get needed medical care. Due to small county-level sample sizes, the responses to the latter question are displayed at the regional-level, below.

Figure 72. Was Unable to Get Needed Medical Care at Some Point in the Past Year (WNC Healthy Impact Survey)



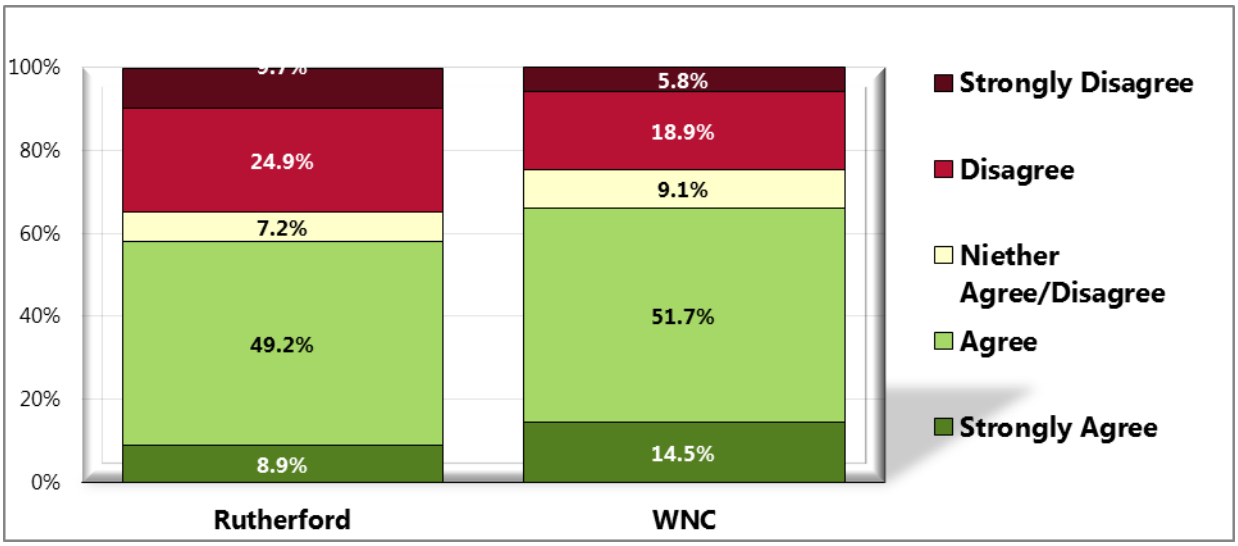
Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 13]
Notes: • Asked of all respondents.

Figure 73. Primary Reason for Inability to Get Needed Medical Care (WNC Healthy Impact)
(Adults Unable to Get Needed Medical Care at Some Point in the Past Year)
(Western North Carolina, 2012)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 14]
Notes: ● Asked of all respondents.

Figure 74. "Considering cost, quality, number of options And availability, there is good health care in my county (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 7]
Notes: ● Asked of all respondents.

Health Care Providers

Provider/Population Ratios

One way to judge the supply of health care providers in a jurisdiction is to calculate the ratio of the number of health professionals to the number of persons in the population of that jurisdiction. In NC, there is data on the ratio of active health professionals per 10,000 population calculated at the county level. Table 45 presents those data (which for simplicity's sake will be referred to simply as the "ratio") for Rutherford County, WNC, the state as a whole, and the US for five key categories of health care professionals: physicians, primary care physicians, dentists, registered nurses, and pharmacists. The years covered are 2008 and 2010.

According to this data, the ratios of professionals to population for Rutherford County are lower in every category than for WN, NC, or the US. It should be noted that the mean ratios for WNC are lower than the comparable state averages in every professional category listed in the table, and lower than the comparable national average in every professional category except primary care.

Table 45. Active Health Professionals per 10,000 Population (2008 and 2010)

Geography	2008					2010				
	Phys	Primary Care Phys	Dents	RNs	Pharms	Phys	Primary Care Phys	Dents	RNs	Pharms
Rutherford County	13.7	7.6	2.2	70.8	6.8	11.5	6.5	2.4	64.9	6.2
Regional Average	15.0	8.9	3.4	75.3	7.0	14.8	8.9	3.4	74.9	6.9
State Average	21.2	9.0	4.3	95.1	9.3	21.7	9.4	4.4	97.4	9.2
National Average	23.2*	8.5*	4.9	91.4	8.0	22.7**	8.2**	5.7	92.0	8.3

* Data are for 2006
** Data are for 2008

Providers by Specialty

Table 46 lists the number of active health care professionals in Rutherford County and WNC, by specialty, for 2010. From these data it is apparent that general practitioners are absent from Rutherford County. There also are three or fewer providers in the county in the specialties of certified nurse midwifery and podiatry.

Table 46. Active Health Professionals in Rutherford County and WNC, by Specialty (2010)

Category of Professionals	Rutherford County	WNC Total
Physicians		
Primary Care Physicians	44	813
Family Practice	20	368
General Practice	0	10
Internal Medicine	13	240
Obstetrics/Gynecology	6	85
Pediatrics	5	110
Other Specialties	34	853
Dentists and Dental Hygienists		
Dentists	16	342
Dental Hygienists	44	479
Nurses		
Registered Nurses	441	7,981
Nurse Practitioners	16	316
Certified Nurse Midwives	1	28
Licensed Practical Nurses	206	1,854
Other Health Professionals		
Chiropractors	8	192
Occupational Therapists	7	242
Occupational Therapy Assistants	11	99
Optometrists	6	84
Pharmacists	42	669
Physical Therapists	14	511
Physical Therapy Assistants	21	309
Physician Assistants	10	290
Podiatrists	2	24
Practicing Psychologists	6	201
Psychological Assistants	8	87
Respiratory Therapists	22	370

Uninsured Population

Table 47 presents periodic two-year data on the proportion of the non-elderly population (ages 19-64) without health insurance of any kind. While there was a 21.0% increase in the percent of uninsured adults at the state level from 2006-2007 to 2009-2010, the percent of uninsured adults in WNC decreased from one two year period to the next throughout the span of years shown in the table. In Rutherford County a decrease in the 2008-2009 biennium was followed by a nearly equal increase in the following biennium, so the net change was a 1.7% decrease.

Table 47. Estimated Percent Uninsured Adults, Ages 19-64 Biennial Periods (2006-2007, 2008-2009, and 2009-2010)

Geography	Percent Uninsured		
	2006-2007	2008-2009	2009-2010
Rutherford County	23.7	22.0	23.3
Regional Arithmetic Mean	23.4	22.3	22.0
State Total	19.5	23.2	23.6

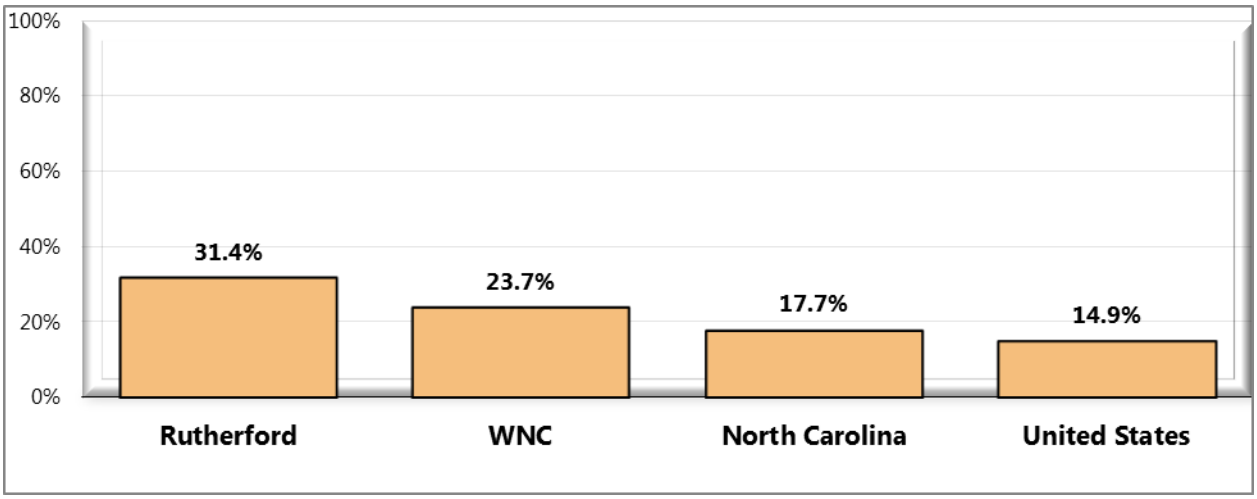
Table 48 shows the percent uninsured for one biennium (2009-2010) stratified by age. This data makes it clear that in Rutherford County as well as in WNC and NC as a whole, insurance coverage is better for children, among whom the percentage uninsured is less than half the percentage uninsured among the 19-64 age group.

Table 48. Estimated Percent Uninsured, All Ages (2009-2010)

Geography	2009-2010		
	Children (0-18)	Adults (19-64)	Total (0-64)
Rutherford County	9.5	23.3	19.3
Regional Arithmetic Mean	9.6	22.0	18.6
State Total	10.3	23.6	19.6

Survey data also provides county and regional estimates of health insurance coverage. Lack of health insurance coverage reflects respondents age 18 to 64 (thus, excluding the Medicare population) who have no type of insurance coverage for healthcare services – neither private insurance nor government-sponsored plans (e.g., Medicaid).

Figure 75. Lack of Healthcare Insurance Coverage (WNC Healthy Impact Survey)
(Among Adults 18-64)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 125]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective AHS-1]

Notes:
- Reflects adults under the age of 65.
- Includes any type of insurance, such as traditional health insurance, prepaid plans such as HMOs, or government-sponsored coverage (e.g., Medicare, Medicaid, Indian Health Services, etc.).

Medicaid Eligibility

Table 49 presents trend data on the number and percent of persons eligible for Medicaid for several state fiscal years. This data demonstrates that in Rutherford County the number and percent of Medicaid-eligible persons rose annually every year. The annual percent of Medicaid-eligible Rutherford County residents was higher than the comparable figures for WNC and NC for each year shown in the figure. With the exception of SFY2007, the mean percent of the WNC population eligible for Medicaid rose from one year to the next throughout the period cited in the table. Note that between SFY2006 and SFY2007 the number in WNC that were Medicaid-eligible rose even if the percentage did not. Further, the mean percent Medicaid-eligible in WNC exceeded the comparable percent eligible statewide for every period cited.

Table 49. Number and Percent of Population Medicaid-Eligible (SFY2004 through SFY2008)

Geography	SFY 2004		SFY 2005		SFY 2006		SFY 2007		SFY 2008	
	#	%	#	%	#	%	#	%	#	%
Rutherford County	14,095	22.22	14,471	22.89	14,969	23.65	15,219	24.09	15,425	24.51
Regional Total	128,727	-	132,895	-	138,616	-	139,891	-	142,606	-
Regional Arithmetic Mean	16,091	19.90	16,612	20.21	17,327	20.75	17,486	20.52	17,826	20.82
State Total	1,512,360	17.97	1,563,751	18.31	1,602,645	18.46	1,682,028	18.98	1,726,412	19.04

Screening and Prevention

Diabetes

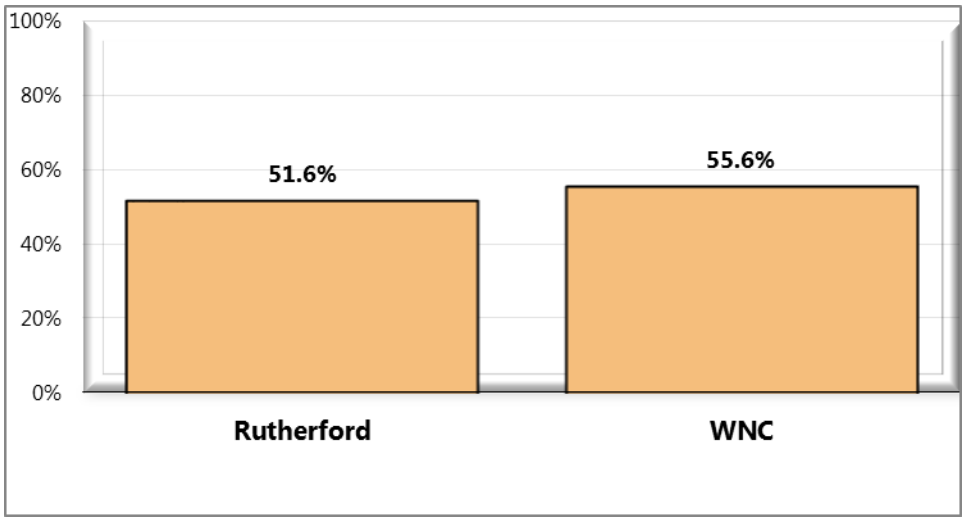
Diabetes mellitus occurs when the body cannot produce or respond appropriately to insulin. Insulin is a hormone that the body needs to absorb and use glucose (sugar) as fuel for the body's cells. Without a properly functioning insulin signaling system, blood glucose levels become elevated and other metabolic abnormalities occur, leading to the development of serious, disabling complications. Many forms of diabetes exist; the three common types are Type 1, Type 2, and gestational diabetes.

Diabetes mellitus affects an estimated 23.6 million people in the United States and is the 7th leading cause of death. Diabetes mellitus:

- Lowers life expectancy by up to 15 years.
- Increases the risk of heart disease by 2 to 4 times.
- Is the leading cause of kidney failure, lower limb amputations, and adult-onset blindness.

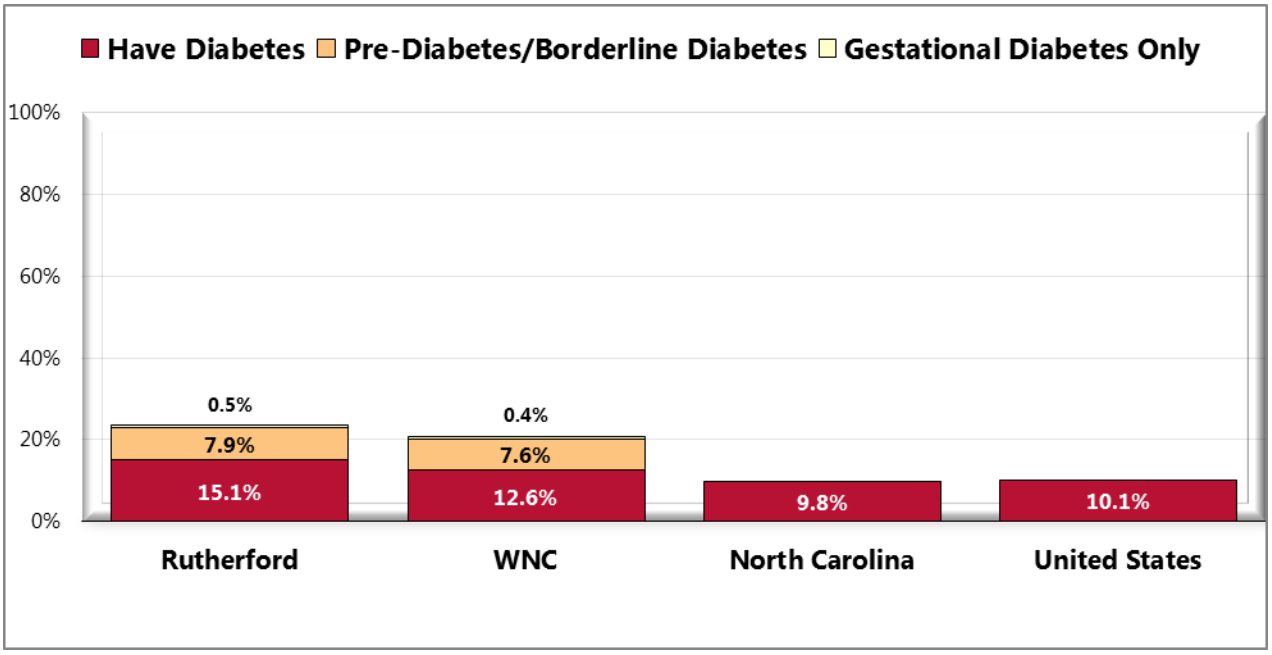
People from minority populations are more frequently affected by type 2 diabetes. Minority groups constitute 25% of all adult patients with diabetes in the US and represent the majority of children and adolescents with type 2 diabetes. Lifestyle change has been proven effective in preventing or delaying the onset of type 2 diabetes in high-risk individuals (DHHS, 2010).

Figure 76. Tested for Diabetes in the Past Three Years (WNC Healthy Impact Survey)
(Among Adults Who Have Not Been Diagnosed With Diabetes)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 19]
Notes: • Asked of respondents who have never been diagnosed with diabetes; also includes women who have only been diagnosed when pregnant.

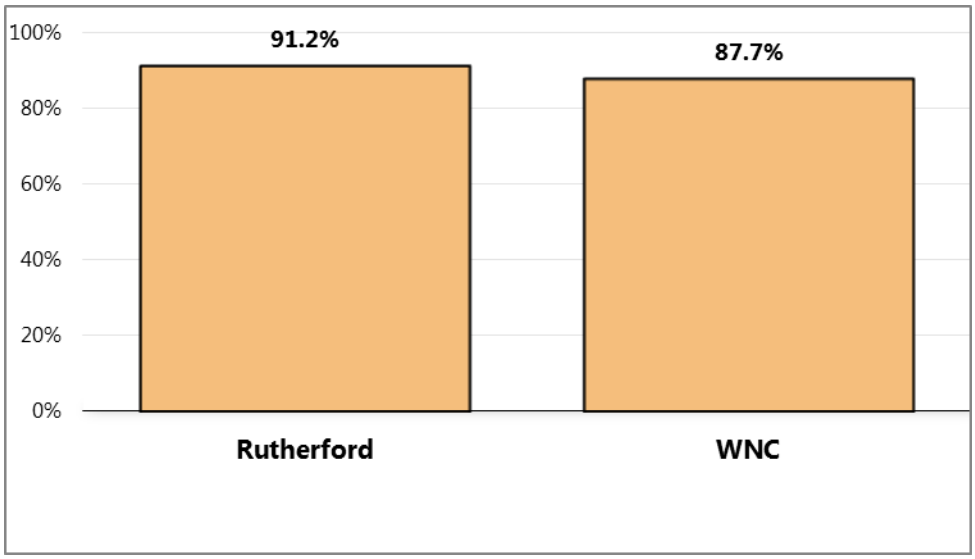
Figure 77. Prevalence of Diabetes (Ever Diagnosed)
(WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 78]
• 2011 PRC National Health Survey, Professional Research Consultants, Inc.
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.
Notes: • Asked of all respondents.

- Local and national data exclude gestation diabetes (occurring only during pregnancy).

Figure 78. Taking Action to Control Diabetes or Prediabetes (WNC Healthy Impact Survey)
(Among Adults Diagnosed with Diabetes or Prediabetes/Borderline Diabetes)

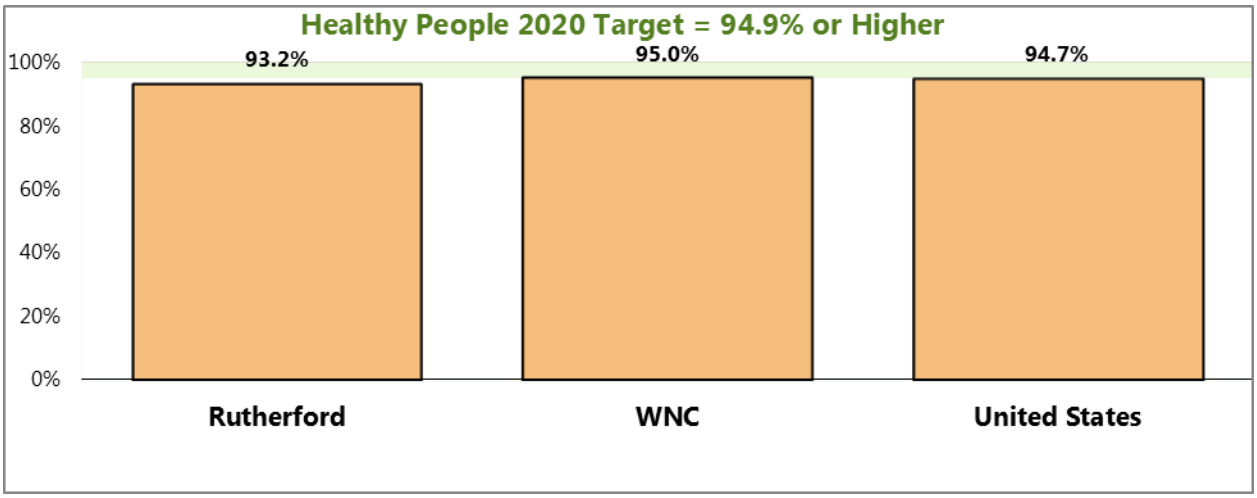


Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 21]
Notes: ● Asked of respondents who have been diagnosed with diabetes or prediabetes/borderline diabetes.
● In this case, the term "action" refers to taking natural or conventional medicines or supplements, diet modification, or exercising.

Hypertension

Controlling risk factors for heart disease and stroke remains a challenge. High blood pressure is still a major contributor to the national epidemic of cardiovascular disease. High blood pressure affects approximately 1 in 3 adults in the United States, and more than half of Americans with high blood pressure do not have it under control (DHHS, 2010).

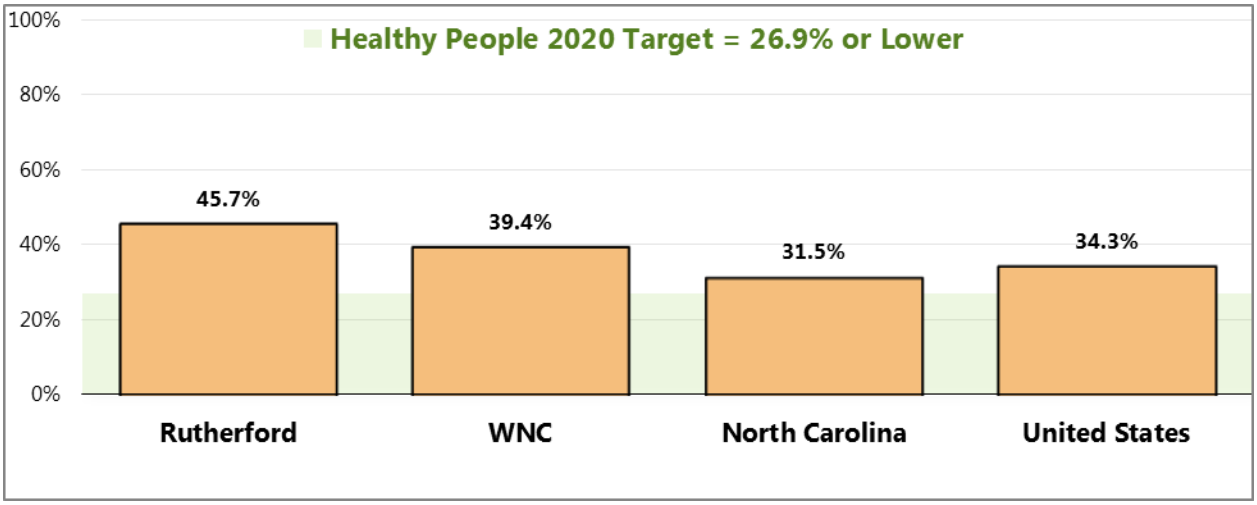
Figure 79. Have Had Blood Pressure Checked in the Past Two Years (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 24]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-4]

Notes:
- Asked of all respondents.

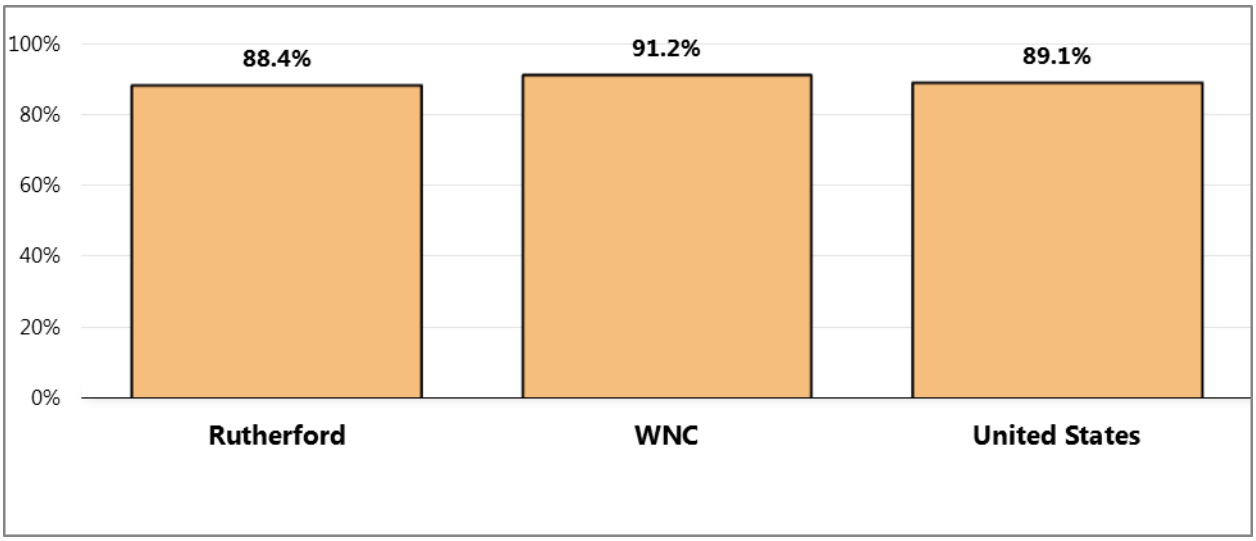
Figure 80. Prevalence of High Blood Pressure (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 76]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2009 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-5.1]

Notes:
- Asked of all respondents.

Figure 81. Taking Action to Control Hypertension (WNC Healthy Impact Survey)
(Among Adults with High Blood Pressure)



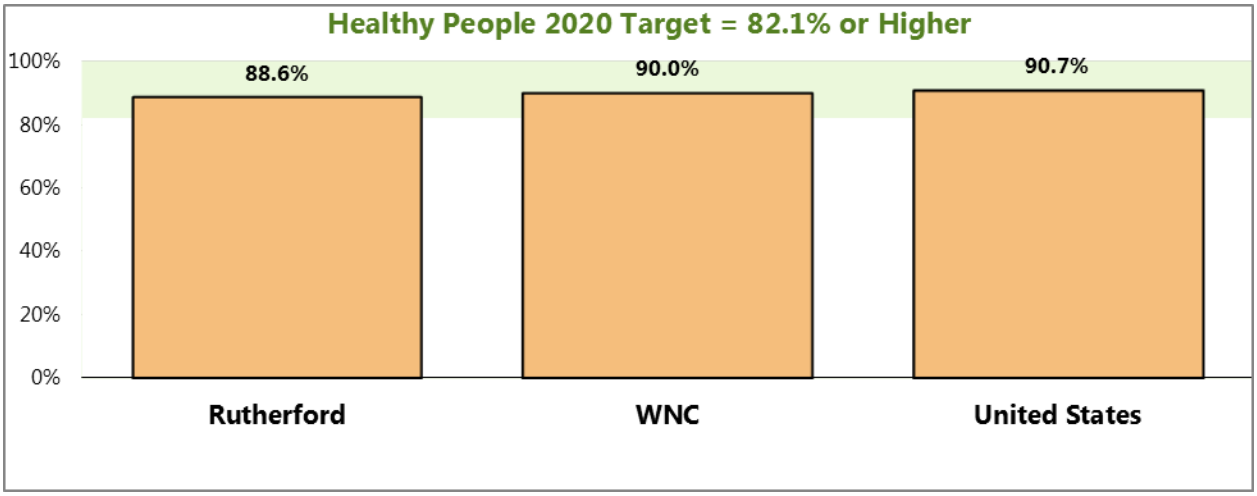
Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 23]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of respondents who have been diagnosed with high blood pressure.
- In this case, the term "action" refers to medication, change in diet, and/or exercise.

Cholesterol

Cholesterol is also a major contributor to the national epidemic of cardiovascular disease. Survey respondents were asked a series of questions about their blood cholesterol levels.

Figure 82. Have Had Blood Cholesterol Levels Checked in the Past Five Years (WNC Healthy Impact Survey)

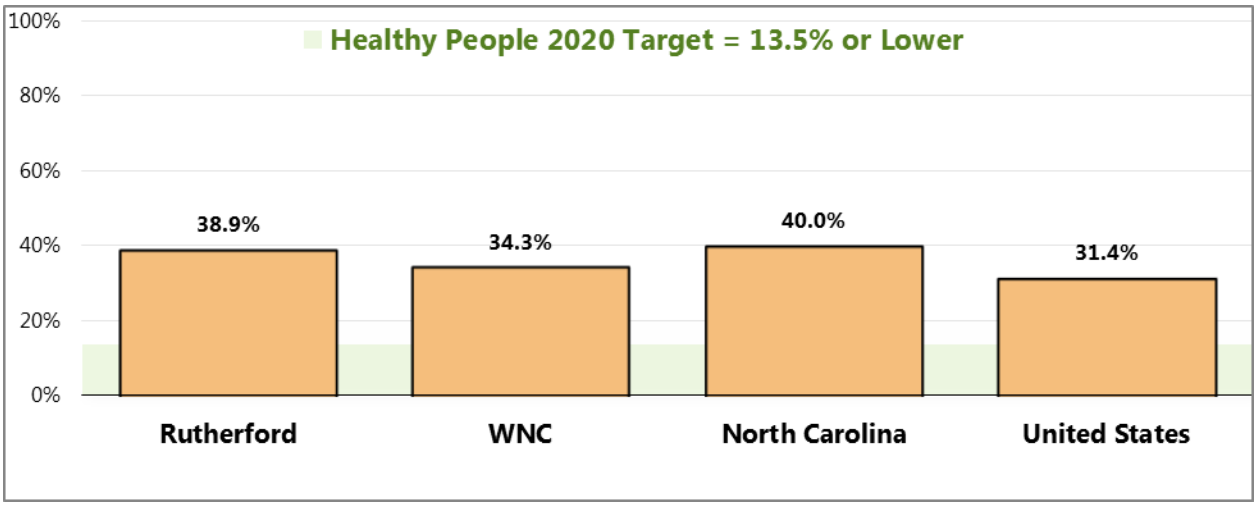


Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 27]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-6]

Notes:
- Asked of all respondents.

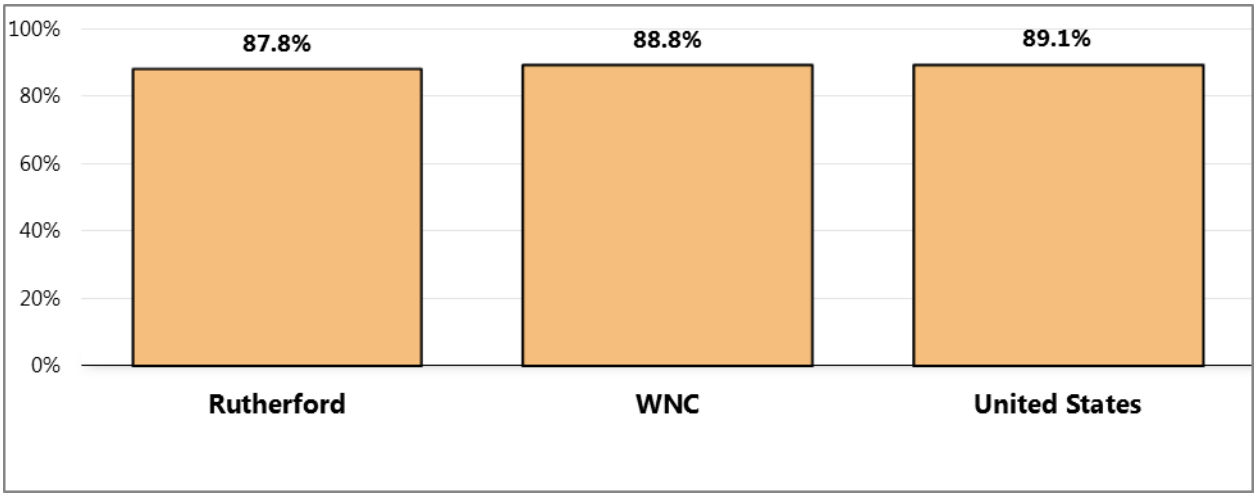
Figure 83. Prevalence of High Blood Cholesterol (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 77]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2009 North Carolina data.
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective HDS-7]

Notes:
- Asked of all respondents.

Figure 84. Taking Action to Control High Blood Cholesterol (WNC Healthy Impact Survey)
(Among Adults With High Blood Pressure)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 26]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of respondents who have been diagnosed with high blood cholesterol.
- In this case, the term "action" refers to medication, change in diet, and/or exercise.

Healthcare Utilization

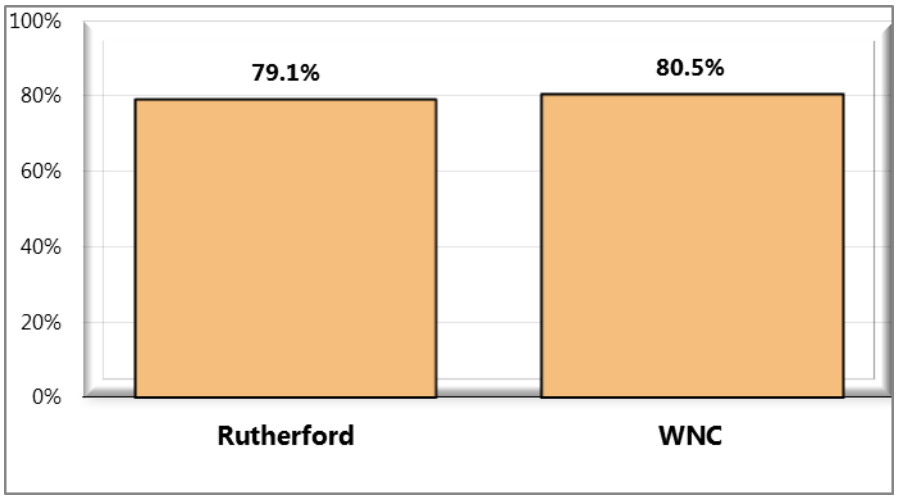
Routine Medical Care

Improving health care services depends in part on ensuring that people have a usual and ongoing source of care. People with a usual source of care have better health outcomes and fewer disparities and costs. Having a primary care provider (PCP) as the usual source of care is especially important. PCPs can develop meaningful and sustained relationships with patients and provide integrated services while practicing in the context of family and community. Having a usual PCP is associated with:

- Greater patient trust in the provider
- Good patient-provider communication
- Increased likelihood that patients will receive appropriate care

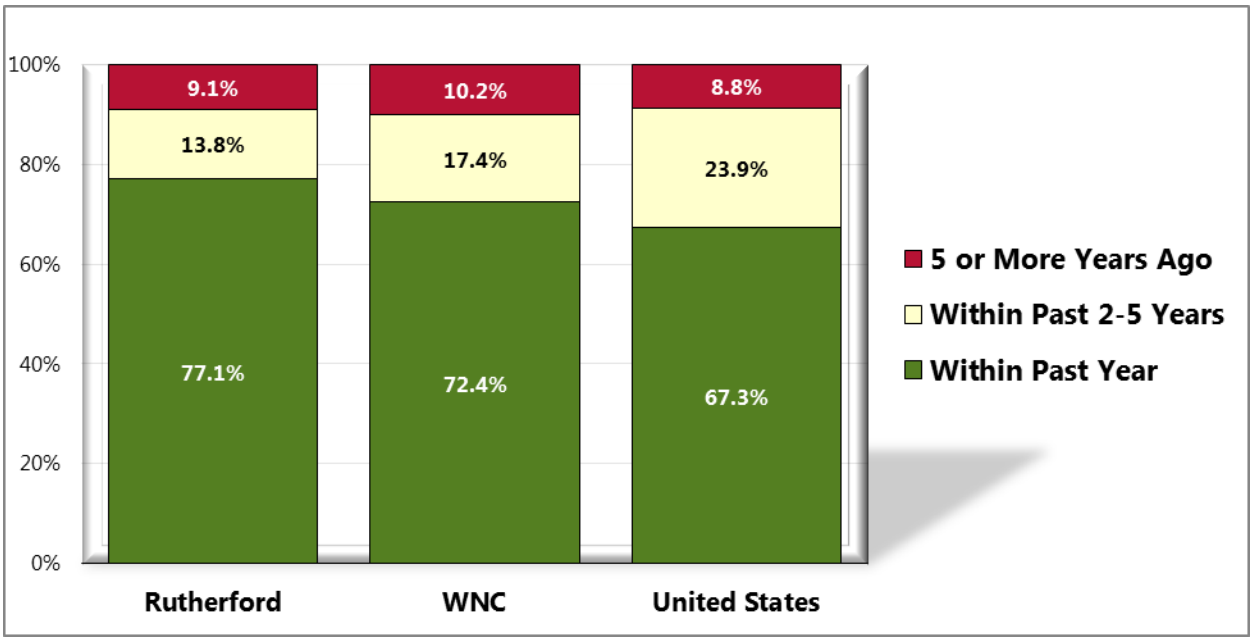
Improving health care services includes increasing access to and use of evidence-based preventive services. Clinical preventive services are services that: **prevent** illness by detecting early warning signs or symptoms before they develop into a disease (primary prevention); or **detect** a disease at an earlier, and often more treatable, stage (secondary prevention) (DHHS, 2010).

Figure 85. Have One Person Thought of as Respondent's Personal Doctor or Health Care Provider (WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 16]
Notes: • Asked of all respondents.

Figure 86. Length of Time Since Last Routine Check-Up (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 15]
● 2011 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: ● Asked of all respondents.

Emergency Department Utilization

According to data in Table 50, the diagnoses associated with the highest frequency of emergency department visits in Rutherford County in 2010 were lower respiratory disorders (15.04% of all ED visits), followed by chest pain/ischemic heart disease (14.55%) and psychiatric disorders (13.29%). On the regional level, the diagnoses associated with the highest frequency of ED visits were chest pain/ischemic heart disease (11.83% of all ED visits), followed by psychiatric disorders (10.98%) and lower respiratory disorders (9.48%)

Table 50. North Carolina Emergency Department Visits, NC DETECT Data (2010)

Diagnosis	Rutherford County		WNC Mean
	#	%	%
Chest pain/ischemic heart disease	6,242	14.55	11.83
Heart failure	1,387	3.23	2.58
Cardiac arrest	73	0.17	0.14
Lower respiratory disorders	6,455	15.04	9.48
Diabetes	5,176	12.06	8.80
Neoplasms	685	1.60	1.57
Dental problems	874	2.04	1.85
Stroke/TIA	441	1.03	0.62
Traumatic brain injury	116	0.27	0.30
Psychiatric disorders	5,705	13.29	10.98
Substance abuse	1,208	2.81	2.99
Total ED Visits	42,915	n/a	n/a

* % represents percent of total ED visits
** "S" indicates the data was suppressed due to a case count under 10
Note: for the full description of the disease group diagnosis codes included in each diagnosis line, see the *Data Workbook*.

Table 51 presents a summary of the major first-listed emergency department diagnoses for the WNC region according to DRG code. According to this data, the most common first-listed diagnosis codes in emergency departments across the region are abdominal pain (2.37% of all ED visits) and back pain, sprains of the lumbar spice, and sciatica (also 2.37%). It would appear that some of these cases could qualify for diversion to other health care providers *if* they were present in the community.

Table 51. Most Common First-Listed Diagnosis Codes in Emergency Departments, WNC
NC DETECT Data
2010

Diagnosis	Diagnosis Codes	# ED Visits	% of Total ED Visits
Abdominal pain	789.0, 789.00, 789.03, 789.09	7,597	2.37
Back pain, sprains of lumbar spine, sciatica	724.2, 724.3, 724.5, 847.2	7,590	2.37
Essential hypertension	401.9	7,490	2.34
Nausea with vomiting or vomiting alone	787.01, 787.03	5,873	1.83
Headache, Migraine, unspecified	784.0, 346.9	5,584	1.74
Acute URI/Pharyngitis, Streptococcal sore throat	034.0, 465.9, 462	5,458	1.70
Cough, Bronchitis	786.2, 466.0, 490	4,703	1.47
Dental caries, periapical abscess, tooth structure, disorders	521.00, 522.5, 525.9	4,210	1.31
UTI	599	4,027	1.26
Fever, Unknown origin	780.6, 780.60	3,285	1.03
Asthma, unspecified	493.90, 439.92	2,823	0.88
Neck sprains/stains	723.1, 847.0	2,728	0.85
Pain in joint	719.41, 719.45, 719.46	2,609	0.81
Pain in limb	729.5	2,486	0.78
Chest pain	786.5, 786.50, 786.59	2,186	0.68
Otitis media	382.9	2,083	0.65
Pneumonia	486	1,934	0.60
Open wound of hand or finger without complication	882.0, 883.0	1,644	0.51
Contusion of face, scalp, and neck except eyes	920	1,622	0.51
Syncope and collapse	780.2	1,552	0.48
TOTAL ED VISITS		320,429	

Inpatient Hospitalizations

Table 52 lists the diagnostic categories accounting for the most cases of inpatient hospitalization for 2010. The source data is based on a patient's county of residence, so the WNC totals presented in the table represent the sum of hospitalizations from each of the 16 WNC counties.

According to data in Table 52, the diagnosis resulting in the highest number of cases of hospitalization in 2010 among Rutherford County residents was cardiovascular and circulatory diseases (including heart disease and cerebrovascular disease), which accounted for 1,391 hospitalizations. The next highest number of hospitalizations (775) was for respiratory diseases, including pneumonia and influenza and chronic obstructive pulmonary disease, followed by digestive system diseases, including chronic liver disease and cirrhosis (757 cases).

Table 52. Inpatient Hospital Utilization by Rutherford County Residents, by Principal Diagnoses Excluding Newborns and Discharges from Out-of-State Hospitals (2011)

Diagnostic Category	Total # Cases		
	Rutherford County	Region	North Carolina
INFECTIOUS & PARASITIC DISEASES	253	2,741	41,705
-- Septicemia	169	1,604	27,412
-- AIDS	5	41	1,456
MALIGNANT NEOPLASMS	245	2,599	31,225
-- Colon, Rectum, Anus	22	324	3,770
-- Trachea, Bronchus, Lung	46	346	4,541
-- Female Breast	20	157	1,498
-- Prostate	10	192	2,505
BENIGN, UNCERTAIN & OTHER NEOPLASMS	57	650	8,948
ENDOCRINE, METABOLIC & NUTRITIONAL DISEASES	280	2,905	40,208
-- Diabetes	132	1,240	18,101
BLOOD & HEMOPOETIC TISSUE DISEASES	79	770	14,011
NERVOUS SYSTEM & SENSE ORGAN DISEASES	139	1,597	19,315
CARDIOVASCULAR & CIRCULATORY DISEASES	1,391	12,961	162,327
-- Heart Disease	942	9,006	108,060
-- Cerebrovascular Disease	274	2,259	29,429
RESPIRATORY DISEASES	775	8,683	93,891
-- Pneumonia/Influenza	266	3,089	29,852
-- Chronic Obstructive Pulmonary Disease	262	2,557	30,832
DIGESTIVE SYSTEM DISEASES	757	8,527	95,068
-- Chronic Liver Disease/Cirrhosis	10	178	2,361
GENITOURINARY DISEASES	484	4,123	45,978
-- Nephritis, Nephrosis, Nephrotic Synd.	115	1,036	14,368
PREGNANCY & CHILDBIRTH	730	7,921	125,271
SKIN & SUBCUTANEOUS TISSUE DISEASES	115	1,287	17,734
MUSCULOSKELETAL SYSTEM DISEASES	453	5,950	58,753
-- Arthropathies and Related Disorders	200	3,155	30,683
CONGENITAL MALFORMATIONS	23	294	3,318
PERINATAL COMPLICATIONS	11	198	4,035
SYMPTOMS, SIGNS & ILL-DEFINED CONDITIONS	575	3,916	48,299
INJURIES & POISONING	653	7,474	78,637
OTHER DIAGNOSES (INCL. MENTAL DISORDERS)	781	7,329	84,657
ALL CONDITIONS	7,801	79,925	973,380

Source: *Inpatient Hospital Utilization and Charges by Principal Diagnosis, and County of Residence, North Carolina, 2010 (Excluding Newborns & Discharges from Out of State Hospitals)* Retrieved June 20, 2012, from North Carolina State Center for Health Statistics (NC SCHS), 2012 County Health Data Book website: http://www.schs.state.nc.us/schs/data/databook/

Dental Services

The significant improvement in the oral health of Americans over the past 50 years is a public health success story. Most of the gains are a result of effective prevention and treatment efforts. One major success is community water fluoridation, which now benefits about 7 out of 10 Americans who get water through public water systems. However, some Americans do not have access to preventive programs. People who have the least access to preventive services and dental treatment have greater rates of oral diseases. A person's ability to access oral healthcare is associated with factors such as education level, income, race, and ethnicity.

Oral health is essential to overall health. Good oral health improves a person's ability to speak, smile, smell, taste, touch, chew, swallow, and make facial expressions to show feelings and emotions. However, oral diseases, from cavities to oral cancer, cause pain and disability for many Americans. Good self-care, such as brushing with fluoride toothpaste, daily flossing, and professional treatment, is key to good oral health. Health behaviors that can lead to poor oral health include:

- Tobacco use
- Excessive alcohol use
- Poor dietary choices

There are also social determinants that affect oral health. In general, people with lower levels of education and income, and people from specific racial/ethnic groups, have higher rates of disease. People with disabilities and other health conditions, like diabetes, are more likely to have poor oral health (DHHS, 2010).

Utilization of Dental Services by the Medicaid Population

Table 53 presents data on the percent of the Medicaid population eligible for dental care that utilizes it. This data represents the Medicaid population of all ages, but split into under-age-21 and age-21-and over-categories. In all three jurisdictions the Medicaid population under age 21 appears to be more likely to utilize dental services than the population age 21 and older. The figures for Rutherford County are lower than in the other two jurisdictions.

Table 53. Medicaid Recipients Receiving Dental Services, All Ages (2010)

Geography	Medicaid Recipients Utilizing Dental Services (by Ages Group)					
	<21 Years Old			21+ Years Old		
	# Eligible for Services	# Receiving Services	% Eligibles Receiving Services	# Eligible for Services	# Receiving Services	% Eligibles Receiving Services
Rutherford County	9,238	4,369	47.3	6,892	1,962	28.5
Regional Total	85,652	42,135	49.2	62,817	18,536	29.5
State Total	1,113,692	541,210	48.6	679,139	214,786	31.6

Table 54, focusing only on children ages 1-5, helps in understanding why utilization in the under-21 age group is so high. In this youngest age group, approximately half of the eligible population received dental services in all three jurisdictions.

Table 54. Medicaid-Recipients Receiving Dental Services, Ages 1-5 (2010)

Geography	Children (aged 1-5) Enrolled in Medicaid Who Received Any Dental Service In the Previous 12 Months)		
	# Eligible for Services*	# Receiving Services**	% Eligibles Receiving Services
Rutherford County	2,653	1,305	49.2
Regional Total	26,820	14,407	53.7
State Total	n/a	n/a	51.7

Dental Screening Results among Children

Table 55 presents 2009 dental screening results for kindergarteners. While the screening process captures other data, this data covers only the average number of decayed, missing or filled teeth. The average number of decayed, missing or filled teeth discovered among kindergarteners screened in Rutherford County (2.69 per child) was 23% higher than the mean percentage for WNC (2.18) and 79% higher than the state average (1.50).

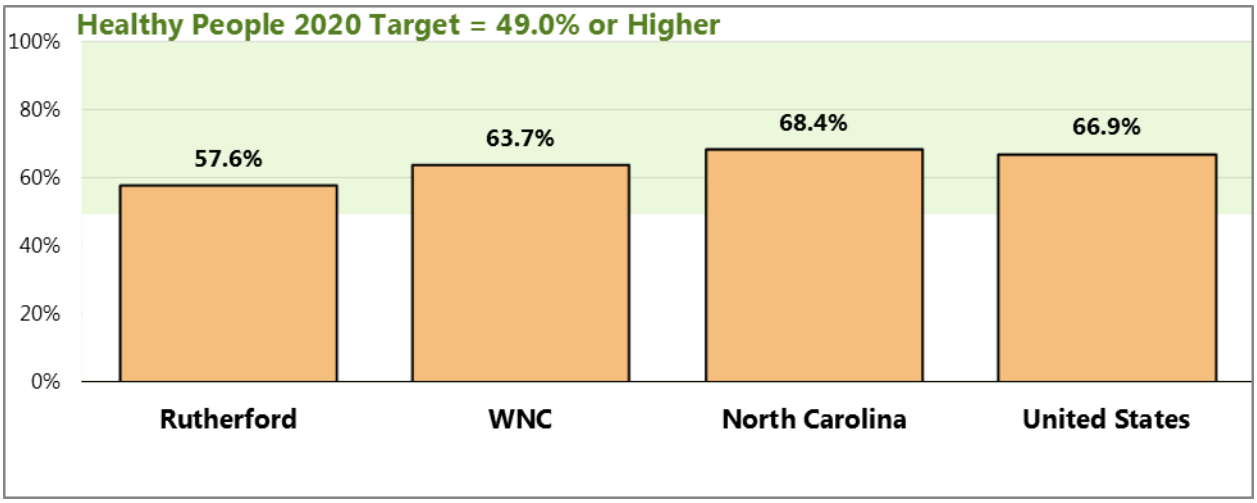
Table 55. Dental Screening Results, Kindergarteners (2009)

Geography	Average # Decayed, Missing or Filled Teeth
Rutherford County	2.69
Regional Arithmetic Mean	2.18
State Total	1.50

Utilization of Preventive Dental Care

Survey respondents were asked, "About how long has it been since you last visited a dentist or a dental clinic for any reason? This includes visits to dental specialists, such as orthodontists."

Figure 87. Have Visited a Dentist or Dental Clinic Within the Past Year (WNC Healthy Impact Survey)



Sources:
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 17]
- 2011 PRC National Health Survey, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective OH-7]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2010 North Carolina data.

Notes:
- Asked of all respondents.

Mental Health

Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with challenges. Mental health is essential to personal well-being, family and interpersonal relationships, and the ability to contribute to community or society. Mental disorders are health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning. Mental disorders contribute to a host of problems that may include disability, pain, or death. Mental illness is the term that refers collectively to all diagnosable mental disorders.

Mental disorders are among the most common causes of disability. The resulting disease burden of mental illness is among the highest of all diseases. According to the national Institute of Mental Health (NIMH), in any given year, an estimated 13 million American adults (approximately 1 in 17) have a seriously debilitating mental illness. Mental health disorders are the leading cause of disability in the United States and Canada, accounting for 25% of all years of life lost to disability and premature mortality. Moreover, suicide is the 11th leading cause of death in the United States, accounting for the deaths of approximately 30,000 Americans each year.

Mental health and physical health are closely connected. Mental health plays a major role in people's ability to maintain good physical health. Mental illnesses, such as depression and anxiety, affect people's ability to participate in health-promoting behaviors. In turn, problems with physical health, such as chronic diseases, can have a serious impact on mental health and decrease a person's ability to participate in treatment and recovery.

In addition to advancements in the prevention of mental disorders, there continues to be steady progress in treating mental disorders as new drugs and stronger evidence-based outcomes become available (DHHS, 2010).

The unit of NC government responsible for overseeing mental health services is the Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMH/DD/SAS). The NC mental health system is built on a system of Local Management Entities (LMEs)—area authorities or county programs—responsible for managing, coordinating, facilitating and monitoring the provision of MH/DD/SAS services in the catchment area served. There are two LMEs serving the population in WNC: Smoky Mountain Center and Western Highlands Network (NC Division of Mental Health, August 2012).

Mental Health Service Utilization Trends

Table 56 presents figures on the numbers of persons receiving services in Area Mental Health Programs in 2006 through 2010. No clear pattern of service utilization is apparent from this data in any of the three jurisdictions. It should be noted that the mental health system in NC is in some disarray, as reform of the recent past is being reconsidered.

Table 56. Persons Served in Area Mental Health Programs (2006-2010)

Geography	# Persons Served in Area Mental Health Programs				
	2006	2007	2008	2009	2010
Rutherford County	3,501	2,922	1,917	2,090	2,767
Regional Total	30,952	31,271	28,380	24,527	28,453
State Total	322,397	315,338	306,907	309,155	332,796

Table 57 presents figures on the numbers of persons receiving services in NC state alcohol and drug treatment centers. Although the pattern of increase is not straight-line in both cases, it appears that increasing numbers of persons in Rutherford County and WNC have received services from NC state alcohol and drug treatment centers since 2007. Noteworthy at the regional level was a 23% increase in persons being served between 2009 and 2010. In Rutherford County there was a net increase of 32% in the number of persons being served between 2007 and 2010.

Table 57. Persons Served in NC State Alcohol and Drug Treatment Centers (2006-2010)

Geography	# Persons Served in NC Alcohol and Drug Treatment Centers				
	2006	2007	2008	2009	2010
Rutherford County	47	41	46	35	62
Regional Total	664	604	774	751	921
State Total	4,003	3,733	4284	4,812	4,483

Table 58 presents figures on the numbers of persons receiving services in NC state psychiatric hospitals. The number of persons in Rutherford County utilizing these services fell every year from 2007 to 2010, decreasing by 69% over that period. The number of persons in WNC receiving these services also fell. The number of persons in WNC utilizing state psychiatric hospital services in 2010 (564) was 63% lower than the number utilizing services in 2006 (1,509). The decrease in persons receiving services likely is a reflection of a decreasing availability of state services, rather than a decreasing need for services.

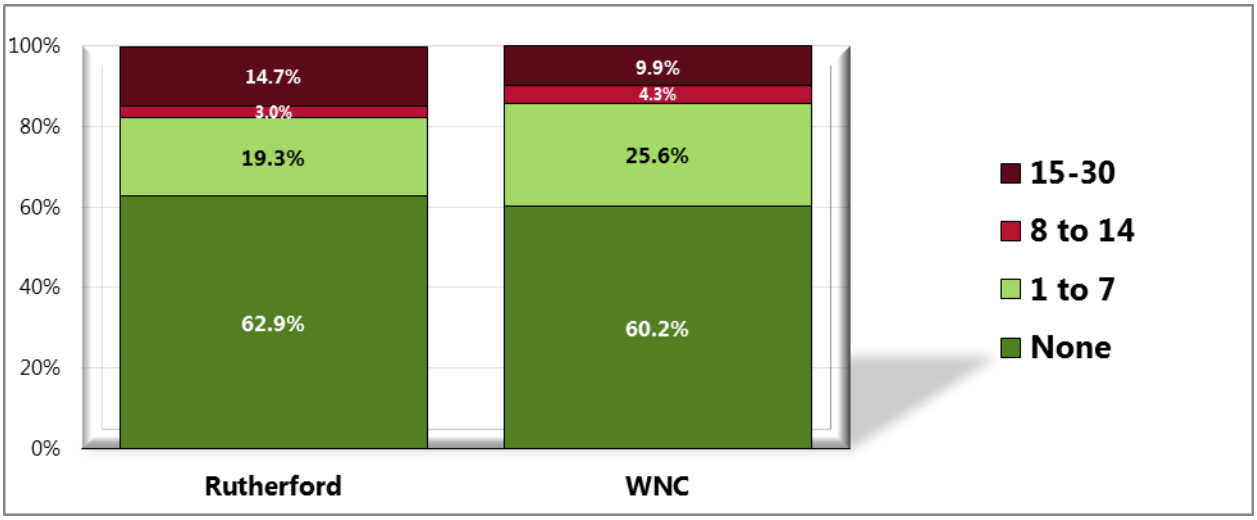
Table 58. Persons Served in NC State Psychiatric Hospitals (2006-2010)

Geography	# Persons Served in NC State Psychiatric Hospitals				
	2006	2007	2008	2009	2010
Rutherford County	169	144	89	63	52
Regional Total	1,509	1,529	1190	818	564
State Total	18,292	18,498	14643	9,643	7,188

Poor Mental Health Days

Survey respondents were asked, "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many of the past 30 days was your mental health not good?"

Figure 88. Number of Days in the Past 30 Days on Which Mental Health Was Not Good (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 64]
Notes: ● Asked of all respondents.

Figure 89. Average Number of the Past 30 Days on Which Mental Health Was Not Good (WNC Healthy Impact Survey)

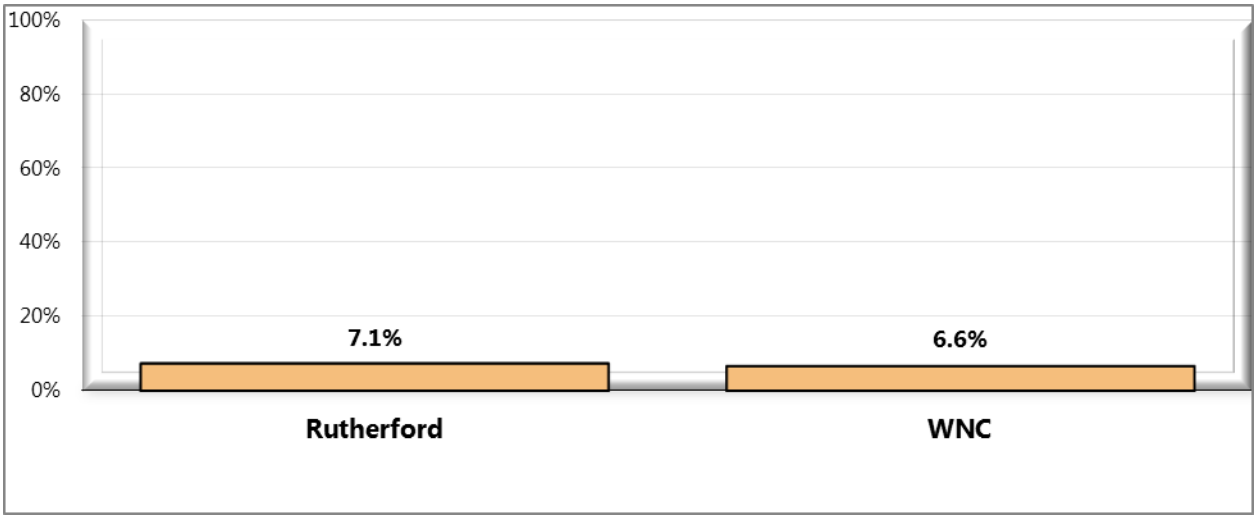
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 64]
Notes: ● Asked of all respondents.

Access to Mental Health Services

Survey respondents were asked if they had a time in the past year when they needed mental health care or counseling, but did not get it at that time. Those who responded, "yes," were

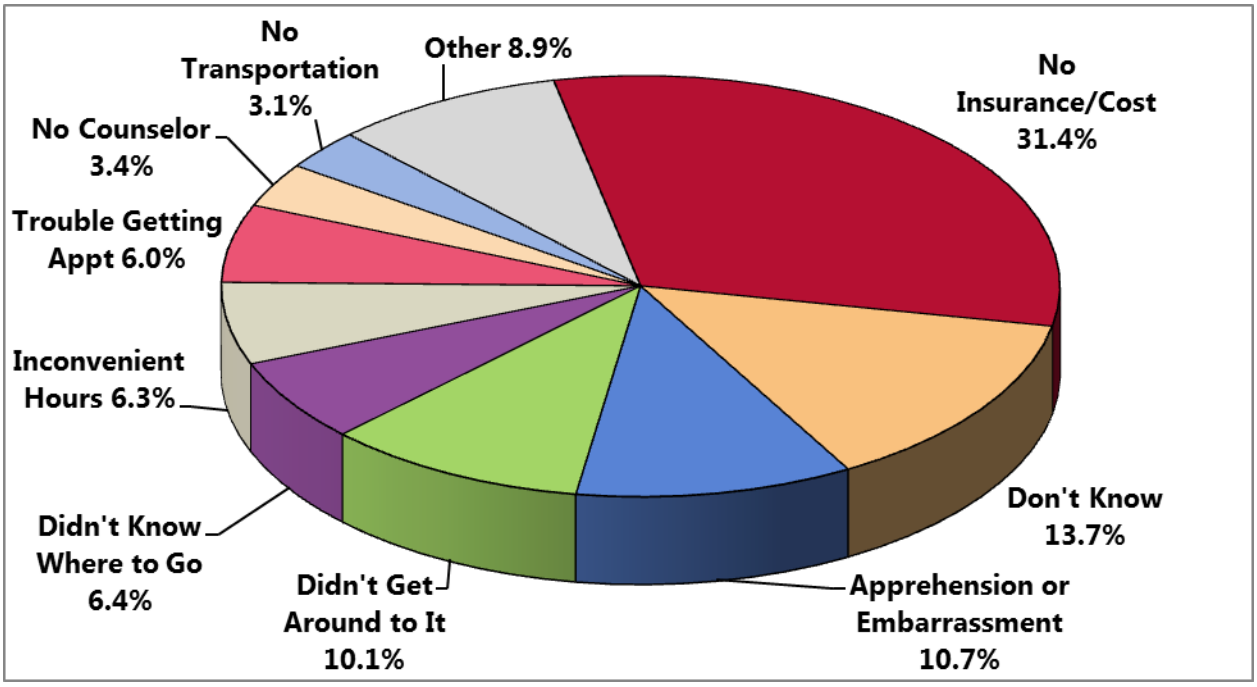
asked to name the main reason they did not get mental health care or counseling. Due to small county-level sample sizes, responses to the latter question are displayed below for the region.

Figure 90. Had a Time in the Past Year When Mental Health Care or Counseling Was Needed, But Was Unable to Get It (WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 65]
Notes: • Asked of all respondents.

Figure 91. Primary Reason for Inability to Access Mental Health Services (WNC Healthy Impact Survey)
(Adults Unable to Get Needed Mental Health Care in the Past Year)
(Western North Carolina, 2012)

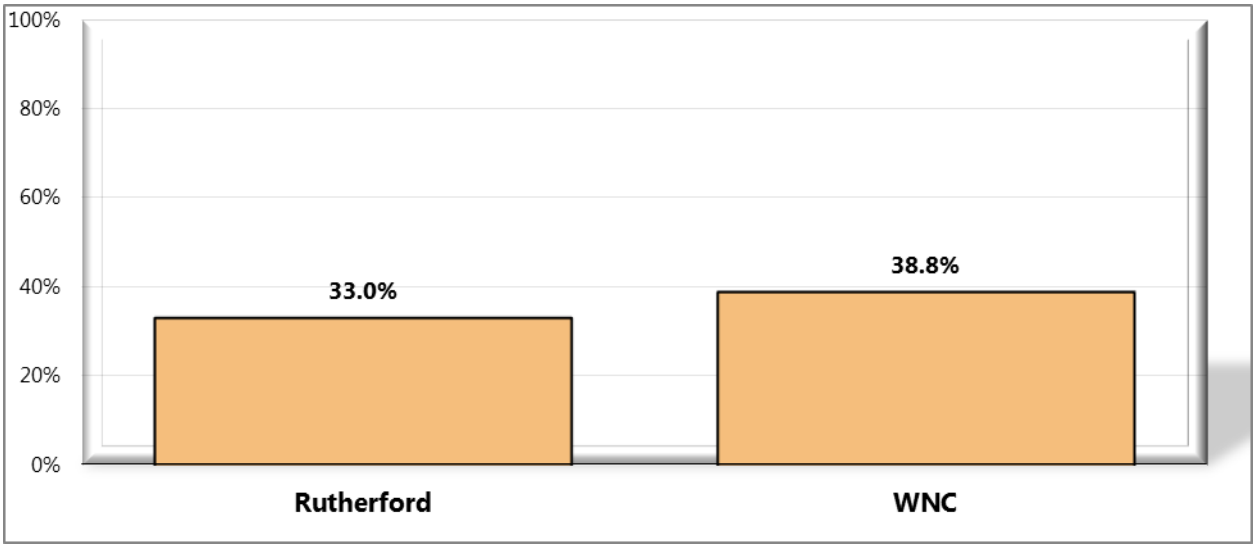


Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 66]
Notes: ● Asked of those respondents who were unable to get needed mental health care in the past year.

Advance Directives

An Advance Directive is a set of directions given about the medical care a person wants if he/she ever loses the ability to make decisions for him/herself. Formal Advance Directives include Living Wills and Healthcare Powers of Attorney. Survey respondents were asked whether they have any completed Advance Directive documents, and if so, if they have communicated these health care decisions to their family or doctor.

Figure 92. Have Completed Advance Directive Documents (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 34]
Notes: ● Asked of all respondents.

Figure 93. Have Communicated Health Care Decisions to Family or Doctor (WNC Healthy Impact Survey)

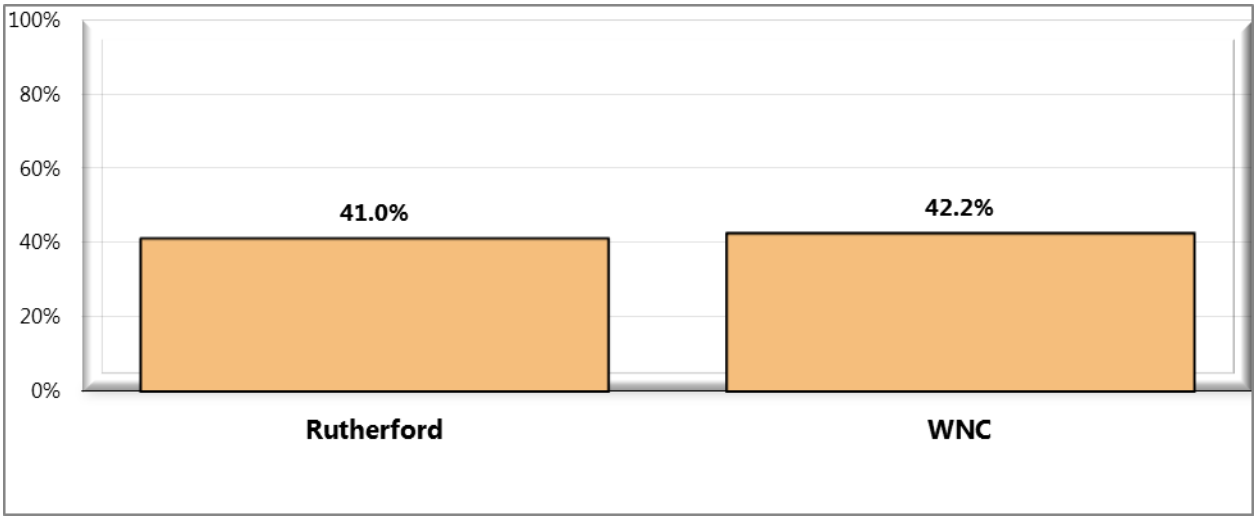
(Among Respondents with Advance Directive Documents)

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 35]
Notes: ● Asked of respondents with completed advance directive documents.

Care-giving

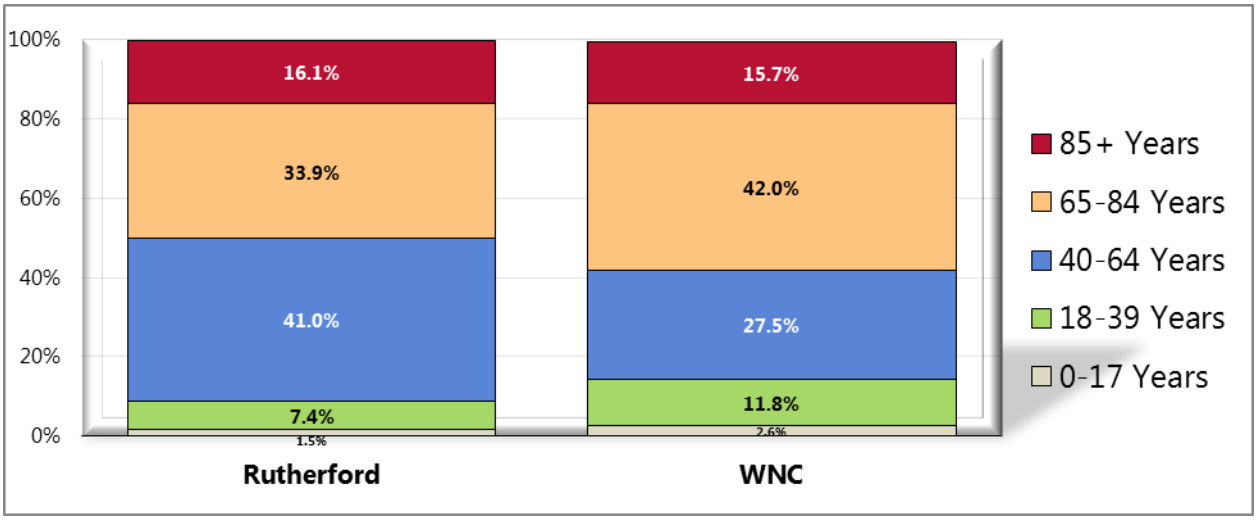
People may provide regular care or assistance to a friend or family member who has a health problem, long-term illness, or disability. Respondents were asked, "During the past month, did you provide any such care or assistance to a friend or family member?" Those who answered, "yes," were asked for the age, primary health issue, and the primary type of assistance needed by the person for whom the respondent provides care.

Figure 94. Provide Regular Care or Assistance to a Friend/Family Member Who Has a Health Problem or Disability (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 69]
Notes: ● Asked of all respondents.

Figure 95. Age of Person for Whom Respondent Provides Care (WNC Healthy Impact Survey)
(Among Respondents Acting as a Caregiver for a Friend/Family Member)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 70]
Notes: ● Asked of respondents acting as a caregiver for a friend or family member.

Table 59. Primary Health Issue of Person for Whom Respondent Provides Care (WNC Healthy Impact Survey)

(Among Respondents Acting as a Caregiver for a Friend/Family Member)

	Aging	Alzheimers /Dementia	Cancer	Diabetes	Emotional/ Mental	Heart Disease	Stroke	Other (Each <4%)	Don't Know/Not Sure
Rutherford	9.7%	15.6%	8.9%	1.3%	0.0%	6.9%	0.7%	47.5%	9.4%
WNC	7.9%	8.4%	8.6%	4.3%	4.8%	7.4%	4.9%	46.3%	7.4%

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 71]

Notes: ● Asked of respondents acting as a caregiver for a friend or family member.

Table 60. Primary Type of Assistance Needed by Person for Whom Respondent Provides Care (WNC Healthy Impact Survey)

(Among Respondents Acting as a Caregiver for a Friend/Family Member)

	Other (Each <2%)	Learning/ Remembering	Communi-cating	Moving Around the Home	Taking Care of Living Space	Taking Care of Self	Help with Anxiety/ Depression	Transportation Outside Home
Rutherford	0.0%	0.6%	9.8%	2.8%	18.6%	10.8%	27.2%	30.3%
WNC	2.0%	3.8%	3.9%	6.3%	18.5%	20.1%	20.9%	24.5%

Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 72]

Notes: ● Asked of respondents acting as a caregiver for a friend or family member.

CHAPTER 6 – PHYSICAL ENVIRONMENT

Air Quality

Outdoor Air Quality

Nationally, outdoor air quality monitoring is the responsibility of the Environmental Protection Agency (EPA); most of the following information and data originate with that agency. In NC, the agency responsible for monitoring air quality is the Division of Air Quality (DAQ) in the NC Department of Environment and Natural Resources (NC DENR).

The EPA categorizes outdoor air pollutants as "criteria air pollutants" (CAPs) and "hazardous air pollutants" (HAPs). Criteria air pollutants (CAPS), which are covered in this report, are six chemicals that can injure human health, harm the environment, or cause property damage: carbon monoxide, lead, nitrogen oxides, particulate matter, ozone, and sulfur dioxide. The EPA has established National Ambient Air Quality Standards (NAAQS) that define the maximum legally allowable concentration for each CAP, above which human health may suffer adverse effects (US Environmental Protection Agency, 2012).

The impact of CAPs in the environment is described on the basis of emissions, exposure, and health risks. A useful measure that combines these three parameters is the *Air Quality Index* (AQI).

The AQI is an information tool to advise the public. The AQI describes the general health effects associated with different pollution levels, and public AQI alerts (often heard as part of local weather reports) include precautionary steps that may be necessary for certain segments of the population when air pollution levels rise into the unhealthy range. The AQI measures concentrations of five of the six criteria air pollutants and converts the measures to a number on a scale of 0-500, with 100 representing the NAAQS standard. An AQI level in excess of 100 on a given day means that a pollutant is in the unhealthy range that day; an AQI level at or below 100 means a pollutant is in the "satisfactory" range (AIRNow, 2011). Table 61 defines the AQI levels.

Table 61. General Health Effects and Cautionary Statements, Air Quality Index

Index Value	Descriptor	Color Code	Meaning
Up to 50	Good	Green	Air quality is satisfactory, and air pollution poses little or no risk.
51 to 100	Moderate	Yellow	Air quality is acceptable; however, for some pollutants there may be a moderate heath concern for a very small number of people who are unusually sensitive to air pollution.
101 to 150	Unhealthy for sensitive groups	Orange	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
151 to 200	Unhealthy	Red	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
201-300	Very unhealthy	Purple	Health alert: everyone may experience more serious health effects.
301-500	Hazardous	Maroon	Health warnings of emergency conditions. The entire population is more likely to be affected.

Source: AIRNow, Air Quality Index (AQI) – A Guide to Air Quality and Your Health; http://airnow.gov/index.cfm?action=aqibasics.aqi

The EPA reports AQI measures for nine of the 16 counties in the WNC region: Buncombe, Haywood, Graham, Jackson, Macon, McDowell, Mitchell, Swain and Yancey. (Note that Rutherford County is not one of them.) The WNC figures presented in Tables 62 and 63 below represent the arithmetic means of the values for the nine monitored counties. This data shows that in WNC there were no days rated "very unhealthy" or "unhealthy" in 2011, and only one day in WNC was rated "unhealthy for sensitive groups". Of the 2011 mean of 275 days in WNC with an assigned AQI, 227 had "good" air quality and 47 had "moderate" air quality.

Table 62. Air Quality Index Summary, WNC (2011)

Geography	No. Days with AQI	Number of Days When Air Quality Was:				
		Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy
Regional Arithmetic Mean	275	227	47	1	0	0

Table 63 lists the pollutants causing the air quality deficiencies. This data shows that in WNC in 2011 the primary air pollutants were ozone (O_3) and small particulate matter ($PM_{2.5}$).

Ozone, the major component of smog, is not usually emitted directly but rather formed through chemical reactions in the atmosphere. Peak O_3 levels typically occur during the warmer and sunnier times of the day and year. The potential health effects of ozone include damage to lung tissues, reduction of lung function and sensitization of lungs to other irritants (Scorecard, 2011).

Particulate matter is usually categorized on the basis of size, and includes dust, dirt, soot, smoke, and liquid droplets emitted directly into the air by factories, power plants, construction activity, fires and vehicles (Scorecard, 2011). Particulates in air can affect breathing, aggravate existing respiratory and cardiovascular disease, and damage lung tissue (reference).

Table 63. CAPs Causing Air Quality Problems, WNC (2011)

Geography	No. Days with AQI	Number of Days When Air Pollutant Was:					
		CO	NO_2	O_3	SO_2	$PM_{2.5}$	PM_{10}
Regional Arithmetic Mean	275	0	0	156	0	118	0

Toxic Chemical Releases

Over 4 billion pounds of toxic chemicals are released into the nation's environment each year. The US Toxic Releases Inventory (TRI) program, created in 1986 as part of the Emergency Planning and Community Right to Know Act, is the tool the EPA uses to track these releases. Approximately 20,000 industrial facilities are required to report *estimates* of their environmental releases and waste generation annually to the TRI program office. These reports do not cover all toxic chemicals, and they omit pollution from motor vehicles and small businesses (US Environmental Protection Agency, 2012).

According to EPA data, twelve of the 16 WNC counties had measurable TRI releases in 2010. (Only Clay, Madison, Polk and Transylvania Counties did not.) In 2010, Haywood County in WNC was the eighth leading emitter of TRIs in NC in terms of tonnage of TRI chemicals released. Although not among the "top ten", Rutherford County, also in WNC, ranks just off the list, at number eleven. (No other WNC county ranks higher than 21st.) The *Data Workbook* presents detail on toxic chemical releases in all 16 WNC counties.

Table 64 presents the 2010 TRI Summary for Rutherford County, which as noted above ranks 11th among the state's 86 ranked counties. The TRI chemicals released in the greatest quantity in Rutherford County include hydrochloric acid, barium compounds, sulfuric acid, hydrogen fluoride, and vanadium compounds, all from the Cliffside Steam Station in Mooresboro.

Table 64. Toxic Release Inventory (TRI) Summary, Buncombe County, 2010

Total On-and Off-Site Disposal or Other Released, in Pounds	Compounds Released in Greatest Quantity	Quantity Released, in Pounds	Releasing Facility	Facility Location
2,359,184	Hydrochloric acid	1,643,904	Cliffside Steam Station	Mooresboro
	Barium compounds	168,931	Cliffside Steam Station	Mooresboro
	Sulfuric acid	160,568	Cliffside Steam Station	Mooresboro
	Hydrogen fluoride	113,265	Cliffside Steam Station	Mooresboro
	Vanadium compounds	60,748	Cliffside Steam Station	Mooresboro

Indoor Air Quality

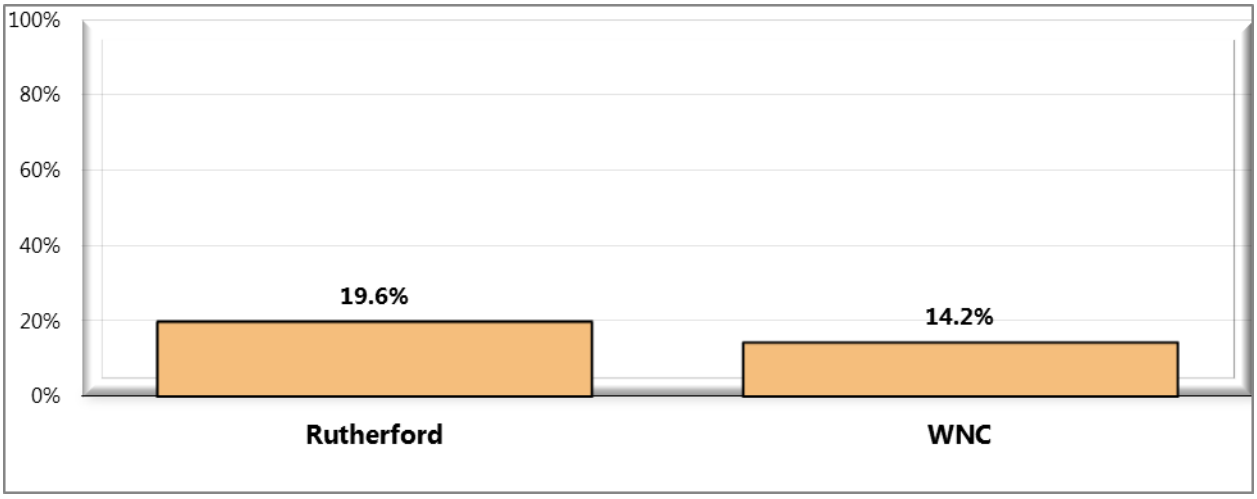
Environmental tobacco smoke

Tobacco smoking has long been recognized as a major cause of death and disease, responsible for hundreds of thousands of deaths each year in the U.S. Smoking is known to cause lung cancer in humans, and is a major risk factor for heart disease. However, it is not only active smokers who suffer the effects of tobacco smoke. In 1993, the EPA published a risk assessment on passive smoking and concluded that the widespread exposure to environmental tobacco smoke (ETS) in the US had a serious and substantial public health impact (US Environmental Protection Agency, 2011).

ETS is a mixture of two forms of smoke that come from burning tobacco: sidestream smoke (smoke that comes from the end of a lighted cigarette, pipe, or cigar) and mainstream smoke (smoke that is exhaled by a smoker). When non-smokers are exposed to secondhand smoke it is called involuntary smoking or passive smoking. Non-smokers who breathe in secondhand smoke take in nicotine and other toxic chemicals just like smokers do. The more secondhand smoke that is inhaled, the higher the level of these harmful chemicals will be in the body (American Cancer Society, 2011).

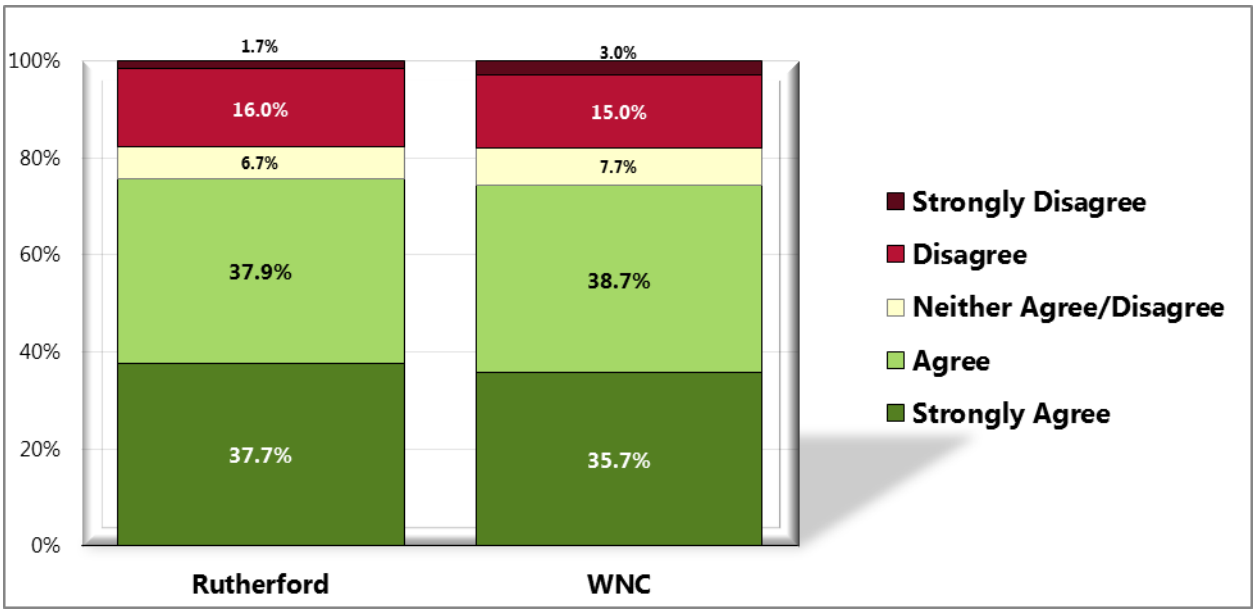
Survey respondents were asked about their second-hand smoke exposure in their workplace. Specifically, they were asked, "During how many of the past 7 days, at your workplace, did you breathe the smoke from someone who was using tobacco?" In order to evaluate community members' perceptions about environmental tobacco smoke, survey respondents were given a series of three statements regarding smoking in public places and asked whether they "strongly agree," "agree," "neither agree nor disagree," "disagree" or "strongly disagree" with each statement. The statements were: "I believe it is important for universities and colleges to be 100% tobacco-free," "I believe it is important for government buildings and grounds to be 100% tobacco-free," and, "I believe it is important for parks and public walking/biking trails to be 100% tobacco free."

Figure 96. Have Breathed Someone Else's Cigarette Smoke at Work in the Past Week (WNC Healthy Impact Survey)
(Among Employed Respondents)



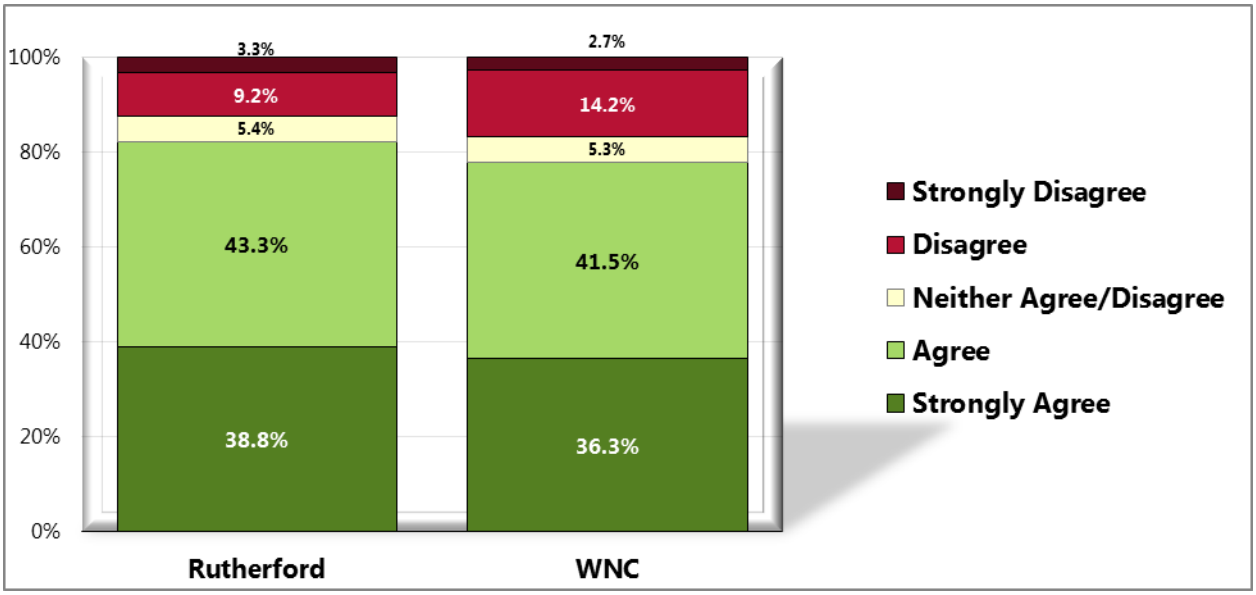
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 44]
Notes: ● Asked of employed respondents.

Figure 97. "I believe it is important for universities and colleges to be 100% tobacco-free" (WNC Healthy Impact Survey)



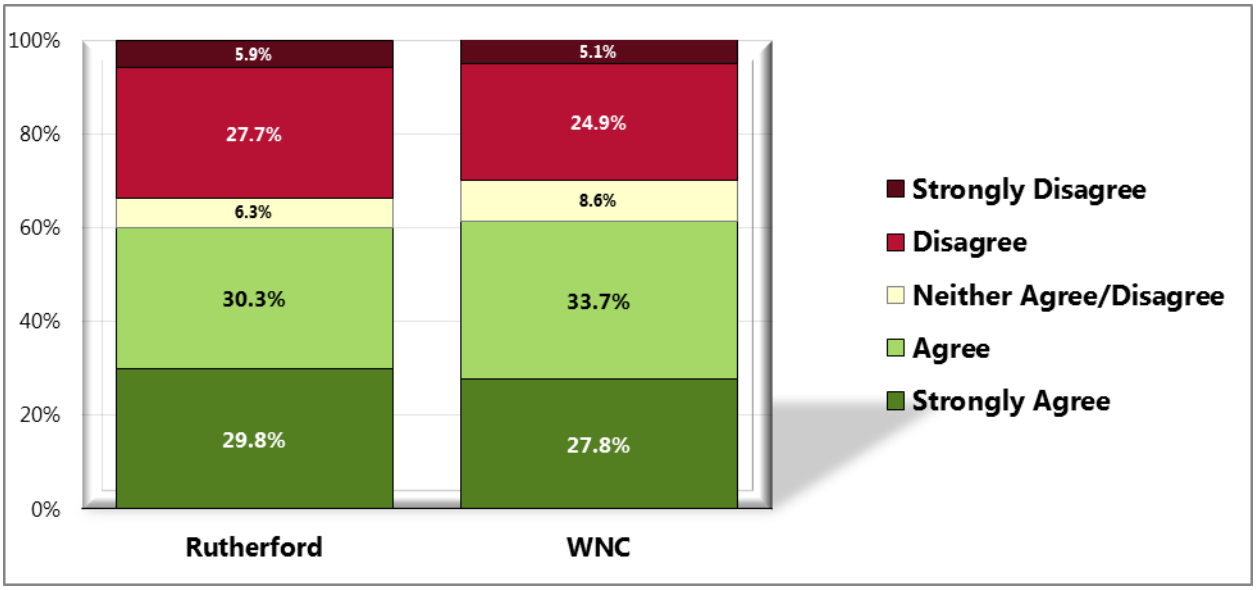
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 45]
Notes: ● Asked of all respondents.

Figure 98. "I believe it is important for government buildings and grounds to be 100% tobacco-free (WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 46]
Notes: • Asked of all respondents.

Figure 99. "I believe it is important for parks and public walking/biking trails to be 100% tobacco-free (WNC Healthy Impact Survey)



Drinking Water

The source from which the public gets its drinking water is a health issue of considerable importance. Water from all municipal and most community water systems is treated to remove harmful microbes and many polluting chemicals, and is generally considered to be "safe" from the standpoint of public health because it is subject to required water quality standards. Municipal drinking water systems are those operated and maintained by local governmental units, usually at the city/town or county level. Community water systems are systems that serve at least 15 service connections used by year-round residents or regularly serves 25 year-round residents. This category includes municipalities, but also subdivisions and mobile home parks. In February 2012, a regional mean of 55% of the WNC population was being served by community water systems (*Data Workbook*). The 45% remaining presumably were being served by wells or by some other source, such as springs, creeks, rivers, lakes, ponds or cisterns.

Individual counties in WNC, however, have highly varied percentages of their populations served by community water systems; in some counties the figure is as low as 18% and in others it is as high as 65%. In Rutherford County, 40,158 of 67,810 county residents, or 59.2%, were being served by community water systems in February of 2012. Presumably the remaining 40.8% were served by wells or other sources.

Radon

Radon is a naturally occurring, invisible, odorless gas that comes from soil, rock and water. It is a radioactive decay product of radium, which is in turn a decay product of uranium; both radium and uranium are common elements in soil. Radon usually is harmlessly dispersed in outdoor air, but when trapped in buildings it can be harmful. Most indoor radon enters a home from the soil or rock beneath it, in the same way air and other soil gases enter: through cracks in the foundation, floors, hollow-block walls, and openings around floor drains, heating and cooling ductwork, pipes, and sump pumps. The average outdoor level of radon in the air is normally so low that it is not a problem (NC Department of Environment and Natural Resources).

Radon may also be dissolved in water as it flows over radium-rich rock formations. Dissolved radon can be a health hazard, although to a lesser extent than radon in indoor air. Homes supplied with drinking water from private wells or from community water systems that use wells as water sources generally have a greater risk of exposure to radon in water than homes receiving drinking water from municipal water treatment systems. This is because well water comes from ground water, which has much higher levels of radon than surface waters. Municipal water tends to come from surface water sources which are naturally lower in radon, and the municipal water treatment process itself tends to reduce radon levels even further (NC Department of Environment and Natural Resources).

There are no immediate symptoms to indicate exposure to radon. The primary risk of exposure to radon gas is an increased risk of lung cancer (after an estimated 5-25 years of exposure). Smokers are at higher risk of developing radon-induced lung cancer than non-smokers. There is

no evidence that other respiratory diseases, such as asthma, are caused by radon exposure, nor is there evidence that children are at any greater risk of radon-induced lung cancer than are adults (NC Department of Environment and Natural Resources).

Elevated levels of radon have been found in many counties in NC, but the highest levels have been detected primarily in the upper Piedmont and mountain areas of the state where the soils contain the types of rock (gneiss, schist and granite) that have naturally higher concentrations of uranium and radium (NC Department of Environment and Natural Resources). Eight counties in NC historically have had the highest levels of radon, exceeding, on average, 4 pCi/L (pico curies per liter). These counties are Alleghany, Buncombe, Cherokee, Henderson, Mitchell, Rockingham, Transylvania and Watauga, five of which are in the WNC region. There are an additional 31 counties in the central and western Piedmont area of the state with radon levels in the 2-4 pCi/L range; the remaining 61 NC counties, mostly in the piedmont and eastern regions of the state have predicted indoor radon levels of less than 2 pCi/L (NC Department of Environment and Natural Resources).

According to one recent assessment, the regional mean indoor radon level for the 16 counties of WNC was 4.3 pCi/L, over three times the national indoor radon level of 1.3 pCi/L. According to this same source, the level for Rutherford County was 3.5 pCi/L, almost three times the national indoor radon level (*Data Workbook*).

Built Environment

The term "built environment" refers to the human-made surroundings that provide the setting for human activity, ranging in scale from buildings and parks or green space to neighborhoods and cities that can often include their supporting infrastructure, such as water supply, or energy networks. In recent years, public health research has expanded the definition of built environment to include healthy food access, community gardens, "walkability", and "bikability" (Wikipedia, 2012).

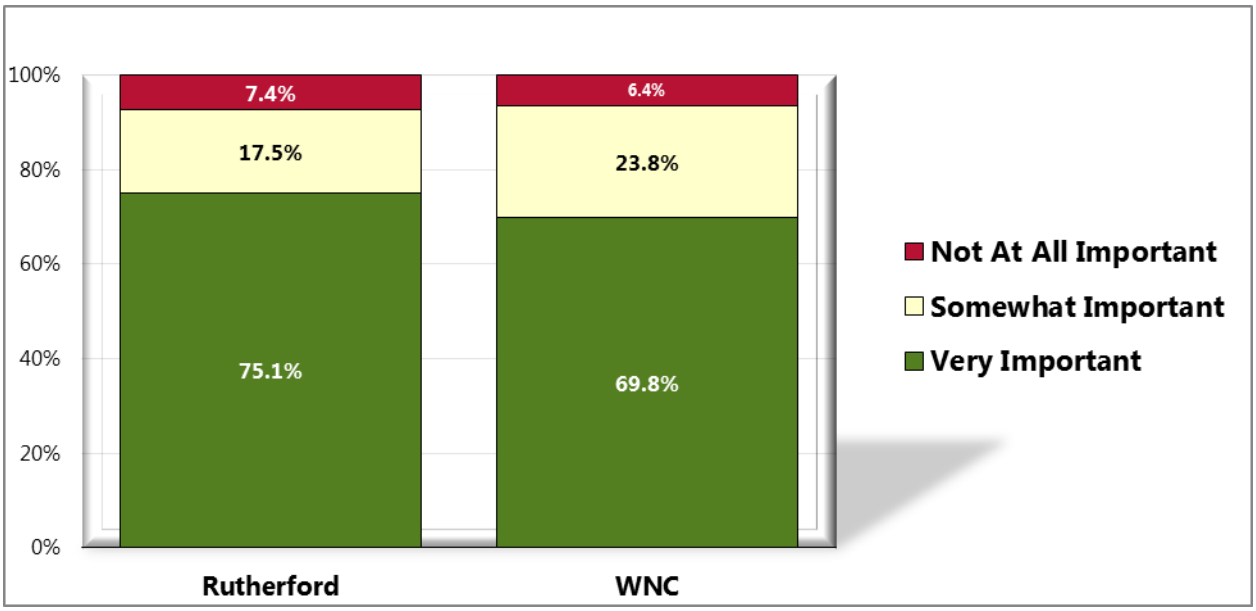
Access to Farmers' Markets and Grocery Stores

According to the US Department of Agriculture (USDA) Economic Research Service's *Your Food Environment Atlas,* there were a total of 49 farmers' markets in the 16 WNC counties in 2009. This number was reported to have grown by 5, to a total of 54, in 2011, an increase of 10%. According to this source, in Rutherford County there were three farmers' markets in both 2009 and 2011 (*Data Workbook*).

According to the same source, there were a total of 158 grocery stores in the 16 WNC counties in 2007. This number was reported to have shrunken by 4, to a total of 154, in 2009, a decrease of 2%. In Rutherford County there were 17 grocery stores in both 2007 and 15 in 2009 (*Data Workbook*).

Survey respondents were asked, "How important do you feel it is for your community to make it easier for people to access farmer's markets, including mobile farmer's markets and tailgate markets?"

Figure 100. Importance of Communities Making It Easier to Access Farmer's Markets, Including Mobile/Tailgate Markets (WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 55]
Notes: ● Asked of all respondents.

Access to Fast Food Restaurants

According to the same source cited above, there were a total of 526 fast food restaurants in the 16 WNC counties in 2007. This number was reported to have dropped by 21, to a total of 505, in 2009, a decrease of 4%. In Rutherford County the number of fast food restaurants rose from 34 to 38 over the same period (*Data Workbook*).

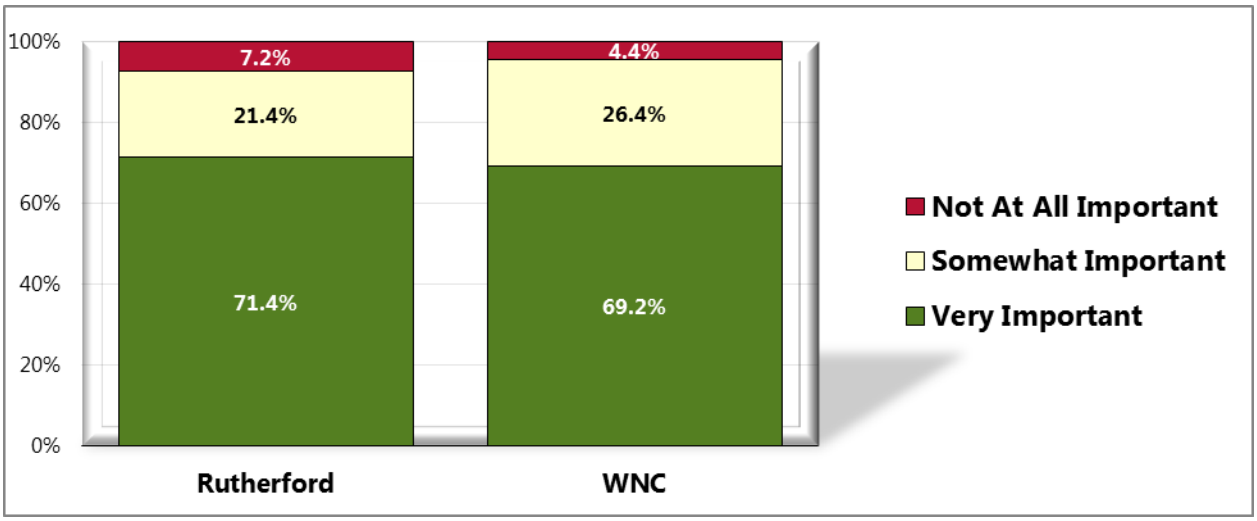
Also according to the USDA, mean per capita fast food expenditures in WNC rose 45% (from $514 to $746) between 2002 and 2007, and mean per capita restaurant expenditures in WNC also rose 45% (from $449 to $665) over the same period (*Data Workbook*).

Access to Recreational Facilities

According to the same source cited above, there were a total of 81 recreation and fitness facilities in the 16 WNC counties in 2007. This number was reported to have dropped by 26, to a total of 55a total of 55, in 2009, a decrease of 32%. In Rutherford County the number of recreational and fitness facilities fell from six to four over the same period (*Data Workbook*).

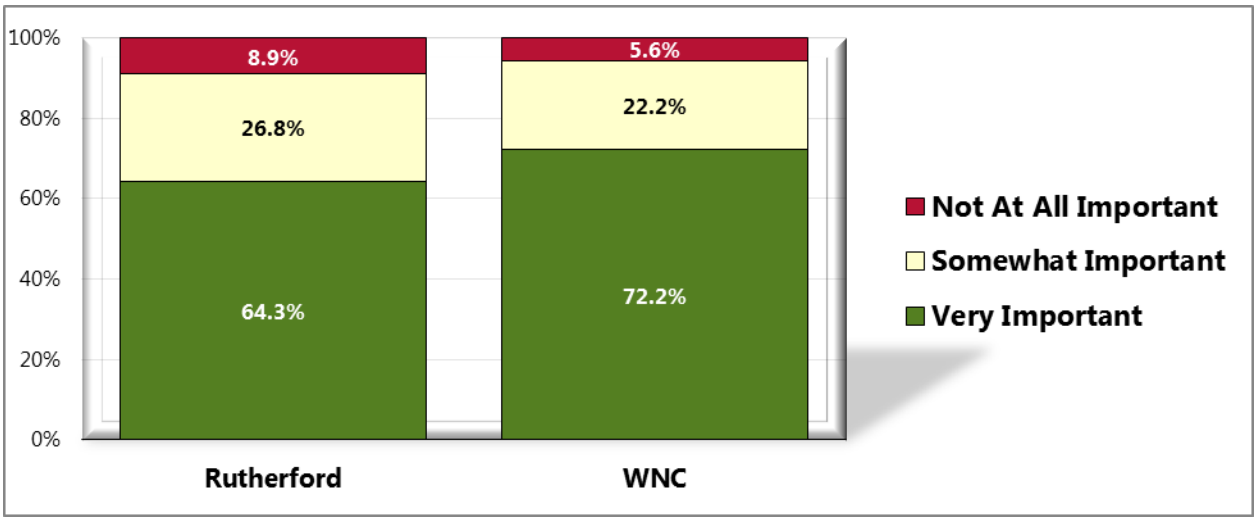
Survey respondents were asked whether they feel it is important for community organizations to explore ways to increase the public's access to physical activity spaces during off-times, as well as whether it is important for communities to improve access to trails, parks, and greenways.

Figure 101. Importance That Community Organizations Make Physical Activity Spaces Available for Public Use After Hours (WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 60]
Notes: • Asked of all respondents.

Figure 102. Importance That Communities Improve Access to Trails, Parks, and Greenways (WNC Healthy Impact Survey)



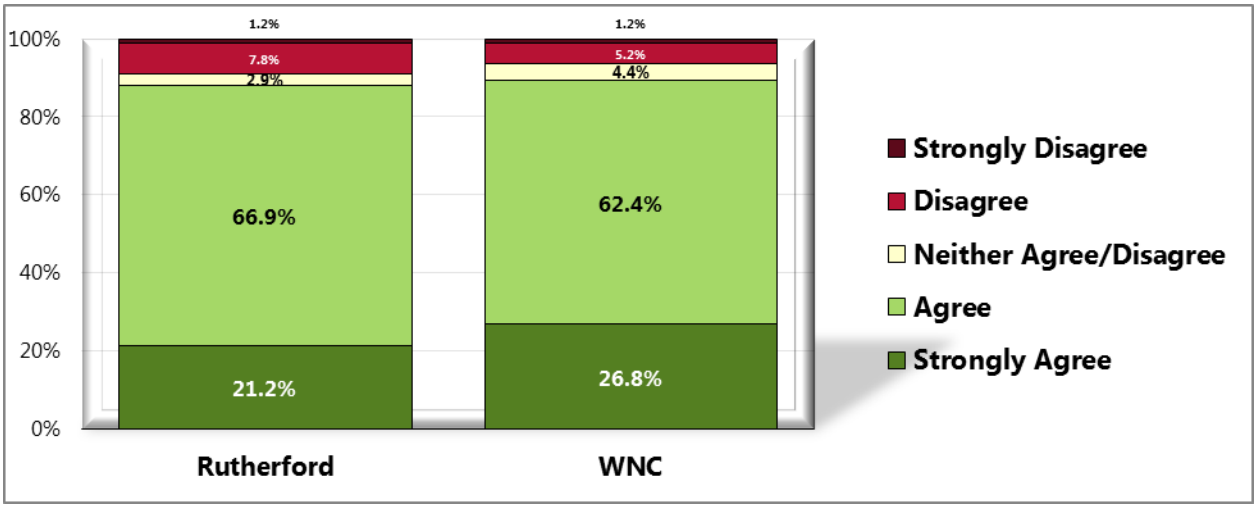
Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 61]
Notes: • Asked of all respondents.

CHAPTER 7 – QUALITY OF LIFE

Perception of County

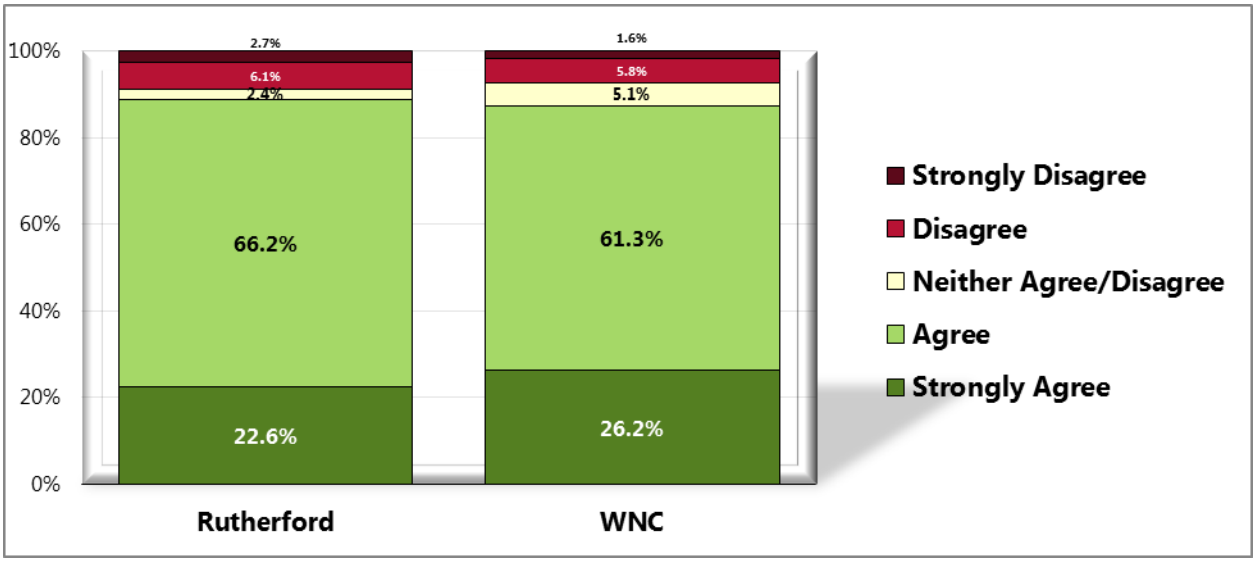
In order to evaluate community members' perceptions about the quality of life in western North Carolina (WNC), survey respondents were given a series of three statements regarding life in their county (my county is a good place to raise children, my county is a good place to grow old, and there is plenty of help for people during times of need in my county) and asked whether they "*strongly agree*," "*agree*," "*neither agree nor disagree*," "*disagree*" or "*strongly disagree*" with each statement. Survey respondents were also asked about their frequency of getting needed social and emotional support, their satisfaction with life, the one thing that needs the most improvement in their neighborhood or community, and the one issue which has the most negative impact on the quality of life in their county.

Figure 103. "My county is a good place to raise children"
(WNC Healthy Impact Survey)



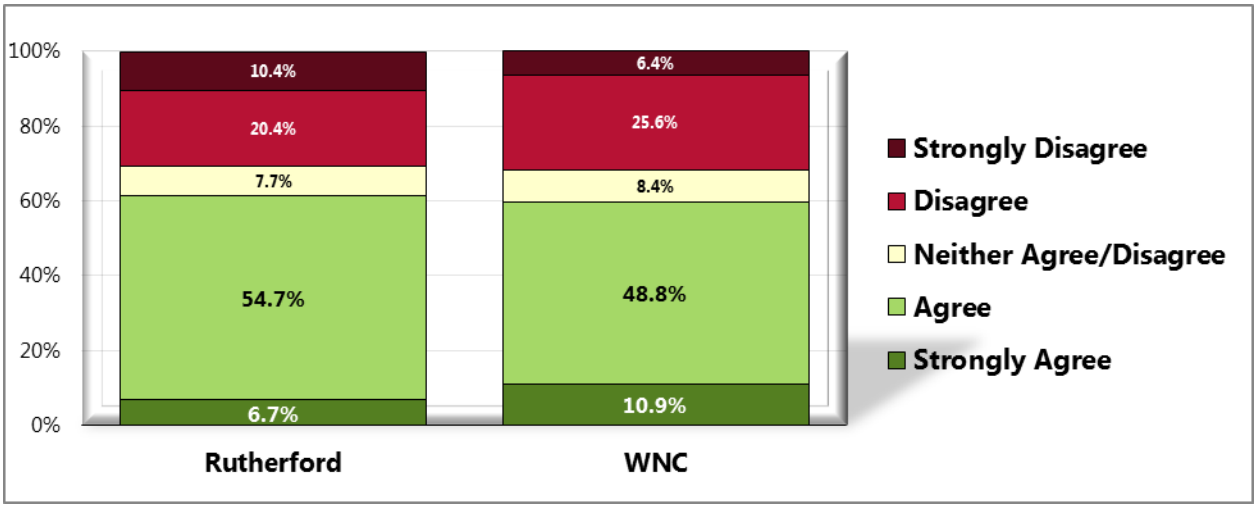
Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 5]
Notes: ● Asked of all respondents.

Figure 104. "My county is a good place to grow old."
(WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 6]
Notes: ● Asked of all respondents.

Figure 105. "There is plenty of help for people during times of need in my county."
(WNC Healthy Impact Survey)



Sources: ● 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 8]
Notes: ● Asked of all respondents.

Table 65. Top Three County Issues Perceived as Having the Most Negative Impact on Quality of Life (WNC Healthy Impact Survey)

	Economy/ Unemployment	Nothing	Don't Know	Substance Abuse	Government/ Politics	Health Care
Rutherford	✓	✓	✓			
WNC	✓	✓	✓			

Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 10]
Notes: • Asked of all respondents.

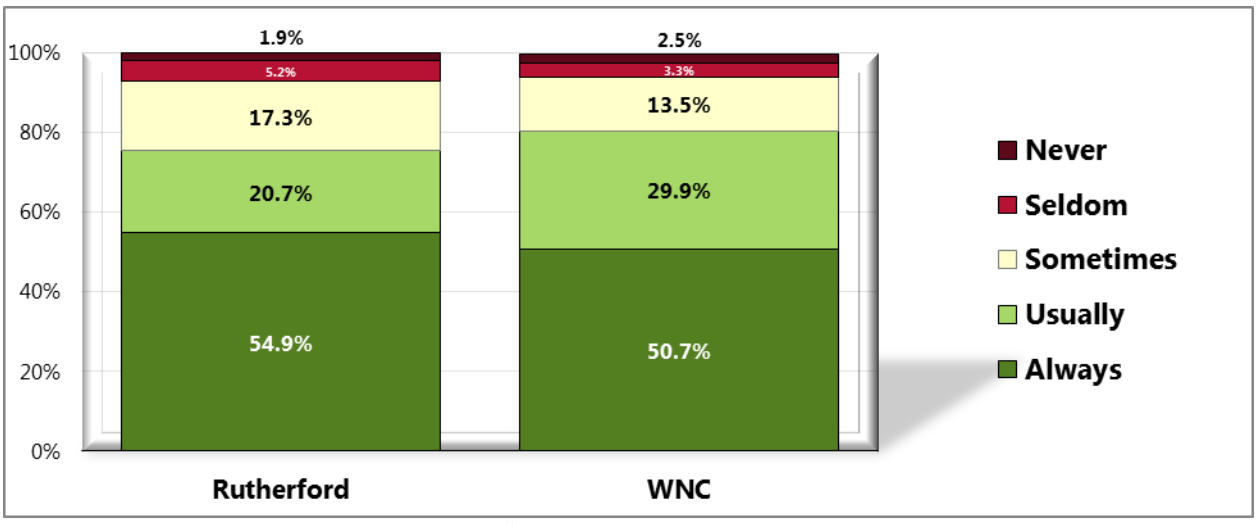
Table 66. Top Three Neighborhood/Community Issues Perceived as in Most Need of Improvement (WNC Healthy Impact Survey)

	Economy/ Unemployment	Healthcare Services	Activity/Recreation Options	Nothing
Rutherford	✓	✓		✓
WNC	✓	✓		✓

Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 9]
Notes: • Asked of all respondents.

Social and Emotional Support

Figure 106. Frequency of Getting Needed Social/Emotional Support (WNC Healthy Impact Survey)

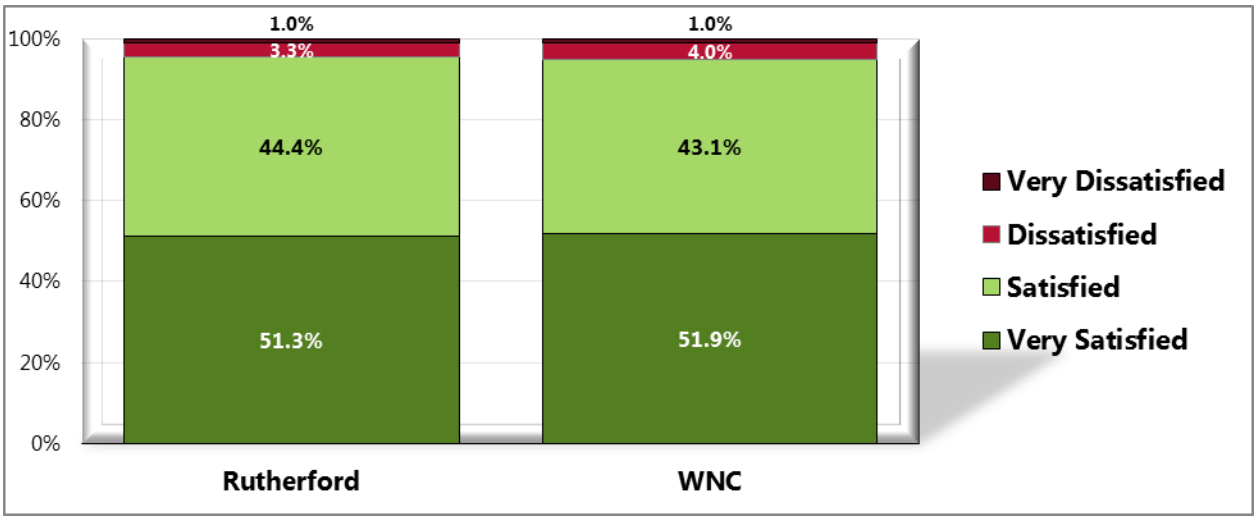


Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 63]

Notes: • Asked of all respondents.

Satisfaction with Life

Figure 107. Satisfaction with Life
(WNC Healthy Impact Survey)



Sources: • 2012 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 62]
Notes: • Asked of all respondents.

CHAPTER 8 - HEALTHCARE & HEALTH PROMOTION RESOURCES

Health Resources

2-1-1 is an information and referral service that links people to community health and human services. Resources are available through pone (Free, confidential, l24/7) and the web. WNC Healthy Impact requested information on health-specific resources currently listed in the 2-1-1 data base for WNC Counties, as 2-1-1 maintains a comprehensive database of community resources. Note that this is a point-in-time summary list and greater details on these services can be accessed by calling 2-1-1 to speak to a trained staff person or visiting www.NC211.org.

See Appendix A for a description of the data collection methods use to gather this information.

See Appendix C for a summary list of the healthcare and health promotion resources and facilities available in Rutherford County to respond to the health needs of the community.

Resource Gaps

Currently in Rutherford County lacks a Health Educator or a Health Promotion Coordinator. The Rutherford County Health Council is a volunteer organization without staff support.

CHAPTER 9 - HEALTH PRIORITIES & NEXT STEPS

Prioritization Process & Criteria

ON November 13,2012, the Rutherford County Community Health Assessment Forum was held on the campus of Isothermal Community College. Following a presentation of the CHA Data, breakout sessions engaged participants in choosing health priorities.

Facilitators introduced the topic and gave a quick review about the problem. Participants were asked what strengths, weaknesses, opportunities and barriers are associated with the major problem. Answers were recorded.

Next, participants brainstormed strategies and interventions to address the problem. Finally, each community member ranked their top 3 or 4 strategies. Color coded stickers signified the ranking order.

Priority Health Issues

In 2008, a Community Health Assessment was conducted. The priorities chosen were:

- Obesity
- Substance abuse
- Access to care

As a result of the priorities chosen, improvements were made to address these issues.

The Priority Health Issues chosen as a result of the 2012 Community Health Assessment are:

- Chronic Disease: Diabetes, High Blood Pressure, High Cholesterol
- Healthy Eating & Active Living
- Substance Abuse including Tobacco
- Behavioral Health & Mental Well Being
- Teen Pregnancy

Next Steps

- The Executive Summary contained herein will be disseminated to stake holders to share CHA results by February 4, 2013.
- Collaborative implementation planning with hospitals and other community partners is ongoing through the Rutherford County Community Health Council through monthly meetings.

- Developing strategies to improve all of priority areas will use the input gathered from community members.

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APPENDICES

Appendix A – Data Collection Methods & Limitations
Appendix B – WNC Healthy Impact Survey Instrument
Appendix C – Health Resource Inventory
Appendix D – Community Health Survey Online

APPENDIX A - DATA COLLECTION METHODS & LIMITATIONS

Secondary Data

Secondary Data Methodology

In order to learn about the specific factors affecting the health and quality of life of residents of WNC, the WNC Healthy Impact data workgroup and consulting team identified and tapped numerous secondary data sources accessible in the public domain. For data on the demographic, economic and social characteristics of the region sources included: the US Census Bureau; Log Into North Carolina (LINC); NC Office of State Budget and Management; NC Department of Commerce; Employment Security Commission of NC; NC Department of Public Instruction; NC Department of Justice; NC Division of Medical Assistance; and the Cecil B. Sheps Center for Health Services Research. The WNC Healthy Impact consultant team made every effort to obtain the most current data available *at the time the report was prepared*. It was not possible to continually update the narrative past a certain date; in most cases that end-point was June 30, 2012.

The principal source of secondary health data for this report was the NC State Center for Health Statistics (NC SCHS), including its County Health Data Books, Behavioral Risk Factor Surveillance System, Vital Statistics unit, and Cancer Registry. Other health data sources included: NC Division of Public Health (DPH) Epidemiology Section; NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services; National Center for Health Statistics; NC DPH Nutrition Services Branch; UNC Highway Safety Research Center; NC Department of Transportation; NC DETECT and the NC DPH Oral Health Section.

Because in any CHA it is instructive to relate local data to similar data in other jurisdictions, throughout this report representative county data is compared to like data describing the 16-county region and the state of NC as a whole. WNC Healthy Impact received approval from the NC Division of Public Health to use this regional comparison as "peer" for the purposes of our assessments (and related requirements). County data may not be available for some of the data parameters included in this report; in those cases state-level data is compared to US-level data or other standardized measures. Where appropriate and available, trend data has been used to show changes in indicators over time.

Environmental data was gathered from sources including: US Environmental Protection Agency; US Department of Agriculture, and NC Radon Program.

It is important to note that this report contains data retrieved **directly** from sources in the public domain. In some cases the data is very current; in other cases, while it may be the most current available, it may be several years old. Note also that the names of organizations, facilities,

geographic places, etc. presented in the tables and graphs in this report are quoted exactly as they appear in the source data. In some cases these names may **not** be those in current or local usage; nevertheless they are used so readers may track a particular piece of information directly back to the source.

Data Definitions

Reports of this type customarily employ a range of technical terms, some of which may be unfamiliar to many readers. This report defines technical terms within the section where each term is first encountered.

Health data, which composes a large proportion of the information included in this report, employs a series of very specific terms which are important to interpreting the significance of the data. While these technical health data terms are defined in the report at the appropriate time, there are some data caveats that should be applied from the onset.

Error

First, readers should note that there is some error associated with every health data source. Surveillance systems for communicable diseases and cancer diagnoses, for instance, rely on reports submitted by health care facilities across the state and are likely to miss a small number of cases, and mortality statistics are dependent on the primary cause of death listed on death certificates without consideration of co-occurring conditions.

Age-adjusting

Secondly, since much of the information included in this report relies on *mortality* data, it is important to recognize that many factors can affect the risk of death, including race, gender, occupation, education and income. The most significant factor is age, because an individual's risk of death inevitably increases with age. As a population ages, its collective risk of death increases; therefore, an older population will automatically have a higher overall death rate just because of its age distribution. At any one time some communities have higher proportions of "young" people, and other communities have a higher proportion of "old" people. In order to compare mortality data from one community with the same kind of data from another, it is necessary first to control for differences in the age composition of the communities being compared. This is accomplished by *age-adjusting* the data. Age-adjustment is a statistical manipulation usually performed by the professionals responsible for collecting and cataloging health data, such as the staff of the NC State Center for Health Statistics (NC SCHS). It is not necessary to understand the nuances of age-adjustment to use this report. Suffice it to know that age-adjusted data are preferred for comparing most health data from one population or community to another and have been used in this report whenever available.

Rates

Thirdly, it is most useful to use *rates* of occurrence to compare data. A rate converts a raw count of events (deaths, births, disease or accident occurrences, etc.) in a target population to a ratio representing the number of same events in a standard population, which removes the variability associated with the size of the sample. Each rate has its own standard denominator that must

be specified (e.g., 1,000 women, 100,000 persons, 10,000 people in a particular age group, etc.) for that rate.

While rates help make data comparable, it should be noted that small numbers of events tend to yield rates that are highly unstable, since a small change in the raw count may translate to a large change in rate. To overcome rate instability, another convention typically used in the presentation of health statistics is *data aggregation*, which involves combining like data gathered over a multi-year period, usually three or five years. The practice of presenting data that are aggregated avoids the instability typically associated with using highly variable year-by-year data, especially for measures consisting of relatively few cases or events. The calculation is performed by dividing the sum number of cases or deaths in a population due to a particular cause over a period of years by the sum of the population size for each of the years in the same period. Health data for multiple years or multiple aggregate periods is included in this report wherever possible. Sometimes, however, even aggregating data is not sufficient, so the NC SCHS recommends that any rate based on fewer than 20 events—whether covering an aggregate period or not—be considered *unstable*. In fact, in some of its data sets the NC SCHS no longer calculates rates based on fewer than 20 events. To be sure that unstable data do not become the basis for local decision-making, this report will highlight and discuss primarily rates based on 20 or more events in a five-year aggregate period, or 10 or more events in a single year. Where exceptions occur, the text will highlight the potential instability of the rate being discussed.

Regional arithmetic mean

Fourthly, sometimes in order to develop a representative regional composite figure from 16 separate county measures the consultants calculated a *regional arithmetic mean* by summing the available individual county measures and dividing by the number of counties providing those measures. It must be noted that when regional arithmetic means are calculated from *rates* the mean is not the same as a true average rate but rather an approximation of it. This is because most rates used in this report are age-adjusted, and the regional mean cannot be properly age-adjusted.

Describing difference and change

Fifthly, in describing differences in data of the same type from two populations or locations, or changes over time in the same kind of data from one population or location—both of which appear frequently in this report—it is useful to apply the concept of *percent* difference or change. While it is always possible to describe difference or change by the simple subtraction of a smaller number from a larger number, the result often is inadequate for describing and understanding the *scope* or *significance* of the difference or change. Converting the amount of difference or change to a percent takes into account the relative size of the numbers that are changing in a way that simple subtraction does not, and makes it easier to grasp the meaning of the change. For example, there may be a rate of for a type of event (e.g., death) that is one number one year and another number five years later. Suppose the earlier figure is 12.0 and the latter figure is 18.0. The simple mathematical difference between these rates is 6.0. Suppose also there is another set of rates that are 212.0 in one year and 218.0 five years later. The simple

mathematical difference between these rates also is 6.0. But are these same simple numerical differences really of the same significance in both instances? In the first example, converting the 6 point difference to a percent yields a relative change factor of 50%; that is, the smaller number increased by half, a large fraction. In the second example, converting the 6 point difference to a percent yields a relative change factor of 2.8%; that is, the smaller number increased by a relatively small fraction. In these examples the application of percent makes it very clear that the difference in the first example is of far greater degree than the difference in the second example. This document uses percentage almost exclusively to describe and highlight degrees of difference and change, both positive (e.g., increase, larger than, etc.) and negative (e.g., decrease, smaller than, etc.)

Data limitations

Some data that is used in this report may have inherent limitations, due to the sample size, its geographic focus, or its being out-of-date, for example, but it is used nevertheless because there is no better alternative. Whenever this kind of data is used, it will be accompanied by a warning about its limitations.

Gaps in Available Information

- *[Insert a general statement of any relevant information gaps that you feel limits the county's ability to assess the community's health needs.* ***Note:*** *Where stratification is limited within secondary data sections for some counties in the report, mention of relevant health disparities within other geographic area (region, state, or nation) is often included.]*

WNC Healthy Impact Survey (Primary Data)

Survey Methodology

Survey Instrument

To supplement the secondary core dataset, meet additional stakeholder data needs, and hear from community members about their concerns and priorities, a community survey, *2012 WNC Healthy Impact Survey* (a.k.a. 2012 PRC Community Health Survey), was developed and implemented in 16 counties across western North Carolina. The survey instrument was developed by WNC Healthy Impact's data workgroup, consulting team, and local partners, with assistance from Professional Research Consultants, Inc. (PRC). Many of the questions are derived from the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as other public health surveys; other questions were developed specifically for WNC Healthy Impact to address particular issues of interest to communities in western North Carolina. Each county was given the opportunity to include three additional questions of particular interest to their county, which were asked of their county's residents.

The geographic area for the regional survey effort included 16 counties: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey counties.

Sample Approach & Design

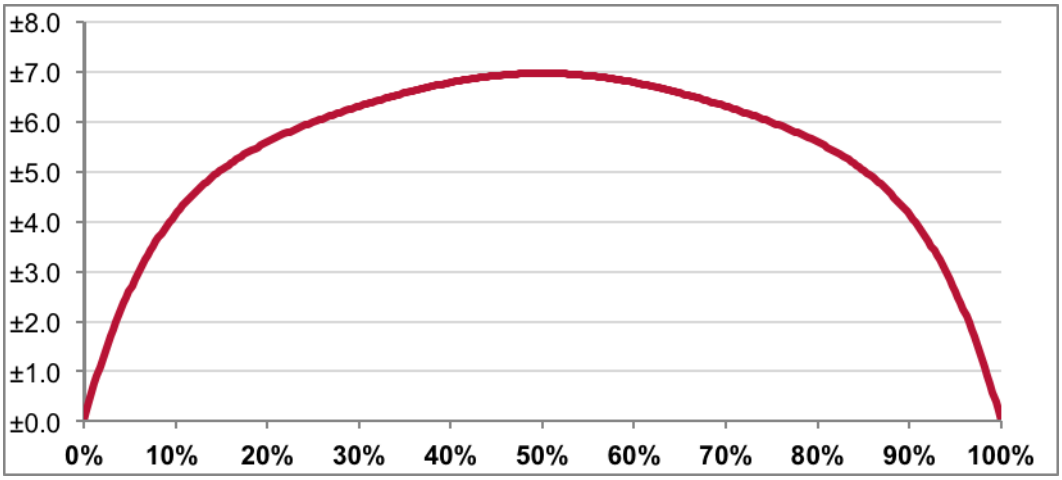
To ensure the best representation of the population surveyed, a telephone interview methodology (one that incorporates both landline and cell phone interviews) was employed. The primary advantages of telephone interviewing are timeliness, efficiency and random-selection capabilities.

The sample design used for this regional effort consisted of a stratified random sample of 3,300 individuals age 18 and older in Western North Carolina. Our county's sample size was 200. All administration of the surveys, data collection and data analysis was conducted by Professional Research Consultants, Inc. (PRC). The interviews were conducted in either English or Spanish, as preferred by respondents.

Sampling Error

For our county-level findings, the maximum error rate is ±6.9%.

Expected Error Ranges for a Sample of 200 Respondents at the 95 Percent Level of Confidence



Note: ● The "response rate" (the percentage of a population giving a particular response) determines the error rate associated with that response. A "95 percent level of confidence" indicates that responses would fall within the expected error range on 95 out of 100 trials.

Examples:

- If 10% of the sample of 200 respondents answered a certain question with a "yes," it can be asserted that between 5.8% and 14.2% (10% ± 4.2%) of the total population would offer this response.
- If 50% of respondents said "yes," one could be certain with a 95 percent level of confidence that between 43.1% and 56.9% (50% ± 6.9%) of the total population would respond "yes" if asked this question.

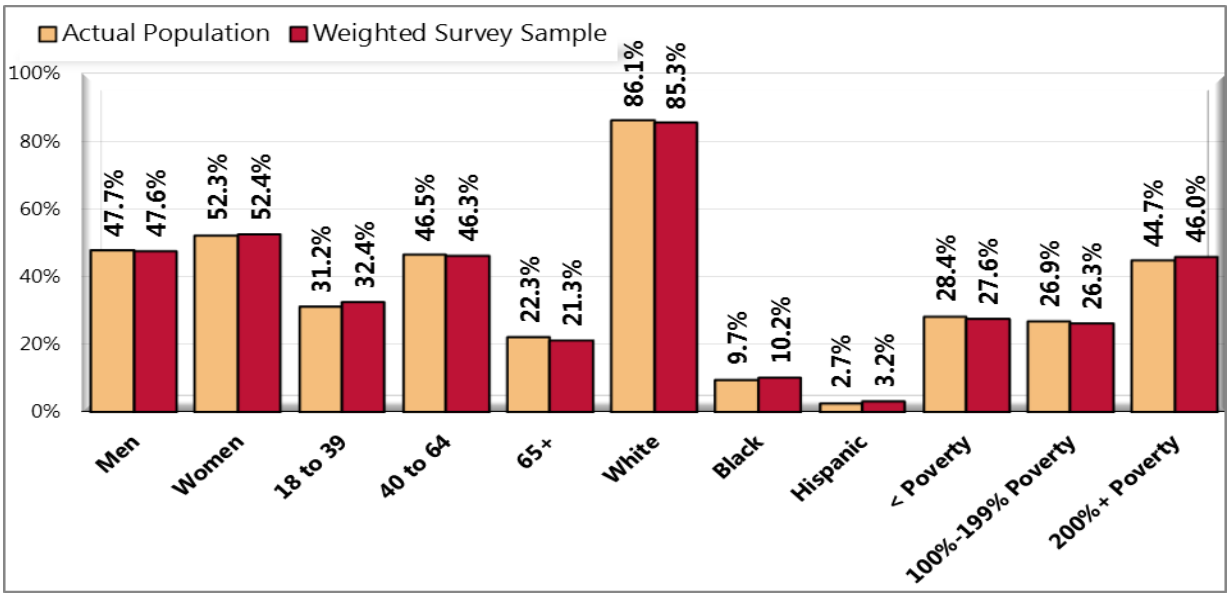
Sample Characteristics

To accurately represent the population studied, PRC worked to minimize bias through application of a proven telephone methodology and random-selection techniques. And, while this random sampling of the population produces a highly representative sample, it is a common and preferred practice to "weight" the raw data to improve this representativeness even further. This is accomplished by adjusting the results of a random sample to match the geographic distribution and demographic characteristics of the population surveyed (poststratification), so as to eliminate any naturally occurring bias. Specifically, once the raw data are gathered, respondents are examined by key demographic characteristics (namely gender, age, race, ethnicity, and poverty status) and a statistical application package applies weighting variables that produce a sample which more closely matches the population for these characteristics. Thus, while the integrity of each individual's responses is maintained, one respondent's responses may contribute to the whole the same weight as, for example, 1.1 respondents. Another respondent, whose demographic characteristics may have been slightly oversampled, may contribute the same weight as 0.9 respondents. In order to determine WNC regional estimates, county responses were weighted in proportion to the actual population distribution so as to appropriately represent Western North Carolina as a whole.

The following chart outlines the characteristics of the survey sample for our county by key demographic variables, compared to actual population characteristics revealed in census data. Note that the sample consisted solely of area residents age 18 and older.

Population and Sample Characteristics

(Rutherford County, 2012)



Sources:
- Census 2010, Summary File 3 (SF 3). U.S. Census Bureau.
- 2012 PRC Community Health Survey, Professional Research Consultants, Inc.

Notes:
- Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., "White" reflects non-Hispanic White respondents).

Poverty descriptions and segmentation used in this report are based on administrative poverty thresholds determined by the US Department of Health & Human Services. These guidelines define poverty status by household income level and number of persons in the household *(e.g., the 2012 guidelines place the poverty threshold for a family of four at $23,050 annual household income or lower)*. In sample segmentation: "very low income" refers to community members living in a household with defined poverty status; "low income" refers to households with incomes just above the poverty level, earning up to twice the poverty threshold; and "mid/high income" refers to those households living on incomes which are twice or more the federal poverty level.
The sample design and the quality control procedures used in the data collection ensure that the sample is representative. Thus, the findings may be generalized to the total population of community members in the defined area with a high degree of confidence.

Benchmark Data

North Carolina Risk Factor Data
Statewide risk factor data are provided where available as an additional benchmark against which to compare local survey findings; these data are reported in the most recent *BRFSS (Behavioral Risk Factor Surveillance System) Prevalence and Trend Data* published by the Centers for Disease Control and Prevention and the US Department of Health & Human Services.

Nationwide Risk Factor Data
Nationwide risk factor data, which are also provided in comparison charts where available, are taken from the *2011 PRC National Health Survey*; the methodological approach for the national study is identical to that employed in this assessment, and these data may be generalized to the US population with a high degree of confidence.

Healthy People 2020
Healthy People provides science-based, 10-year national objectives for improving the health of all Americans. The Healthy People initiative is grounded in the principle that setting national objectives and monitoring progress can motivate action. For three decades, Healthy People has established benchmarks and monitored progress over time in order to:

- Encourage collaborations across sectors.
- Guide individuals toward making informed health decisions.
- Measure the impact of prevention activities.

Healthy People 2020 is the product of an extensive stakeholder feedback process that is unparalleled in government and health. It integrates input from public health and prevention experts, a wide range of federal, state and local government officials, a consortium of more than 2,000 organizations, and perhaps most importantly, the public. More than 8,000 comments were considered in drafting a comprehensive set of Healthy People 2020 objectives.

Survey Administration

Pilot Testing & Quality Assurance

Before going into the field in the latter half of May, PRC piloted 30 interviews across the region with the finalized survey instrument. After this phase, PRC corrected any process errors that were found, and discussed with the consulting team any substantive issues that needed to be resolved before full implementation.

PRC's methods and survey administration comply with current research methods and industry standards. To maximize the reliability of research results and to minimize bias, PRC follows a number of clearly defined quality control protocols. PRC uses a telephone methodology for its community interviews, in which the respondent completes the questionnaire with a trained interviewer, not through an automated touch-tone process.

With more than 700 full- and part-time interviewers who work exclusively with healthcare and health assessment projects, PRC uses a state-of-the-art, automated CATI interviewing system that assures consistency in the research process. Furthermore, PRC maintains the resources to conduct all aspects of this project in-house from its headquarters in Omaha, Nebraska, assuring the highest level of quality control.

Random-Digit Dialing

PRC employs the latest CATI (computer-aided telephone interviewing) system technology in its interviewing facilities. The system PRC uses is a hybrid variation of a commercial application enhanced with internally developed software applications designed to specifically meet the needs of its health care client base. Since 1998 PRC has maintained, refined and developed proficiency in using this CATI system.

The CATI system automatically generates the daily sample for data collection using a random-digit dialing technique, retaining each telephone number until the Rules of Replacement (see description, below) are met. Up to five call attempts are made on different days and at different times to reach telephone numbers for which there is no answer. Systematic, unobtrusive electronic monitoring is conducted regularly by supervisors throughout the data collection phase of the project.

Rules of Replacement

Replacement means that no further attempts are made to connect to a particular number, and that a replacement number is drawn from the sample. To retain the randomness of the sample, telephone numbers drawn for the sample are not discarded and replaced except under very specific conditions.

Minimizing Potential Error

In any survey, there exists some degree of potential error. This may be characterized as sampling error (because the survey results are not based on a complete census of all potential

respondents within the population) or non-sampling error (e.g., question wording, question sequencing, or through errors in data processing). Throughout the research effort, Professional Research Consultants makes every effort to minimize both sampling and non-sampling errors in order to assure the accuracy and generalizability of the results reported.

Noncoverage Error. One way to minimize any effects of underrepresentation of persons without telephones is through poststratification. In poststratification, the survey findings are weighted to key demographic characteristics, including gender, age, race/ethnicity and income.

Sampling Error. Sampling error occurs because estimates are based on only a sample of the population rather than on the entire population. Generating a random sample that is representative and of adequate size can help minimize sampling error. Sampling error, in this instance, is further minimized through the strict application of administration protocols. Poststratification, as mentioned above, is another means of minimizing sampling error.

Measurement Error. Measurement error occurs when responses to questions are unduly influenced by one or more factors. These may include question wording or order, or the interviewer's tone of voice or objectivity. Using a tested survey instrument minimizes errors associated with the questionnaire. Thorough and specific interviews also reduce possible errors. The automated CATI system is designed to lessen the risk of human error in the coding and data entry of responses.

Information Gaps

While this assessment is quite comprehensive, it cannot measure all possible aspects of health in the community, nor can it adequately represent all possible populations of interest. It must be recognized that these information gaps might in some ways limit the ability to assess all of the community's health needs.

For example, certain population groups (such as the homeless, institutionalized persons, or those who only speak a language other than English or Spanish) are not represented in the survey data. Other population groups (for example, pregnant women, lesbian/gay/bisexual/transgender residents, undocumented residents, and members of certain racial/ethnic or immigrant groups) might not be identifiable or might not be represented in numbers sufficient for independent analyses.

In terms of content, this assessment was designed to provide a comprehensive and broad picture of the health of the overall community. However, there are certainly a great number of medical conditions that are not specifically addressed.

APPENDIX B - COMMUNITY HEALTH SURVEY INSTRUMENT

Double-click on the survey coversheet below to access the complete survey instrument. If you cannot access this, please contact your local health department for a copy.

Professional Research Consultants

Date _____
Interviewed by _____ ID# __ __ __ __

2012-0615-02

WESTERN NORTH CAROLINA
2012 Community Health Needs Assessment MASTER
Asheville, North Carolina

Hello, this is _____ with Professional Research Consultants. We are conducting a survey to study ways to improve the health of your community.

(IF NECESSARY, READ:) Your number has been chosen randomly to be included in the study, and we'd like to ask some questions about things people do which may affect their health. Your answers will be kept completely confidential.

(IF Respondent seems suspicious, READ:) Some people we call want to know more before they answer the survey. If you would like more information regarding this research study, you can call '+chaname+' at '+chanumb+' during regular business hours.

Note that this survey is for processing & reports only. It is <u>not</u> to be used for interviewing in its current form. The notes in this survey do not have supporting logic, and this survey did not receive the review that the individual child surveys received from quality assurance.

Appendix C - Health Resource Inventory

Health-Related Directory Information

Provider	Provider Website Address	Service Code Description
Adolescent Pregnancy Prevention, YWCA of Asheville and WNC	www.ywcaofasheville.org	Teen Pregnancy Prevention
Adult and Youth Education, American Cancer Society - Western North Carolina	www.cancer.org	Disease/Disability Information
Adult Day Activity Center, Irene Wortham Center	www.iwcnc.org	Developmental Disabilities Day Habilitation Programs
Advanced Home Care - Western North Carolina	www.advhomecare.org	Medical Equipment/Supplies CVP Lines Intravenous Medication
Ambulatory Care, Charles George Veterans Affairs Medical Center	www.asheville.va.gov	Hospitals
American Cancer Society - Asheville	www.cancer.org	Health Care Referrals Disease/Disability Information
Apheresis/Platelets Donations, American Red Cross - Buncombe County	www.redcrosswnc.org	Blood Supply Services
Arts Expression, Goodwill Industries of Northwest NC - WNC	www.goodwillnwnc.org	Developmental Disabilities Day Habilitation Programs
Asheville-Buncombe Institute of Parity Achievement(10390)	www.abipa.org	Blood Pressure Screening BMI/Body Composition Screening Cancer Detection Diabetes Screening
Asheville Lions Eye Clinic		Glaucoma Screening Glasses/Contact Lenses Vision Screening
Asheville Pregnancy Support Services	www.preginfo.org	Diagnostic Imaging/Radiology Pro-Life Counseling Pregnancy Testing
Asheville TEACCH Center Western Region	www.teacch.com	Autism Therapy
Blood Donations, American Red Cross - Buncombe County	www.redcrosswnc.org	Blood Supply Services
Blood Pressure Screening, American Red Cross - Buncombe County	www.redcrosswnc.org	Blood Pressure Screening
Blue Ridge Group Homes	www.blueridgegrouphomes.org	Developmental Disabilities Day Habilitation Programs
Bone Density Screening for Women, Mission Hospitals	www.cancer.mission-health.org/events/detail/bone-density-screening	Bone Mineral Density Tests
Breast and Cervical Cancer Control Program, Buncombe County Department of Health	www.buncombecounty.org/governing/depts/health	Cancer Detection
Burton Street Recreational Center, Asheville Parks Recreation and Cultural Arts Department	www.ashevillenc.gov/Departments/ParksRecreation.aspx	Therapeutic Exercise
Cancer Connection, Mission Hospitals	www.cancer.mission-health.org	Disease/Disability Information
Cancer Response System, American Cancer Society - Western North Carolina	www.cancer.org	Disease/Disability Information

CarePartners Home Health Services, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology Home Nursing
CarePartners Hospice and Palliative Care, CarePartners Health Services	www.carepartners.org	Hospice Care Palliative Care
CarePartners Orthotics and Prosthetics, CarePartners Health Services	www.carepartners.org	Mobility Aids Amputee Rehabilitation
CarePartners Outpatient Rehabilitation Services, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology Therapeutic Exercise
CarePartners Private Duty Services, CarePartners Health Services	www.carepartners.org	Home Health Aide Services
CarePartners Rehabilitation Hospital, CarePartners Health services	www.carepartners.org	Amputee Rehabilitation Spinal Cord Rehabilitation Stroke Rehabilitation Inpatient Rehabilitation Occupational Therapy Physical Therapy Speech and Language Pathology Incontinence Management Programs Spasticity Management Clinics
CarePartners Work Smart Program, CarePartners Health Services	www.carepartners.org	Ergonomic Evaluations
Center for Disordered Eating, Treatment, Healing, and Education Center for Disordered Eating	www.thecenternc.org	Physician Referrals Disease/Disability Information
Children's Developmental Services - Buncombe County	www.beearly.nc.gov	Developmental Assessment Early Intervention for Children with Disabilities/Delays
Community Alternatives Program for Children, Families Together	www.familiestogether.net	Long Term Home Health Care
Community Alternatives Program for Disabled Adults, Families Together	www.familiestogether.net	Long Term Home Health Care
Community Living Center, Charles George Veterans Affairs Medical Center	www.asheville.va.gov	Hospitals Home Nursing
Community Residential Care, Charles George Veterans Affairs Medical Center	www.asheville.va.gov	Hospitals
CRC, DisAbility Partners - Western North Carolina	http://www.crclandofsky.org/	Aging and Disability Resource Centers Long Term Care Options Counseling
CRC, Western Highlands Network	www.crclandofsky.org	Aging and Disability Resource Centers Long Term Care Options Counseling

Deaf/Blind Services Program, NC Division of Services for the Blind - Asheville	www.dhhs.state.nc.us/dsb	Independent Living Skills Instruction
Dental Clinic, Western North Carolina Community Health Services	www.wncchs.org	General Dentistry Pediatric Dentistry
Dental Extraction Clinic, Asheville-Buncombe Community Christian Ministry (ABCCM)	www.abccm.org	General Dentistry
Dental Health Center, Mountain Area Health Education Center	www.mahec.net	Dental Hygiene General Dentistry
Dental Programs, Asheville-Buncombe Technical Community College	www.abtech.edu	Dental Hygiene General Dentistry
Diabetes Center, Mission Hospitals	www.mission-health.org/centers-and-services/support-services/chronic-medical-conditions/my-healthy-life-diabetes-management	Disease/Disability Information Diabetes Management Clinics
Diabetes Wellness Program, YWCA of Asheville and WNC	www.ywcaofasheville.org	Wellness Programs
Disability Partners - Sylva	www.disabilitypartners.org	Independent Living Skills Instruction
Discount Drug Cards, Buncombe County Government	www.coast2coastrx.com/buncombenc/	Prescription Medication Services
Driver Evaluation, CarePartners Health Services	www.carepartners.org	Driving Evaluation
East Buncombe, Saint Vincent de Paul Society - Buncombe County	www.financialhelpresources.com/details/saint_vincent_de_paul_society_buncombe_county.html	Medical Care Expense Assistance
Easter Seals UCP - Western North Carolina	www.nc.eastersealsucp.com	Developmental Disabilities Day Habilitation Programs
Eliada Academy Day Treatment, Eliada Homes	www.eliada.org	Developmental Disabilities Day Habilitation Programs
Emergency Assistance, Salvation Army - Buncombe County	http://www.salvationarmycarolinas.org/commands/asheville	Prescription Expense Assistance
Emergency Department, Charles George Veterans Medical Center	www.asheville.va.gov	Hospitals
Emergency Department, Mission Hospital	www.mission-health.org/contact/maps-directions/main-campuses-services/emergency-department	Emergency Room Care
Expanded Food and Nutrition Program, NC Cooperative Extension - Buncombe County	http://buncombe.ces.ncsu.edu/	Nutrition Education
Family Planning, Buncombe County Department of Health	www.buncombecounty.org/governing/depts/health/family.htm	Birth Control Pregnancy Testing
Flu Hotline, Buncombe County Department of Health	www.buncombecounty.org	Disease/Disability Information
Fullerton Genetics Center, Mission Hospitals	www.mission-health.org/centers-and-services/programs-service/genetics/fullerton-genetics-center	Developmental Assessment Genetic Counseling

Geriatric Programs, Mission Hospital	www.mission-health.org/centers-and-services/support-services/senior-services/geriatric-specialists	Geriatric Medicine
Geriatrics and Extended Care, Charles George Veterans Affairs Medical Center	www.va.gov/geriatrics/guide/LongTermCare/Medical_Foster_Homes.asp	Hospitals
Health and Safety Services, American Red Cross - Buncombe County	www.redcrosswnc.org	Disease/Disability Information First Aid Instruction
Health Check Coordination, Community Care of Western North Carolina	www.communitycarewnc.org	Health Insurance/Dental Coverage
Health Education, YWCA of Asheville and WNC	www.ywcaofasheville.org	Disease/Disability Information
Health Initiatives, One Youth at a Time		General Sexuality/Reproductive Health Education
HealthNet, Community Care of Western North Carolina	www.communitycarewnc.org	Prescription Expense Assistance
Health Promotion, Buncombe County Department of Health	www.buncombecounty.org/Governing/Depts/Health/HealthPromotion.aspx	General Health Education Programs
Healthy Living Program, Women's Wellbeing and Development Foundation	www.wwd-f.org	Nutrition Education
Heart Path, Mission Hospitals	http://heart.mission-health.org/heart-programs/heart-path-rehabilitation	Cardiac Rehabilitation Pulmonary Rehabilitation
Helios Warriors	www.helioswarriors.org	Alternative Medicine
HIV/AIDS and Hepatitis C Outreach/Educational Services, Western North Carolina AIDS Project	www.wncap.org	AIDS/HIV Prevention Counseling
HIV Specialty Care, Western North Carolina Community Health Services	www.wncchs.org	HIV Testing AIDS/HIV Clinics
Home Based Primary Care, Charles George Veterans Affairs Medical Center	www.va.gov/GERIATRICS/Guide/LongTermCare/Home_and_Community_Based_Services.asp	Home Health Aide Services
Hospitalization, Charles George Veterans Affairs Medical Center	www.asheville.va.gov	Hospitals
Immunization Clinic, Buncombe County Department of Health	www.buncombecounty.org/governing/depts/health	Adolescent/Adult Immunizations Childhood Immunizations Flu Vaccines
Independent Living Program, NC Division of Services for the Blind - Asheville	www.dhhs.state.nc.us/dsb	Independent Living Skills Instruction
Independent Living Skills Training, DisAbility Partners - Western North Carolina	www.disabilitypartners.org	Independent Living Skills Instruction
In-Home Aide Services, The Council on Aging of Buncombe County	www.coabc.org	Home Health Aide Services
Laboratory Services, Buncombe County Department of Health	www.buncombecounty.org/governing/depts/health	General Laboratory Tests
La Leche League of Asheville, La Leche League International	www.lllofnc.org	Breastfeeding Support Programs
Lewis Rathbun Center	www.rathbuncenter.org	Patient/Family Housing

Licensed Nursing Homes and Adult Care Homes Guide, Land-of-Sky Area Agency on Aging	www.landofsky.org/aging/a_ltcdir.html	Nursing Facilities
Lifeshare of the Carolinas	www.lifesharecarolinas.org	Organ and Tissue Banks Organ/Tissue Transplant Education Programs
Living Healthy Chronic Disease Self Management Program, Land-of-Sky Regional Council	www.ncdhhs.gov/aging/livinghealthy/livinghealthy.htm	Chronic Disease Self Management Programs
Loan/Gift Items, American Cancer Society - Western North Carolina	www.cancer.org	Medical Equipment/Supplies
Look Good...Feel Better, American Cancer Society - Western North Carolina	www.cancer.org	Appearance Enhancement Consultation Programs
Low Vision Center, Mission Hospitals	www.mission-health.org/centers-and-services/support-services/rehabilitation-therapy/occupational-therapy/low-vision-services	Eye Care
Main Ministry, Swannanoa Valley Christian Ministry	www.svcministry.org	Medical Care Expense Assistance Prescription Expense Assistance
MANNA Packs for Kids Program, MANNA FoodBank	www.mannafoodbank.org	Nutrition Education
March of Dimes-Pisgah Division	www.marchofdimes.com	Disease/Disability Information
Medical Assistance Counseling, Mission Hospitals	www.mission-health.org/patients-and-visitors/when-you-get-home/financial-assistance	Health Insurance Information/Counseling Medical Care Expense Assistance
Medical Assistance for Children, Eblen Charities	www.eblencharities.org	Medical Equipment/Supplies Medical Care Expense Assistance Prescription Expense Assistance
Medical Assistance/Illness or Disability, Eblen-Kimmel Charities	www.eblencharities.org	Vision Screening Glasses/Contact Lenses Medical Equipment/Supplies Medical Care Expense Assistance Prescription Expense Assistance
Medical Equipment Closet, Asheville-Buncombe Community Christian Ministry (ABCCM)	www.abccm.org	Medical Equipment/Supplies
Medical Equipment Loan Closet, American Red Cross - Buncombe County	www.redcrosswnc.org	Medical Equipment/Supplies
Medical Eye Care Program - NC Division of Services for the Blind - Western Regional	www.dhhs.state.nc.us/dsb	Medical Care Expense Assistance Prescription Expense Assistance

Medical Ministry, Asheville-Buncombe Community Christian Ministry (ABCCM)	www.abccm.org	Prescription Expense Assistance General Pharmacies Prescription Medication Services Community Clinics
Medicare Hotline, Social Security Administration - Buncombe County	www.ssa.gov	Health Insurance Information/Counseling
Medication Assistance Program, Mission Hospitals	www.mission-health.org/careers/staff-pharmacists/pharmacy-residency-programs/pgy1-program-ambulatory-care-setting/medication-assistance-program-map	Prescription Expense Assistance Prescription Medication Services
MemoryCare Services, MemoryCare	www.memorycare.org	Memory Screening Dementia Management Geriatric Medicine Neuropsychiatry/ Neuropsychology
Memory Loss Education, MemoryCare	www.memorycare.org	Disease/Disability Information
Mission Children's Hospital, Mission Hospitals	www.missionchildrens.org	Hospitals
Mountain Area Family Health Center, Mountain Area Health Education Center	www.mahec.net	Well Baby Care Pregnancy Testing Postpartum Care Prenatal Care Community Clinics Family and Community Medicine Geriatric Medicine General Obstetrics Adolescent Medicine Ambulatory Pediatrics
Mountain Area Women's Center, Mountain Area Health Education Center	www.mahec.net	Pregnancy Testing Midwifery Postpartum Care Prenatal Care Teen Pregnancy Prevention Women's Health Centers General Obstetrics Gynecology Services Maternal and Fetal Medicine
NC Department of Insurance Western Regional Office	www.ncdoi.com	Health Insurance Information/Counseling
North Carolina Pregnancy Exposure Risk Line, Mission Hospital	http://womens.mission-health.org/maternity-services	Disease/Disability Information Teratogenic Counseling
Nurse Family Partnership - Buncombe	www.buncombecounty.org/Governing/Depts/Health/nfp.aspx	Neonatal Care Postpartum Care Prenatal Care
Nutrition/Food/Wellness Education, NC Cooperative Extension - Buncombe County	http://buncombe.ces.ncsu.edu/	Nutrition Education

Nutrition Program/ WIC Program, Buncombe County Department of Health	http://www.buncombecounty.org/Governing/Depts/Health/Nutrition.aspx	Breastfeeding Support Programs Nutrition Education
Nutrition Therapy Services, Mission Hospitals	www.missionhospitals.org	Nutrition Assessment Services Weight Management
Outpatient Care, Charles George Veterans Affairs Medical Center	www.asheville.va.gov	Hospitals
Outpatient Clinic East, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology
Outpatient Clinic North, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology
Outpatient Clinic South, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology
Outpatient Clinic West, CarePartners Health Services	www.carepartners.org	Occupational Therapy Physical Therapy Speech and Language Pathology
Peer Counseling and Advocacy, DisAbility Partners - Western North Carolina	www.disabilitypartners.org	Independent Living Skills Instruction
Pharmacy, Buncombe County Department of Health	www.buncombecounty.org/governing/depts/health	General Pharmacies
Pharmacy, Western North Carolina Community Health Services	www.wncchs.org	Prescription Medication Services Flu Vaccines
Pisgah Wellness Center	www.pisgahvalley.org	Wellness Programs
Planned Parenthood - Western North Carolina	www.pphsinc.org	HIV Testing STD Screening Abortion Referrals Birth Control Pro-Choice Counseling Pregnancy Testing General Sexuality/Reproductive Health Education Gynecology Services
Pregnancy Care and Counseling, Bethany Christian Services - Buncombe County	www.bethany.org	Pro-Life Counseling
Pregnancy Resource Center of Stanly County	www.prcstanly.com	Pro-Choice Counseling Pregnancy Testing
Pregnancy Support, Catholic Social Services - Buncombe County	www.cssnc.org	Pro-Life Counseling
Prenatal Education Series, Mission Hospitals	www.womens.mission-health.org/classes-programs/additional-birth-classes	Childbirth Education
Prescription Assistance, Buncombe County Department of Social Services	www.buncombecounty.org	Prescription Expense Assistance

Primary Medical Care, Western North Carolina Community Health Services	www.wncchs.org	General Physical Examinations Birth Control Pregnancy Testing Postpartum Care Prenatal Care Community Clinics Urgent Care Centers Family and Community Medicine
Project Access, Western Carolina Medical Society	www.projectaccessonline.org	Health Insurance/Dental Coverage
Project EMPOWER, Mount Zion Community Development	www.mtzionasheville.org	Teen Pregnancy Prevention
Project NAF, Mount Zion Community Development	www.mtzionasheville.org	Postpartum Care Prenatal Care
Rainbow in My Tummy, Mountain Area Child and Family Center	www.rainbowinmytummy.com	Nutrition Education
Regional OB/GYN Specialists, Mountain Area Health Education Center	www.mahec.net	Cancer Detection Infertility Treatment Midwifery Prenatal Care Women's Health Centers Breast Care Centers General Obstetrics Gynecology Services Maternal and Fetal Medicine Reproductive Endocrinology
Rehabilitation, Physical Therapy and Sports Medicine, Mission Hospitals	www.missionhospitals.org	Physical Therapy Therapeutic Exercise
Reverse Mortgage Counseling, OnTrack Financial Education and Counseling	www.ontrackwnc.org	Reverse Mortgage Programs
Safe Surrender, Buncombe County Department of Social Services	www.buncombecounty.org	Safe Havens for Abandoned Newborns
Seniors Safe at Home, The Council on Aging of Buncombe County	www.coabc.org	Health Insurance Information/Counseling
Sleep Center, Mission Hospitals	www.mission-health.org/centers-and-services/programs-service/sleep-center	Sleep Disorders Clinics
STD/HIV Clinic, Buncombe County Department of Health	http://www.buncombecounty.org/Governing/Depts/Health/ClinicalServices.aspx#std	HIV Testing STD Screening AIDS/HIV Prevention Counseling
Support Care Teams, CarePartners Health Services	www.carepartners.org	Medical Social Work
Swannanoa Welcome Table, Life Ministries	www.givensestates.org/lifeministries.htm	Medical Equipment/Supplies
Switchboard/Operator, Mission Hospitals	www.mission-health.org	Hospitals
Take Off Pounds Sensibly - Buncombe County	www.tops.org	Weight Management
Telecommunication Equipment, NC Division of Services for the Deaf and Hard of Hearing - Buncombe County	http://www.ncdhhs.gov/dsdhh/	Hearing Augmentation Aids

Three Streams Family Health Center	www.threestreamshealth.org	General Physical Examinations Community Clinics
Tuberculosis Control, Buncombe County Department of Health	www.buncombecounty.org/Governing/Depts/Health/ClinicalServices.aspx#std	Tuberculosis Screening
United Medical Supply	www.umedsupply.com	Medical Equipment/Supplies
Urgent Care North, Sisters of Mercy Urgent Care	www.urgentcares.org	Urgent Care Centers
Urgent Care South, Sisters of Mercy Urgent Care	www.urgentcares.org	Urgent Care Centers
Urgent Care West, Sisters of Mercy Urgent Care	www.urgentcares.org	Urgent Care Centers
Wellness Resource Center, Mission Hospitals	www.mission-health.org/health-and-wellness/preventive-programs-education/mission-wellness-resource-centers	Women's Health Centers
Wheelchair/Seating Clinic, CarePartners Health Services	www.carepartners.org	Mobility Aids
WNC Breastfeeding Center, Mission Hospitals	http://www.missionchildrens.org/hospital-services/breastfeeding-center	Breastfeeding Support Programs
WNC Fall Prevention Coalition, Land-of-Sky Area Agency on Aging	www.landofsky.org/aging.html	Balance Screening
Wound Therapy Center, Mission Hospitals	www.mission-health.org/centers-and-services/programs-service/wound-healing-hyperbarics	Wound Clinics
Youth Fit for Life, YMCA of WNC	www.ymcawnc.org	Wellness Programs

Your Role in Preventative Care

You are responsible, in large part, for managing your own preventive care. Your primary-care practitioner should be your partner.

There are other important preventive measures —the kind of commonsense steps that could save millions of medical dollars and prevent injury, illness, disability, and premature death. Here's a checklist:

• Don't smoke, and avoid secondhand smoke.

• Maintain a healthy weight.

• Get regular exercise. Brisk walking for just half an hour every day can be a big factor in weight control and in staying healthy.

• Choose a diet low in animal fat and sodium, and rich in fruits, vegetables, whole grains, and low-fat or nonfat dairy products. Eat at least two servings of fish a week.

• Keep alcohol consumption moderate: no more than one drink daily for a woman, two drinks for a man.

If you are a heavy drinker, seek counseling, and cut back or quit.

• Do self-exams of your breasts or testes, as well as skin.

• Fasten seat belts, see that kids ride in proper restraints, and obey the law. Drive sober and defensively.

• Brush and floss to prevent dental disease.

NUTRITON

Your food and physical activity choices each day affect your health — how you feel today, tomorrow, and in the future.

These tips and ideas are a starting point. You will find a wealth of suggestions here that can help you get started toward a healthy diet. Choose a change that you can make today, and move toward a healthier you.

Tips to help you:

- Make half your grains whole
- Vary your veggies
- Focus on fruit
- Get your calcium rich foods
- Go lean with protein
- Find your balance between food and physical activity
- Keep food safe to eat

My Pyramid Steps to a Healthier You
Mypyramid.gov

PHYSICAL ACTIVITY

Physical activity improves health and well-being. It reduces stress, strengthens the heart and lungs, increases energy levels, helps you maintain and achieve a healthy body weight and it improves your outlook on life.

Research shows that physical inactivity can cause premature death, chronic disease and disability. Health Canada encourages Canadians to integrate physical activity into their everyday life; at home, at school, at work, at play and on the way ... that's active living!

For children, regular physical activity is essential for healthy growth and development. For adults, it allows daily tasks to be accomplished with greater ease and comfort and with less fatigue.

For seniors, weight-bearing physical activity reduces the rate of bone loss associated with osteoporosis. Regular physical activity also maintains strength, flexibility, balance, and coordination, and can help reduce the risk of falls.

Being physically active not only strengthens your body, it also makes you feel good about yourself.

PLACES TO GO FOR FUN AND PHYSICAL ACTIVITY

Chimney Rock at Chimney Rock State Park

http://www.chimneyrockpark.com
431 Main St.
Chimney Rock, NC 28720
With unique hiking trails suitable for all ages & abilities, the Park has something for everyone from the family-friendly Great Woodland Adventure trail to the more adventurous Four Seasons trail, which climbs more than 400'.

Lake Lure

A 1,500-acre private lake with 27 miles of shoreline, a public beach access, and a magnificent view of the Blue Ridge Mountains. Boat tours are available April through November.

Lake Lure Marina

http://www.lakelure.com
2930 Memorial Hwy
Lake Lure, NC 28746

River Creek Tubing

http://www.rivercreektubing.com
217 River Creek Dr.
Rutherfordton, NC 28139
Phone: (866) 287-3915

Riverside Riding Stables

1325 Freemantown Rd.
Rutherfordton, NC 28139
828-288-1302

Rocky Broad Riverwalk

Main St.
Chimney Rock, NC 28720
A lovely walkway along the river in Chimney Rock Village that allows you to connect with the area's natural beauty. Steps lead down to the Rocky Broad River, picnic tables, beautiful rocks and some local wildlife such as squirrels and birds. The restaurants and shops in the Village are close to the RiverWalk. Come and relax, enjoy a great meal, and buy many, unique items.

Rutherford Outdoor Coalition

PO Box 1349
Rutherfordton, NC 28139

Phone: 828-429-3900
www.rutherfordoutdoor.org
Rutherford County has a wide range of athletic and arts & crafts programs for adults and children year around. In addition, the city recreation departments maintain several public parks, golf courses, swimming pools, tennis courts, bike trails, and baseball fields. There are T-ball and Little league teams, basketball, football, bowling, scouting, and other organizations, volunteer activities and youth groups. For more information about these activities, call the recreation department for each city. You may also contact the Chamber office to receive a listing of local civic clubs and organizations. If your interests are golf, baseball, softball, basketball or martial arts, chances are you can find it in Rutherford County. At Callison Recreation Center the public can use a weight room, play afternoon basketball in the winter months, and participate in a variety of senior games.

Town of Forest City

Callison Recreation Center

217 Clay Street
Forest City, NC 28043
Ph. 828-248-5220

Town of Spindale
Spindale House
100 Tanner Street
Spindale, NC 28160
Ph. 828-286-3716

HEALTH & FITNESS CENTERS IN RUTHERFORD COUNTY

Bodymasters Fitness Center
320 S Oak St.
Spindale, NC 28160
828-287-5720

Butterfly Life Women's Fitness Center
368 Charlotte Road
Rutherfordton, NC 28139
828-287-7600
www.butterflylife.com

Curves for Women
2270 Highway 74 #A
Forest City, NC 28043
828-247-4040
www.curves.com

Curves For Women At Fairfield Mountains
305 Buffalo Creek Rd
Lake Lure, NC
(828) 625-0270

Douzo's Gym
214 Cornwell St
Forest City, NC
(828) 382-0284

Fitness Connection
859 W Main St
Forest City, NC
(828) 245-2557

Island Tan & Fitness
139 S Powell St
Forest City, NC
(828) 288-1103

Lifestyle Wellness
247 Oak St Ste 145
Forest City, NC

(828) 248-2947
www.lifestylewellnessspa.com

Rutherford County Health Care Services

Adult Placement of DSS

311 Callahan Koon Road
Spindale, NC
828-287-6165
Assists individuals and families with out-of-home placement of disabled and elderly adults in licensed adult care homes and nursing homes.

American National Red Cross

838 Oakland Road
Forest City, NC
828-286-2911
Responds to disasters, such as house fires, hurricanes, tornadoes, and floods. Provides immediate help with shelter, food, clothing, medications, and other emergency needs. Largest caretaker of blood donations. Offers courses in water safety, CPR, first aid, childcare, babysitting, HIV-AIDS prevention, and disease prevention.

ARP ADDICTION RECOVERY & PREVENTION
828-254-2700
Toll-free: 877-678-2696
Fax: 828-254-1524
Email: info@arpnc.org
www.arpnc.org

Referral Information for:

- Substance Abuse & Mental Health Assessments
- Adult & Youth Substance Abuse treatment
- DWI Assessments, Education & Treatment
- Integrated Mental Health & Substance Abuse Counseling
- Family and Marriage Counseling
- Medication Management - Psychiatric
- Residential Treatment for Pregnant Women & Mothers - Mary Benson House
- Science-based Prevention & Education Programs
- Methamphetamine and Crack Cocaine Treatment
- Workplace Substance Abuse Assessments & Treatment

Assertive Community Treatment Team (ACT Team)
668 Withrow Rd.
Forest City, NC 28043
Phone: 828-287-9913

ACT's goal is to give consumers adequate community care and help them have a life that isn't dominated by their mental illness. ACT Teams work with consumers to see which medication works best for them, find housing, apply for food stamps, go back to school, get a job, etc.

Auditory Advantage Hearing Center

431 S. Main Street
Rutherfordton, NC
828-286-9399
Auditory Advantage Hearing Center has been serving the Rutherford County residents for over 40 Years.

Autumn Care of Forest City

830 Bethany Church Rd
Forest City, NC 28043

828-245-2852

Provides long term nursing care for elderly residents. Staff includes attending physician for medical care supervision and nurses and specialists in attendance 24 hours a day.

Blanton & Miller, DDS
363 North Main Street
Rutherfordton, NC

828-287-4187

Blue Ridge Counseling Services

202 East Main Street

Spindale, NC

828-286-0501

Outpatient counseling for substance abuse issues; DWI assessments and treatment; employee assistance programming.

Breast, Cervical Cancer Control Program/RCHD

221 Callahan-Koon Road

Spindale, NC

Women age 50 and over are eligible for a breast and cancer cervical screening, health history, and disease detection testing provided to attempt to reduce the breast and cancer mortality in the county.

Cancer Education/Support Group-Rutherford Hospital, Inc.

Rutherford Hospital

288 S. Ridgecrest Ave.

Rutherfordton, NC

828-245-4596

This education/support group offers educational meetings with fellowship and sharing time for people with cancer, their families, friends and support people. Meets at 7:00 pm the third Thursday in every month.

Cardiac/Pulmonary Rehab of Rutherford Hospital

288 South Ridgecrest Ave.

Rutherfordton, NC

828-286-5053

Gives outpatient services for heart and stroke patients encompassing exercise, nutritional study, support for medical team. Seeks to enable patient to succeed following cardiac arrest, bypass surgery, stroke, and heart disease. Meets three days a week.

Carolina Chiropractic Plus

152 W. Main St.
Forest City, NC
828-245-0202

Carolina Community Care/Community Alternatives Program for Disabled Adults
212 Allendale Drive
Forest City, NC
828-245-3575
Provides home health nursing services for IV patients, AIDS patients, ventilator patients, disabled patients and elderly residents who require medical services and/or other assistance in order to stay at home, have ongoing health care needs, are at risk of nursing home placement, and require supportive services.

Carolina House of Forest City
493 Piney Ridge Rd
Forest City, NC
828-288-1171
Carolina House of Forest City located in Forest City, North Carolina offers Personalized Assisted Living and Alzheimer's and Dementia Care options for seniors.

Charles C. Quarles, D.D.S, F.A.G.D

204 Reservation Drive
Spindale, NC
828-286-2962

Chase Corner Ministries

PO Box 327
Henrietta, NC
828-247-0096

Offers emergency assistance with food, clothing utilities, rent and prescription medicines when available funding. Include food pantry, thrift store, clothing and home needs.

CNC Inc. Human Services Agency

PO Box 763
Spindale, NC
Provides personal care and in-home management service for elderly and disabled patients performed by CNAs or experience in-home aides. Services include grooming, bathing, ambulation, monitoring of medications, general cleaning, shopping, meal preparation and assistance with any personal duties.

Collins Dental Center
158 White Drive
Columbus, NC
Phone: 1-866-216-6884

Established to serve children from Polk and Rutherford Counties. Accept Medicaid and Health Choice insurance only, and have a sliding fee scale for uninsured patients.

CONSUMER CREDIT COUNSELING SERVICE OF THE CAROLINA FOOTHILLS, INC/SENIOR CARE

200 Ohio Street
Spindale, NC
Provides counseling in money management and health insurance for senior citizens free of charge. Provides consumer credit education, financial counseling, budgeting, money management, and debt reduction programs.

Cooperative Extension Service Family and Consumer Education

193 Callahan-Koon Road
Spindale, NC
828-287-6020
Provides research-based information and education to help families and individuals improve quality of life. Programs include nutrition and wellness, parenting and care giving, financial management, safe and healthy environments, and leadership development.

Crisis Intervention Program of DSS
311 Callahan Koon Road
Spindale, NC
Assists with heating or cooling emergencies, providing payment directly to vendors for households experience life-threatening or health related emergencies.

Dialysis Care of Rutherford County, LLC

226 Commercial Drive
Forest City, NC
828-248-3660

Provides chronic hemodialysis and peritoneal dialysis for end-stage renal diseases on an out patient basis. Gives patient education and support group. Transportation for patients is available.

Division of Services for the Blind of DSS

311 Callahan Koon Road
Spindale, NC
Enables blind or visually impaired to receive free screenings, rehab counseling, retraining, job placement, in-home education, advisement and referral to rehab specialists.

Eastwood Village Retirement Center

149 Fairhaven Drive Bostic, NC 828-245-9095
Promotes independent living for senior citizens.

Emergency Assistance of DSS
311 Callahan Koon Road
Spindale, NC
828-287-6165
Provides cash and service divisions for emergency household assistance to clients. Cash division: assists in housing and utilities. Service division: provides protective service investigations, counseling, treatment, and family preservation services.

England & Godfrey Family Practice
124 Groce Street
Forest City, NC
828-245-7626

Environmental Services/RCHD
221 Callahan Koon Road
Spindale, NC
828-287-6100
Protects the public from potential health hazards by offering sanitary inspections of businesses or agencies, which serve food by checking water supplies, inspecting sewage disposal systems and follow up on complaints.

Foothills Urology, P.A.
141 Tryon Road, Suite B
Rutherfordton, NC
828-286-1445
· Urinary Tract Infections
· Impotence
· Incontinence
· Kidney Stones
· Prostate Disorders

Forest City Family Dentistry

420 South Broadway, Ste 104
Forest City, NC
828-248-9100

Frank E. Jones, DDS
145 S. Powell St.
Forest City, NC
828-245-9112

Hands of Hope for Life
129 N. Powell St.
Forest City, NC
828-286-4357
Gives free pregnancy tests. Instructs with information on pregnancy, maternity, abortion risks, and alternatives. Gives post-abortion counseling. Gives abstinence counseling. May contribute maternity and baby clothes, basic furnishings. Makes referrals for community services.

Hardin's Drug
720 S. Church Street
Forest City, NC
828-245-7274

Highway 221 A
Caroleen, NC
828-657-5353

Harris Home Care, Inc.
618 W. Main St.
Spindale, NC
828-286-2050
Dedicated to providing in home care that enriches clients' lives and helps them maintain the highest possible level of independent living.

The Hearing Aid Center
2270 US Hwy 74A, Suite 520
Forest City, NC
828-245-5050
· Complete hearing aid testing and fitting
· Open Daily
· Certified Audiologist

HIV/AIDS, STD and TB Program/RCHD
221 Callahan-Koon Road
Spindale, NC
828-287-6100
Provides free testing for HIV/AIDS, syphilis, gonorrhea, and chlamydia. Provides treatment of sexually transmitted and communicable diseases and treatment for contacts to communicable disease.

Hospice of Rutherford County
372 and 374 Hudlow Road
Forest City, NC
828-245-0095
Hospice of Rutherford County is a non-profit organization established in 1982. Hospice provides physical, emotional and spiritual care for terminally ill patients and their families at home, in skilled nursing and assisted living facilities.

Immunization Clinic/RCHD
221 Callahan-Koon Road
Spindale, NC
828-287-6100
Free immunizations for vaccine preventable diseases for children. Free tetanus immunizations for adults. No appointment needed. Some charges may apply for Hepatitis B immunizations.

Insights Psychiatric Resources
393 Oak Street, Suite 100
Spindale, NC 28160
(828) 287-3928
- Comprehensive psychiatric evaluation
- Medication management & follow-up services
- Individual therapy
- For a confidential appointment, call

Insights Psychiatric Resources is accredited by The Joint Commission. Services are covered under Medicaid, Medicare and most insurance plans.

James Medical Clinic
1269 US Highway 221-A
Caroleen, NC
828-657-5371

Lifeline of Rutherford Hospital, Inc.
288 South Ridgecrest Avenue
Rutherfordton, NC
828-286-5673
Provides security to home-bound elderly and/or physically challenged. Summons medical, fire and police emergency assistance 24 hours a day by pressing a button.

Link Medical, Inc.
440 Charlotte Road
Rutherfordton, NC
828-286-1842
· Hospital and medical equipment and supplies
· Certified mastectomy fitter

Mara C. Hamrick- Speech/Language Pathologist
202 East Main Street
Spindale, NC 28160
Makes speech and language assessments for children and adults. Performs speech and language therapy after diagnostic evaluation.

Maternity Care Coordination/RCHD
221 Callahan-Koon Road
Spindale, NC
828-287-6100
Case management for Rutherford/Polk maternity patients. Helps to identify and meet needs of maternity clients.

Maternity Program/RCHD
221 Callahan-Koon Road
Spindale, NC
828-287-6100
Provides prenatal and post partum care to pregnant women from Rutherford and Polk counties. Public health nurses and health educators provide counseling, education, referral, follow-up, childbirth classes and parenting classes. Clinics staffed by Rutherford OB-GYN physicians. Provides postpartum home visits to assess mother and infant within 5 days of hospital discharge.

Mid-Carolina Orthopedic Clinic, P.A.
112 Sparks Drive

Forest City, NC
828-286-4298

Medicine Box
664 S. Broadway
Forest City, NC
828-245-1696

Michael W. Jackson, DDS
837 Thunder Road
Spindale, NC
828-287-2246
Dental services with a gentle touch.

Morganton Eye Physicians & Surgery Center
640 Oak Street
Forest City, NC 28043
(828) 245-5550

Oak Grove Health Center
518 Old US Hwy 221
Rutherfordton, NC

828-287-7655
Oak Grove Health Care Center, located in Rutherfordton, North Carolina provides the following services: nursing home, skilled nursing facility, and assisted living.

ONE SOURCE REHAB-RUTHERFORD HOSPITAL, INC.
671 Oak Street
Forest City, NC
828-247-1588
Provides all therapy needs in an outpatient setting.

Parkway Behavioral Health
271 Callahan Koon Road
Spindale, NC 28160
808-288-8773

Provides a range services for individuals with mental health issues and dual diagnosis needs (dual diagnosis means mental health issues in conjunction with substance abuse issues).
PBH Services include:
Daytime emergency MH/SA and walk in triage
MH/SA Assessments and evaluations
Community Support Team
MH Individual Therapy
MH Medication Evaluations
Medication Evaluations
SA Individual & Group
SA Intensive Outpatient Program
DWI Asmt/tx

Pavillon - Chemical dependency treatment and related disorders.
www.pavillon.org
241 Pavillon Place
Mill Springs, NC
info@pavillon.org
828-694-2300
www.pavillon.org

Rehabilitation (OneSource HealthCare Services)

2270 US Hwy 74 A
Forest City, NC 28043 828-247-1588
OneSource Rehab provides comprehensive outpatient rehabilitation services in a large sophisticated clinic located in Forest City, NC. A wide variety of physical, occupational, and speech therapy services are available.

RUTHERFORD CANCER RESOURCE CENTER
CANCER OUTREACH PROGRAM at OneSource Healthcare
2270 US Hwy 74A
Forest City, NC
828-245-4596

Rutherford County Chiropractic Center, P.A.
134 Allendale Drive
Forest City, North Carolina 28043
(828) 245-2442

Rutherford County Senior Center
193 Callahan-Koon Road
Spindale, NC
828-287-6409
Provides counseling, information, and referral, comprehensive health screening, congregate meals and home-delivered meals, and SHIIP insurance counseling.

Rutherford East Medical Center
605 NC 120 Hwy
Mooresboro, NC
828-453-0703

Rutherford Family Practice
444 NC Highway 108
Rutherfordton, NC
828-286-2302
mailto:

Rutherford Home Health Agency
221 Callahan-Koon Road
Spindale, NC
828-287-6026
Provides nursing, physical therapy, speech therapy, occupational therapy, medical social work and home health services in the home to patients who meet the home-bound criteria. Allows patient to stay at home and receive skilled care.

Rutherford Hospital, Inc.
288 Ridgecrest Avenue
Rutherfordton, NC
828-286-5000

Rutherford Hospital, Inc. is a community-focused health care provider dedicated to promoting an optimal level of health and wellness for all the citizens of Rutherford County and surrounding communities. With excellence as its standard, Rutherford Hospital serves as a comprehensive resource for efficient and accessible health care services through its people and technology.

Rutherford Internal Medicine Associates, PA

181 Daniel Road
Forest City, NC
828-286-9036
Specialists in adult and preventative health care. Services include care for: diabetes, cancer, blood disorders, and nutritional and occupational health programs.

Rutherford LifeCare

859 Thunder Road
Spindale, NC
828-287-1697
Rutherford LifeCare is an Adult Day Care with Health Services that serves adults of all ages. Services include: nursing care, nutritious meals, and meaningful activities. The staff is trained to care for people who need assistance with eating, walking, transfers and bathing.

Rutherford OB-GYN Associates, P.A.
446 NC 108 Hwy. (Tryon Road)
Rutherfordton, NC
828-287-7383
Comprehensive Women's Healthcare

Rutherford Pediatrics Professional Association

141-A Tryon Road
Rutherfordton, NC
828-286-9049

1178 Old Caroleen Road
Forest City, NC
828-245-4061
· Healthcare for children and young adults
· Sick and well newborn care at Rutherford Hospital

Rutherford-Polk-McDowell District Health Department

221 Callahan-Koon Road
Spindale, NC 28160
Health Department 828-287-6100
Home Health Agency 828-287-6016
Environmental Health 828-287-6317
WIC Women, Infants and Children- 828-287-6238 & 287-6239
Dental Health 828-287-6018

Child health clinic for well child exams, child service coordination, pregnancy testing and referral, WIC nutrition education, children's and adults immunizations, women's preventive health screenings, family planning services for women of child bearing age, Maternal Care Coordination (Baby Love), referrals to OB doctors for pregnant women ,post partum home visits for mother and New Born Screening home visit for infants, Communicable Disease and Sexually Transmitted Disease testing counseling and treatment.

Rutherford Psychiatric & Counseling Services
563 Old Caroleen Road
Forest City, NC
828-248-1373
Comprehensive Psychiatric, Medication Management, and Psychotherapy

Rutherford-Polk Adult Mental Outpatient Services
271 Callahan-Koon Road
Spindale, NC
828-287-6110
Provides crisis intervention for mentally ill, substance abusing or developmentally disabled. Provides psychotherapy for individuals, couples, families and groups. Provides assessment, evaluation, referral and treatment for substance abuse.

Rutherford Radiological
131 W. 2nd Street
Rutherfordton, NC
828-287-2984

Sanger Clinic
290 North Main Street
Rutherfordton, NC
828-286-2376

Scott Jordan, DDS, and Kimberly De Sena, D.M.D
334 North Main Street
Rutherfordton, NC
828-287-4381
Comprehensive cosmetic dentistry

Smith's Drug of Forest City
139 East Main Street
Forest City, NC
828-245-4591

Spindale Drug
101 W. Main Street
828-286-3746

Therapy Plus - physical therapy
Brandon Waters, PT
247 Oak Street Ext.
Suite 145
Forest City, NC 28043

Therapy Plus is a private outpatient physical therapy practice in operation since September 2001. Therapy Plus is located within Lifestyles Wellness ans Spa in Forest City, North Carolina.

- Aquatic Physical Therapy
- Fall Prevention
- MedX Neck and Lower Back Rehab
- State-of-the-Art Equipment
- Prosthetist/Orthostist Services Available

Thera-ssage

431 S. Main St. Suite 2
Rutherfordton, NC
828-288-3727

Staff is trained in over 50 modalities of massage and bodywork and spa treatments including neuromuscular therapy, pregnancy massage and much more.

Tri-City Optometric Eye Care
247 Oak St. Ext.., Ste 107
Forest City, NC
828-248-3931
Optometrist

Western North Carolina AIDS Project

PO Box 2411
Asheville, NC 28802
828-25-7489 or 800-346-3731

Provides education, confidential case management, emergency financial assistance for food, housing, utilities and other needs, counseling and therapy, support groups, a primary care physician and urgent medical expense assistance.

White Oak Manor-Retirement Community

188 Oscar Justice Road
Rutherfordton, NC 28139-9407
828-286-9001

William H Burch Medical Clinic
2556 Memorial Highway (US 64-74-NC9)
Lake Lure, NC
828-625-9121

William H. Thompson D.D.S.
148 East Main Street
Spindale, NC
828-286-4371
Family dental care, most insurance accepted

Willow Ridge Rehabilitation & Living Center
237 Tryon Road
Rutherfordton, North Carolina 28139
828-286-7200

Thanks to the following sources of information:
Rutherford County Chamber of Commerce- http://www.rutherfordcoc.org/
Rutherford Hospital- http://www.rutherfordhosp.org/
United Way of Rutherford County- http://www.unitedwayofrutherford.com/

This resource guide may be viewed online at:
http://www.rpmhd.org/new/health_res/index.htm

Please send additions and corrections for this resource guide to:

Rutherford-Polk-McDowell District Health Department E-mail: jhines@rpmhd.org

Rutherford County Health Department
221 Callahan-Koon Road
Spindale, NC 28160
Phone: 828-287-6100
Home Health Agency 828-287-6016
Environmental Health 828-287-6317
Dental Health 828-287-6018
WIC (Women, Infants, and Children) 828-287-6238 or 6239

Appendix D

Community Health Survey Online – Rutherford County

1. How would you rate your county on the following issues related to healthcare as they relate to people in your county?

Affordable Healthcare
Quality of Healthcare
Convenience of Healthcare Locations
Convenience of Healthcare Office Hours
Access to Healthcare for Uninsured and Underinsured
Excellent
4.3% (10)
9.6% (22)
11.7% (27)
5.7% (13)
6.5% (15)
Very Good
13.5% (31)
25.7% (59)
29.6% (68)
20.4% (47)
11.3% (26)
Good
38.7% (89)
45.2% (104)
44.3% (102)
45.7% (105)
33.5% (77)
Not Very Good
34.8% (80)
15.7% (36)
12.2% (28)
24.8% (57)
33.0% (76)
Poor
8.7% (20)
3.9% (9)
2.2% (5)
3.5% (8)
15.7% (36)
RatingResponse Average Count
3.30 230
2.79 230
2.63 230
3.00 230
3.40 230
answered question 230
skipped question 0
1 of 12

2. How satisfied are you with the following in your county?

Recreation Areas (Greenways, Walking Paths)
Recreational Facilities (Gyms, Pools)
Safe and Accessible Sidewalks
Bike Paths and Bike Lanes
Health and Wellness Support In Your Faith Community
Health Education in Schools

Wellness Education Programs
Local Hospital
Local Public Health Department
Very Satisfied
7.4% (17)
6.1% (14)
7.4% (17)
5.2% (12)
7.4% (17)
5.2% (12)
7.4% (17)
23.0% (53)
17.8% (41)
Somewhat Satisfied
32.6% (75)
23.0% (53)
32.6% (75)
15.2% (35)
32.6% (75)
29.1% (67)
40.0% (92)
37.0% (85)
36.5% (84)
No Opinion
11.3% (26)
14.3% (33)
11.7% (27)
24.8% (57)
27.4% (63)
36.5% (84)
17.0% (39)
12.6% (29)
28.3% (65)
Somewhat Dissatisfied
34.3% (79)
39.6% (91)
30.4% (70)
29.6% (68)
24.3% (56)
20.4% (47)
27.4% (63)
18.3% (42)
11.7% (27)
Very Dissatisfied
14.3% (33)
17.0% (39)
17.8% (41)
25.2% (58)
8.3% (19)
8.7% (20)
8.3% (19)
9.1% (21)
5.7% (13)

Rating	Response Average	Count
3.16		230
3.38		230
3.19		230
3.54		230
2.93		230
2.98		230
2.89		230
2.53		230

2.51 230
answered question 230
skipped question 0
2 of 12

3. Overall, how would you rate the availability of affordable housing in your community? Would you say:

Response Percent
Response Count
Excellent
1.7%
4
Very Good
7.0%
16
Good
23.5%
54
Fair
27.8%
64
Poor
20.4%
47
Don't Know / Not Sure
19.6%
45
answered question
230
skipped question
0
3 of 12

4. Please rate each of the following health issues as they relate to people in your county:

Lack of physical activity or exercise
Poor eating habits / lack of good nutrition
Obesity
Alcohol abuse / alcoholism among adults (18 or older)
Alcohol abuse / alcoholism among children (17 and younger)
Drug abuse among adults (18 or older)
Drug abuse among children (17 and younger)
Methamphetamine (Meth) use
Prescription drug abuse
Mental illness or emotional issues among adults (18 or older)
Mental illness or emotional issues among children (17 and younger)
Depression
Not a Problem
4.3% (10)
1.3% (3)
0.9% (2)
1.7% (4)
1.3% (3)
0.9% (2)
0.4% (1)
0.9% (2)
1.3% (3)
0.9% (2)
0.4% (1)
0.9% (2)
Minor Problem
5.2% (12)
5.7% (13)

1.7% (4)
5.2% (12)
7.4% (17)
3.0% (7)
4.8% (11)
3.0% (7)
5.2% (12)
6.1% (14)
9.6% (22)
7.4% (17)
No Opinion
4.8% (11)
3.9% (9)
5.7% (13)
11.7% (27)
26.1% (60)
13.5% (31)
22.2% (51)
17.0% (39)
16.5% (38)
13.5% (31)
25.7% (59)
14.8% (34)
Moderate Problem
39.1% (90)
35.2% (81)
30.9% (71)
43.9% (101)
38.3% (88)
30.9% (71)
39.1% (90)
36.5% (84)
26.5% (61)
44.3% (102)
39.1% (90)
47.8% (110)
Major Problem
46.5% (107)
53.9% (124)
60.9% (140)
37.4% (86)
27.0% (62)
51.7% (119)
33.5% (77)
42.6% (98)
50.4% (116)
35.2% (81)
25.2% (58)
29.1% (67)

Rating	Response Average	Count
4.18		230
4.35		230
4.49		230
4.10		230
3.82		230
4.30		230
4.00		230
4.17		230
4.20		230
4.07		230
3.79		230
3.97		230

Stress
1.3% (3)
5.7% (13)
10.0% (23)
42.6% (98)
40.4% (93) 4.15 230
Suicide among adults
Suicide among youth
Sexual Assault / Rape
Abuse or neglect of senior citizens
Y outh violence
HIV / AIDS
T een pregnancy
T obacco use amongadults
Tobacco use among children 17 and younger
Tobacco use in workplaces
Cigarette smoking in restaurants
Diabetes
Heart disease
Cancer
3.0% (7)
3.5% (8)
3.0% (7)
2.2% (5)
3.0% (7)
3.9% (9)
0.9% (2)
0.9% (2)
1.7% (4)
17.8% (41)
37.8% (87)
2.2% (5)
1.3% (3)
1.3% (3)
15.7% (36)
14.8% (34)
15.7% (36)
15.7% (36)
17.4% (40)
20.9% (48)
8.7% (20)
5.7% (13)
9.6% (22)
20.0% (46)
21.3% (49)
4.3% (10)
4.3% (10)
3.9% (9)
43.9% (101)
44.8% (103)
34.3% (79)
28.3% (65)
30.0% (69)
50.0% (115)
17.0% (39)
9.6% (22)
14.3% (33)
28.7% (66)
23.0% (53)
13.0% (30)
13.0% (30)

9.1% (21)		
26.1% (60)		
26.1% (60)		
34.8% (80)		
38.7% (89)		
35.7% (82)		
22.6% (52)		
41.3% (95)		
33.5% (77)		
35.7% (82)		
20.0% (46)		
11.7% (27)		
38.3% (88)		
40.0% (92)		
39.1% (90)		
11.3% (26)	3.27	230
10.9% (25)	3.26	230
12.2% (28)	3.37	230
15.2% (35)	3.49	230
13.9% (32)	3.40	230
2.6% (6)	2.99	230
32.2% (74)	3.95	230
50.4% (116)	4.27	230
38.7% (89)	4.00	230
13.5% (31)	2.91	230
6.1% (14)	2.27	230
42.2% (97)	4.14	230
41.3% (95)	4.16	230
46.5% (107)	4.26	230
answered question		**230**
skipped question		**0**

5 of 12

5. Please state any other health issue(s) not listed above that you feel is a top issue facing your county:

Response Count
42
answered question
42
skipped question
188

6. I believe it is important for UNIVERSITIES and COLLEGES to be 100% tobacco free

Response Percent
Response Count
Strongly Agree
56.5%
130
Agree
16.1%
37
Neither Agree nor Disagree
11.7%
27
Disagree
7.4%
17
Strongly Disagree
6.1%
14
Don't Know / Not Sure
2.2%

5
answered question
230
skipped question
0

7. I believe it is important for PARKS and PUBLIC WALKING and BIKING TRAILS to be 100% tobacco free.

Response Percent
Response Count
Strongly Agree
52.2%
120
Agree
18.7%
43
Neither Agree nor Disagree
10.9%
25
Disagree
10.4%
24
Strongly Disagree
7.0%
16
Don't Know / Not Sure
0.9%
2
answered question
230
skipped question
0

8. I believe it is important for ALL PUBLIC PLACES to be 100% tobacco free.

Strongly Agree
Agree
Neither Agree nor Disagree
Disagree
Strongly Disagree
Don't Know / Not Sure

9. Which county do you live?

Rutherford
Polk
McDowell
Response Response Percent Count
52.6% 121
18.3% 42
12.2% 28
8.3% 19
8.3% 19
0.4% 1
answered question 230
skipped question 0
Response Response Percent Count
100.0% 230
0.0% 0
0.0% 0
answered question 230
skipped question 0

10. I am:

Response Percent
Response Count
Male
25.7%
59
Female
74.3%
171
answered question
230
skipped question
0

11. What is your age range?

Response Percent
Response Count
18-34
8.3%
19
35-54
42.2%
97
55-74
47.0%
108
75+
2.6%
6
answered question
230
skipped question
0

12. Are you Hispanic or Latino?

Response Percent
Response Count
Yes
0.0%
0
No
99.1%
228
Don't Know / Not Sure
0.9%
2
answered question
230
skipped question
0

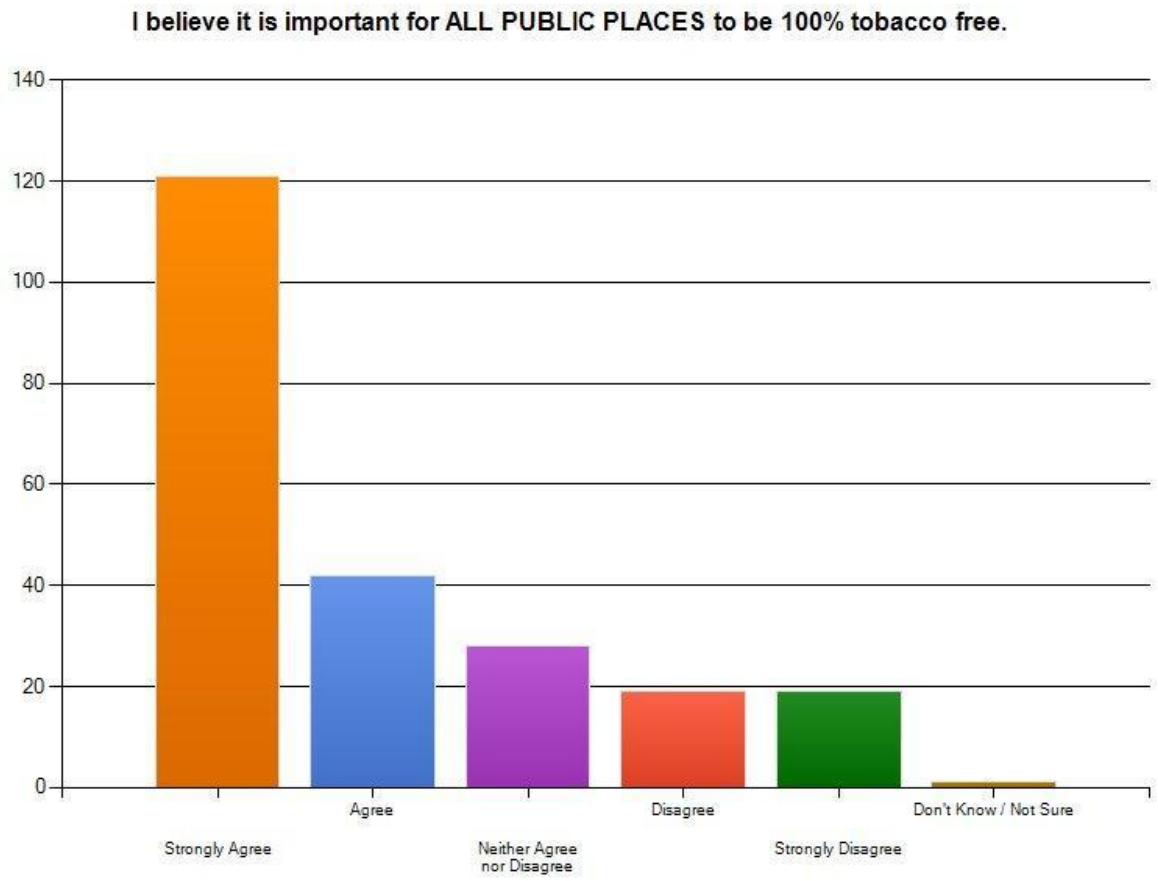
13. Which one or more of the following would you say is your race?

Response Percent
Response Count
White
91.7%
211
Black or African American
4.8%
11
Asian
0.0%

0
Native Hawaiian or Other Pacific Islander
0.0%
0
American Indian or Alaska Native
0.9%
2
Other
1.7%
4
No additional choices
0.0%
0
Don't Know / Not Sure
1.3%
3
answered question
230
skipped question
0
11 of 12

14. Are you currently.... ?

Response Percent
Response Count
Employed for wages
58.7%
135
Self-employed
12.2%
28
Out of work for more than 1 year
3.0%
7
Out of work for less than 1 year
3.0%
7
A homemaker
3.9%
9
A student
3.5%
8
Retired
17.0%
39
Unable to work
2.6%
6
answered question
230
skipped question
0
12 of 12



More information is available online at:
http://www.rpmhd.org/images/forms/1000/1120/cha/2012/2012