Cherokee County 2015 Community Health Assessment

11/3/2015

CHEROKEE COUNTY COMMUNITY HEALTH ASSESSMENT

ACKNOWLEDGEMENTS

This document was developed by Cherokee County Health Department, in partnership with Murphy Medical Center as part of a local community health (needs) assessment process. We would like to thank and acknowledge several agencies and individuals for their contributions and support in conducting this health assessment:

Name	Agency	Role/Contribution
Towanna Roberts	Cherokee County Health Department	Health Director
Maria Ward	Cherokee County Health Department	Clinical Supervisor
Sara Wilson	Cherokee County Health Department	Health Educator
Deena Collins	Murphy Medical Center	Community Partner/Resource
Matthew Lyvers	Clay County Health Department	Health Educator/Area Partner
Leann Ramsey	Graham County Health Department	Health Educator/Area Partner
Jenni Irwin	Coalition for a Safe and Drug Free Cherokee County	Community Partner

Our community health (needs) assessment process and product were also supported by technical assistance, financial support, and collaboration as part of WNC Healthy Impact, a partnership between hospitals, health departments, and their partners in western North Carolina to improve community health.

WNCHEALTHYIMPACT

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CHEROKEE COUNTY 2015 CHA EXECUTIVE SUMMARY

Purpose and Process

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 the *process* and *document* provide a basis for prioritizing the community's health needs, and for planning to meet those needs. 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.

Health Priorities

Health Priority 1- Cancer Control and Prevention

Health Priority 2- Chronic Disease Control and Prevention

Health Priority 3- Access to Healthcare

Next Steps

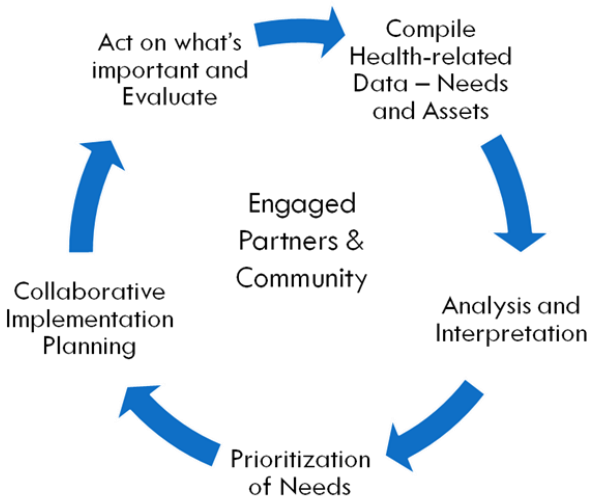
Cherokee County, along with partners in WNC Healthy Impact, will move forward in planning and determining how we can most effectively impact the health of our community. We will be collaborating with Murphy Medical Center and our partners on collaborative planning to create a Community Health Improvement Plan (CHIP). This phase of the process will begin early 2016.

CHAPTER 1 – COMMUNITY HEALTH ASSESSMENT PROCESS

Purpose

Community health assessment (CHA) is an important part of improving and promoting the health of county residents. **Community-health assessment is a key step in the ongoing community health improvement process**.

A community health assessment (CHA), which is both a process and a product, investigates and describes the current health indicators and status of the community, what has changed, and what still needs to change to reach a community's desired health-related results.



Definition of Community

Community is defined as "county" for the purposes of the North Carolina Community Health Assessment Process. Cherokee county is included in Murphy Medical Center community for the purposes of community health improvement, and as such they were key partner in this local level assessment.

WNC Healthy Impact

WNC Healthy Impact is a partnership between hospitals and health departments in western 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 www.WNCHealthyImpact.com. Our county and partner hospitals are involved in this regional/local vision and collaboration. Participating counties include: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey.

Data Collection

The set of data reviewed for our community health assessment process is comprehensive, though not all of it is presented in this document. Within this community health assessment product we share a general overview of health and influencing factors then focus more on priority health issues identified through this collaborative process. Our assessment also

highlights some of our community strengths and resources available to help address our most pressing issues.

Core Dataset Collection

The data reviewed as part of our community's health assessment came from the WNC Healthy Impact regional core set of data and additional local data compiled and reviewed by our local CHA team. WNC Healthy Impact's core regional dataset includes secondary (existing) and primary (newly collected) data compiled to reflect a comprehensive look at health. The following data set elements and collection are supported by WNC Healthy Impact data consulting team, a survey vendor, and partner data needs and input:

- A comprehensive set of publically available secondary data metrics with our county compared to the sixteen county WNC region as "peer"
- Set of maps accessed from Community Commons and NC Center for Health Statistics
- Telephone survey of a random sample of adults in the county

See Appendix A for details on the regional data collection methodology.

Health Resources Inventory

An inventory of available resources of our community was conducted through reviewing a subset of existing resources currently composed for our counties 2012 CHA, as well as working with partners to fill in additional information. See Appendix D for more details related to this process.

Community Input & Engagement

Including input from the community is an important element of the community health assessment process. Our county included community input and engagement in a number a ways:

- Partnership on conducting the health assessment process
- Through primary data collection efforts (survey and key informant interviews)
- In the identification and prioritization of health issues

In addition, community engagement is an ongoing focus for our community and partners as we move forward to the collaborative action planning phase of the community health improvement process. Partners and stakeholders with current efforts or interest related to priority health issues will continue to be engaged. We also plan to work together with our partners to help assure programs and strategies in our community are developed and implemented with community members and partners.

At-Risk & Vulnerable Populations

Throughout our community health assessment process and product, our team was focused on understanding general health status and related factors for the entire population of our county as well as the groups particularly at risk for health disparities or adverse health outcomes. In particular, for the purposes of the overall community health assessment, we aimed to understand variability in health outcomes and access of medically underserved, low-income, minority, and others experiencing health disparities.

CHAPTER 2 – CHEROKEE COUNTY

Location and Geography

Cherokee County is located in the southwestern most corner of North Carolina and borders Graham, Clay and Macon Counties in North Carolina, Polk and Monroe Counties in Tennessee, and boarders Fannin and Union Counties in Georgia. The county is within two hours driving distance from four major metropolitan cities, Asheville, Atlanta, Knoxville and Chattanooga. There are two municipalities, Murphy and Andrews, one incorporated community, and numerous other small unincorporated communities in Cherokee County. Murphy, which is the County Seat, has a population of 1,568 within the city limits and Andrews with a population of 1,602 per most recent census. Some of the other smaller communities in Cherokee County include Aquone, Culberson, Ranger, Hiwassee Dam, Unaka, Hanging Dog, Peachtree, Marble, Martins Creek, and Topton.

Cherokee County encompasses 455 square miles or 300,100 acres. Of this total area, 92,363 acres are owned by the US Forest Service, 8,700 acres are covered by lakes, and 6,000 acres are administered by the Bureau of Indian Affairs for the Eastern Band of Cherokee Indians. Other federal land is owned by The Tennessee Valley Authority. The majority of acreage in the county is privately owned with over 1,900 farms of various sizes.

The county has a diverse landscape. Elevations range from approximately 1,000 feet to nearly 5,000 feet above sea level. There are three major river valleys in the county. The Notley River flows into the south central portion of the county from Union County, Georgia. The Hiwassee River also flows from the south into the county. The third waterway is The Valley River. The Hiwassee and Valley Rivers converge in the city limits of Murphy. The rivers flow into the first of two major TVA impoundments located in Cherokee County. The 6090 acre Hiwassee Reservoir which offers 180 miles of shoreline was formed by the construction of what was at that time the highest overspill dam in the world, Hiwassee Dam. The Dam is 307 feet high and stretches 1376 feet across the Hiwassee River basin. The reservoir has a storage capacity of 205,590 acre-feet and is capable of generating of 185,000 kilowatts of electricity. Below this dam is a second impoundment, Appalachia reservoir. This is a deep, cool water reservoir encompassing 1,100 acres. Both of these reservoirs have very limited private shoreline development and are surrounded by the Nantahala Forest.

History

Cherokee County was formed in 1839 from a portion of Macon County following the removal of the Cherokee in 1838. The county was named in honor of the Cherokees that who were forced to leave North Carolina and marched on the "Trail of Tears" to Oklahoma. Some of the

Cherokee were able to escape the Trail of Tears and hid out in the mountains of Western North Carolina. The descendants of some of the Cherokee now live on the Reservation for the Eastern Band of the Cherokee in Cherokee, North Carolina.

Cherokee County was very rich in natural resources and logging became the area's first industry. In 1887, the first railroad entered Cherokee County from the southwest into Culberson and reached Murphy in 1888 and was known as the Louisville and Nashville. Another railroad entered Cherokee County from the east in 1890 through Andrews and was known as the Southern. The railroads allowed the county's resources to be exported throughout the country and other industries to move in. The railroads also brought in tourists. Tourism remains a huge industry in Cherokee County today. Cherokee County began getting paved streets in 1917 and the first paved road from Murphy to Georgia opened in 1922.

The Depression, which hit in the 1930's, resulted in the development of the Tennessee Valley Authority (TVA). The development of the TVA led to the building of roads throughout the Appalachia region as well as hydroelectric dams. It also provided a large number of jobs for residents in this area. In 1935 the TVA began construction of the Hiwassee Dam and completed it in 1940. This created the Hiwassee Lake which covers over 6,000 acres. Cherokee Lake, a 20 acre lake was also created by the TVA in 1939 for use as a fish hatchery to stock nearby reservoirs. The lake is now operated by the U. S. Forest Service as a day-use recreation area. In the past and even today, Cherokee County residents have a strong bond with the land with the many lakes, farms, fishing streams, hiking trails and camping areas.

Population

According to data from the 2010 US Census, the total population of Cherokee County is 27,444. In Cherokee County, as region-wide and statewide, there are a slightly higher proportion of females than males (51.4% vs. 48.6%).

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

Geography	Total Population (2010)	# Males	% Males	# Females	% Females
Cherokee County	27,444	13,341	48.6	14,103	51.4
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

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)
Cherokee County	93.6	1.3	1.3	0.5	0.0	0.8	2.5	2.5
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

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
Cherokee County	48.1	1,377	5.0	4,465	16.3	15,318	55.8	6,284	22.9
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

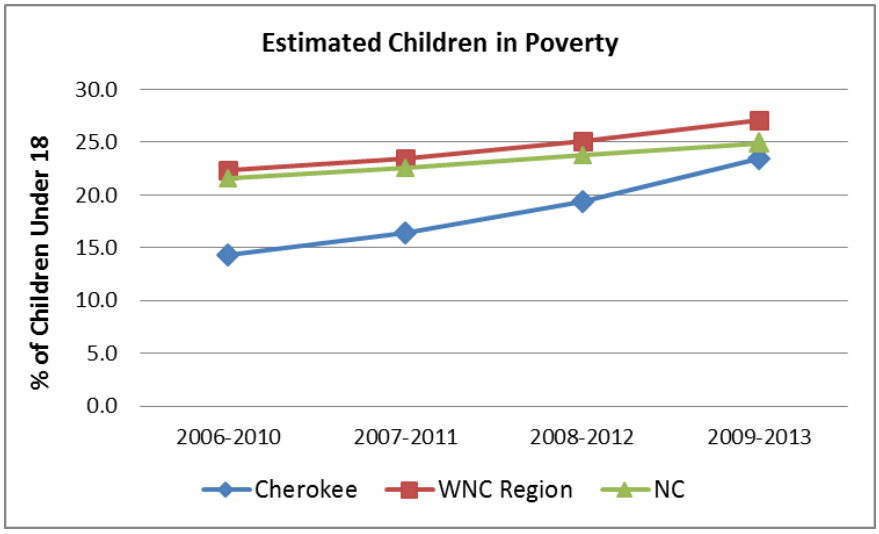
Source: U.S. Census Bureau, American FactFinder: http://factfinder2.census.gov.

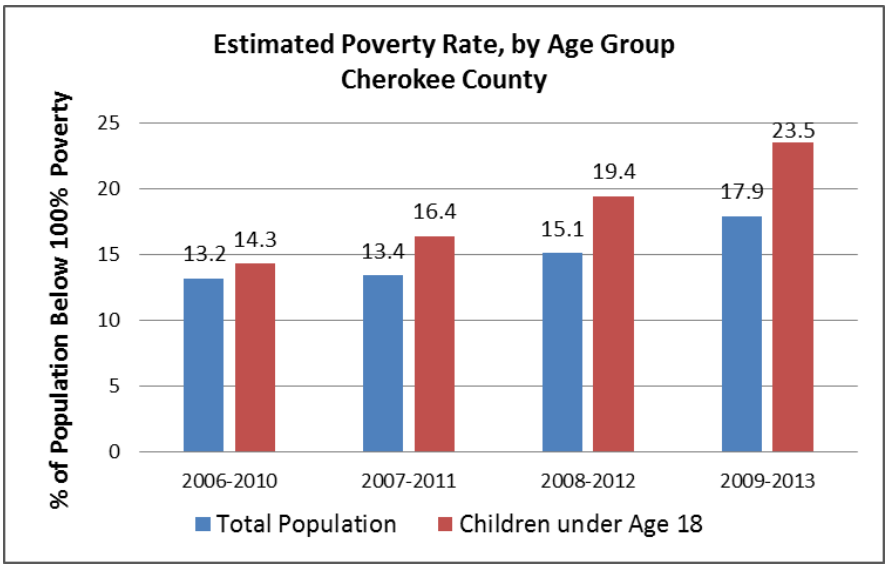
Understanding the growth patterns and age, gender and racial/ethnic distribution of the population in Cherokee County will be keys in planning the allocation of health care resources for the county in both the near and long term.

CHAPTER 3 – SOCIAL & ECONOMIC FACTORS

Health and Health problems result from a variety of different elements combined together. Income level, employment, education level, community safety, housing, and family and social support are all components of social and economic determinants of health. An individual's health related behaviors such as diet, exercise, and smoking all contribute to how long and how well we live. However, none of these factors affect health quite as much as the social and economic environments where we learn, live, and play.

Income





Source: U.S. Census Bureau American FactFinder: http://factfinder2.census.gov

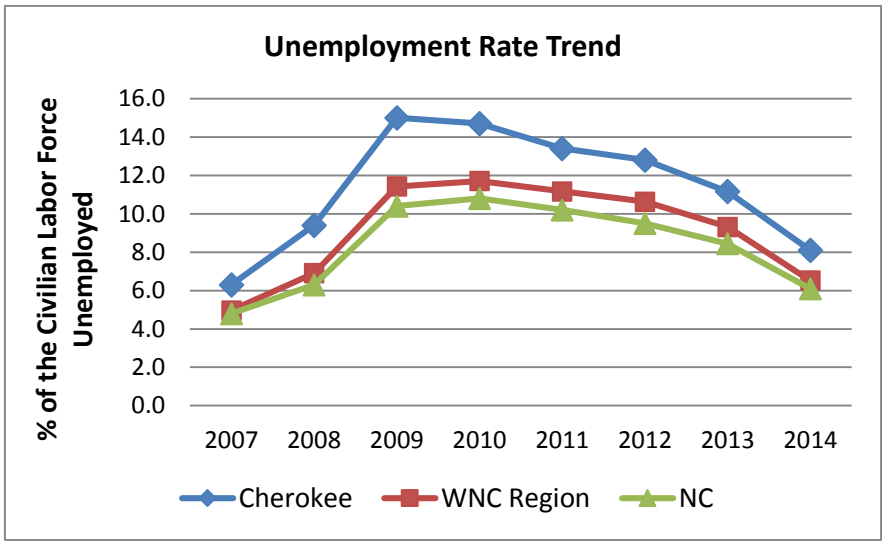
County	2008-2012 Household and Family Income				2009-2013 Household and Family Income			
	Median Household Income (dollars)*	Median Household Income Diff from State (dollars)	Median Family Income (dollars)**	Median Family Income Diff from State (dollars)	Median Household Income (dollars)*	Median Household Income Diff from State (dollars)	Median Family Income (dollars)**	Median Family Income Diff from State (dollars)
Cherokee	34,981	-11,469	44,218	-12,928	34,432	-11,902	43,178	-13,750
WNC (Regional) Arithmetic Mean	39,118	-7,332	48,686	-8,460	38,887	-7,447	48,551	-8,377
State Total	46,450	n/a	57,146	n/a	46,334	n/a	56,928	n/a
Source	1	2	1	2	1	2	1	2

Note: Households include all the people who occupy a housing unit. The occupants may be a single family, one person living alone, or two or more families living together, or any other group of related or unrelated people who share living arrangements
Note: Family Households consist 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.

1 - *Selected Economic Characteristics, 2006-2010 [and other years as noted] American Community Survey 5-Year Estimates (DP03).* U.S. Census Bureau American FactFinder: http://factfinder2.census.gov

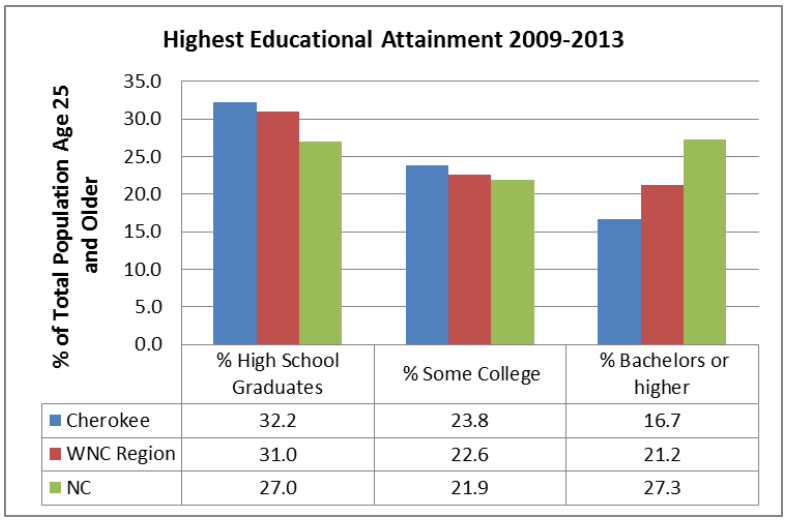
2 - Calculated

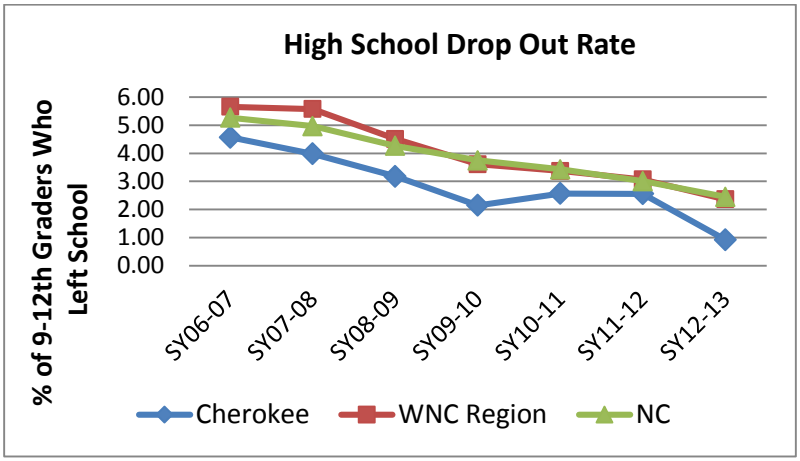
Employment



Geography	Annual Average							
	2007	2008	2009	2010	2011	2012	2013	2014
Cherokee County	6.2	9.2	15.5	14.9	13.8	12.8	11.2	8.1
Regional Arithmetic Mean	4.9	6.8	11.8	11.8	11.5	10.6	9.3	6.5
State Total	4.8	6.3	10.5	10.9	10.5	9.5	8.4	6.1

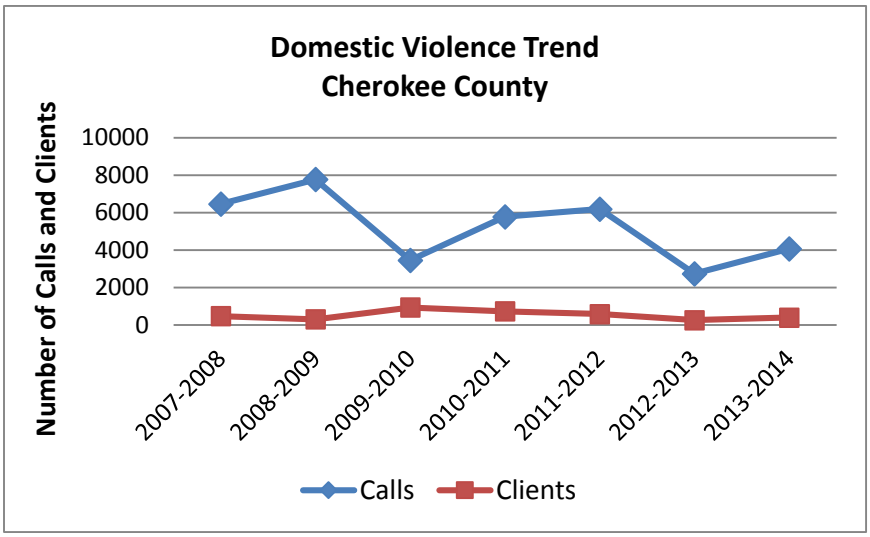
Source: Department of Commerce, Labor and Economic Analysis Division (LEAD), D4 - Demand Driven Data Delivery System: http://esesc23.esc.state.nc.us/d4/Education





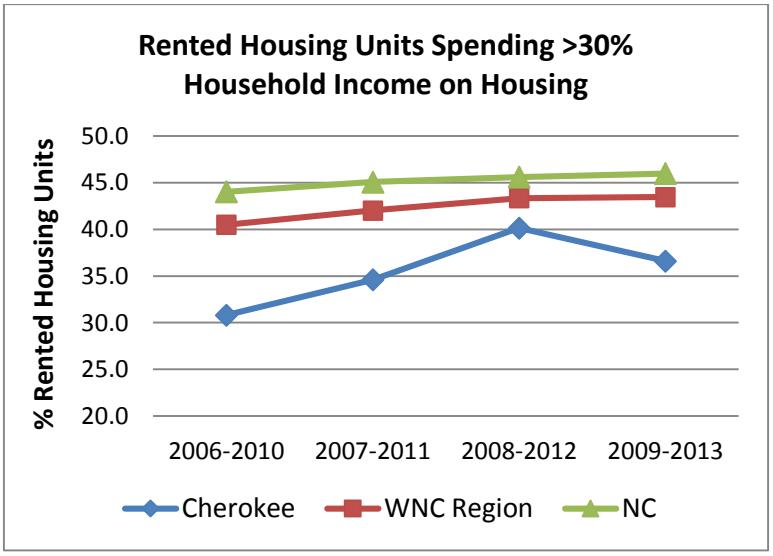
Source: Public Schools of North Carolina, Annual Dropout Reports: http://www.ncpublicschools.org/research/dropout/reports/

Community Safety

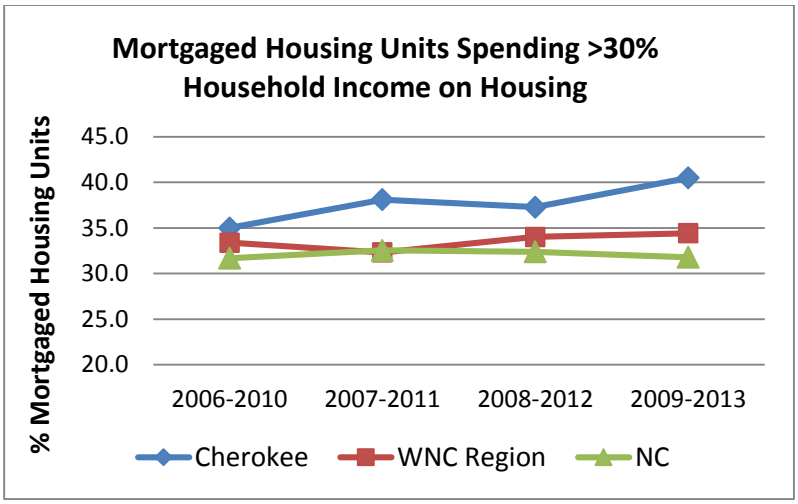


North Carolina Department of Administration, Council for Women: http://www.councilforwomen.nc.gov/stats.aspx

Housing



U.S. Census Bureau American FactFinder: http://factfinder2.census.gov



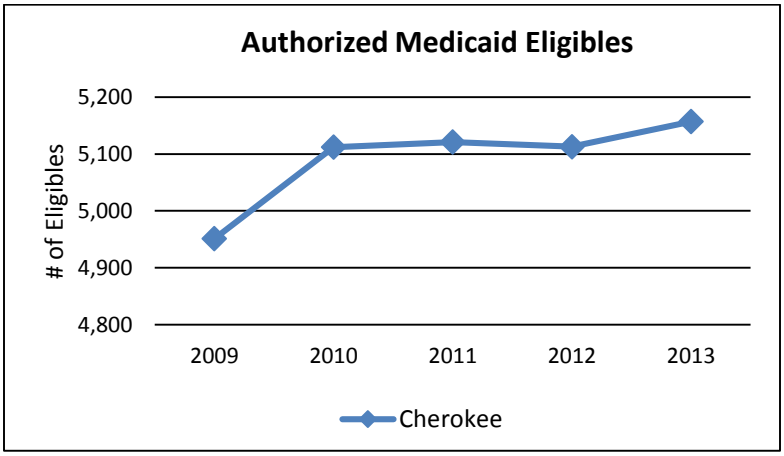
U.S. Census Bureau American FactFinder: http://factfinder2.census.gov

Family and Social Support

General Demographic Characteristics: Composition of Families with Children (5-Year Estimate, 2009-2013)

County	# Grandparents Living with Own Grandchildren (<18 Years)	Grandparent Responsible for Grandchildren (under 18 years)*		# Total Households
		Est. #	%	
Cherokee	341	146	42.8	10,722
WNC (Regional) Total	15,007	8,142	54.3	316,799
State Total	206,632	100,422	48.6	3,715,565

U.S. Census Bureau American FactFinder: http://factfinder2.census.gov



U.S. Census Bureau American FactFinder: http://factfinder2.census.gov

CHAPTER 4 – HEALTH DATA FINDINGS SUMMARY

Mortality

Leading Causes of Death, Age-Adjusted Death Rates per 100,000 Population (5-Year Aggregate, 2009-2013)

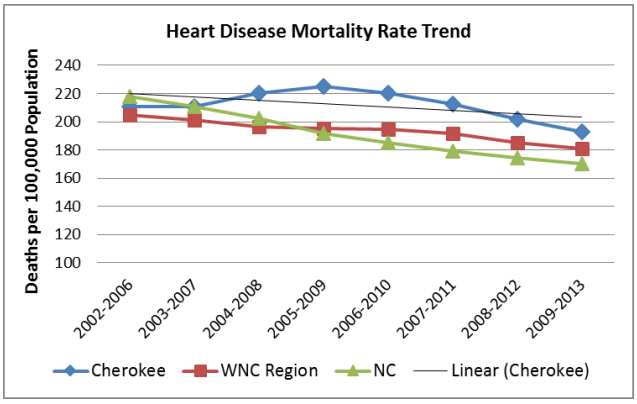
Rank	Cause of Death	Cherokee	
		# Deaths	Death Rate
1	Diseases of Heart	426	192.9
2	Cancer	413	182.2
3	All Other Unintentional Injuries	84	59.3
4	Chronic Lower Respiratory Diseases	121	51.4
5	Cerebrovascular Disease	84	37.7
6	Alzheimer's disease	61	28.4
7	Diabetes Mellitus	51	22.4
8	Suicide	29	20.6
9	Unintentional Motor Vehicle Injuries	27	18.2
10	Chronic Liver Disease and Cirrhosis	31	15.0
11	Septicemia	31	14.0
12	Nephritis, Nephrotic Syndrome, and Nephrosis	30	13.1
13	Pneumonia and Influenza	25	11.8
14	Homicide	6	**4.7**
15	Acquired Immune Deficiency Syndrome	1	**0.3**
All Causes (some not listed)		1,713	819.5

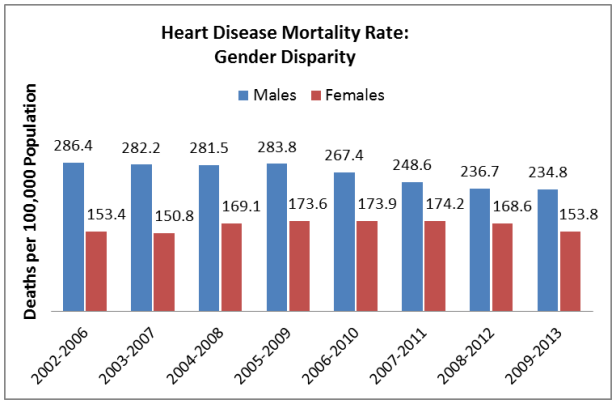
Source: 2013 North Carolina Vital Statistics, Volume 2: Leading Causes of Death. North Carolina Center for Health Statistics (NC SCHS), Vital Statistics. http://www.schs.state.nc.us/data/vital/lcd/2013/

Life Expectancy at Birth for Person Born in 2011-2013

County	Overall	Sex		Race	
		Male	Female	White	African-American
Cherokee	76.2	73.5	79.1	76.5	n/a
WNC (Regional) Total	n/a	n/a	n/a	n/a	n/a
WNC (Regional) Arithmetic Mean	77.7	75.3	80.2	77.9	75.2
State Total	78.2	75.7	80.6	78.8	75.9

http://www.schs.state.nc.us/data/lifexpectancy/





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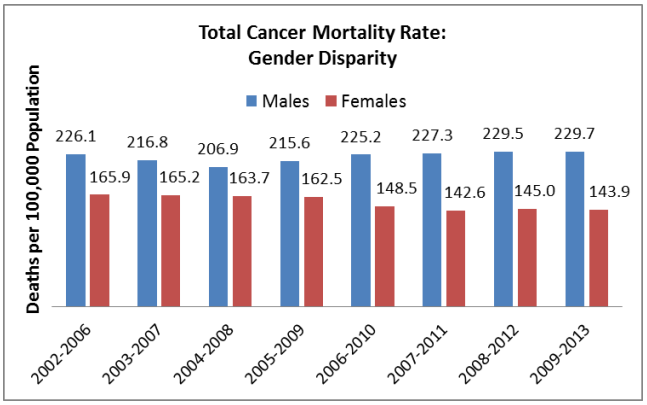

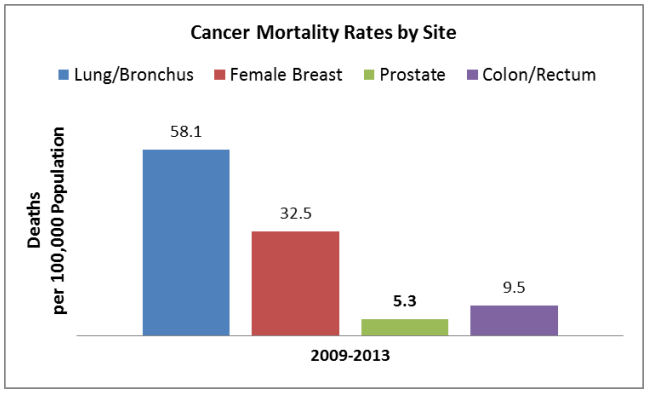

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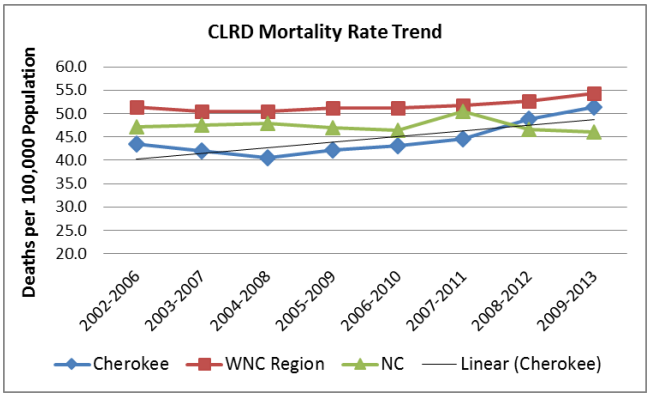

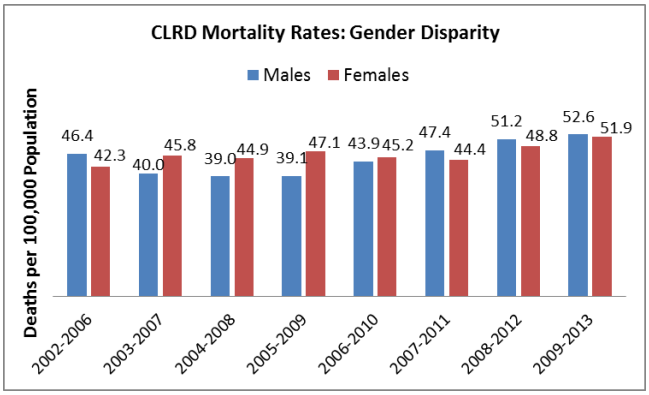

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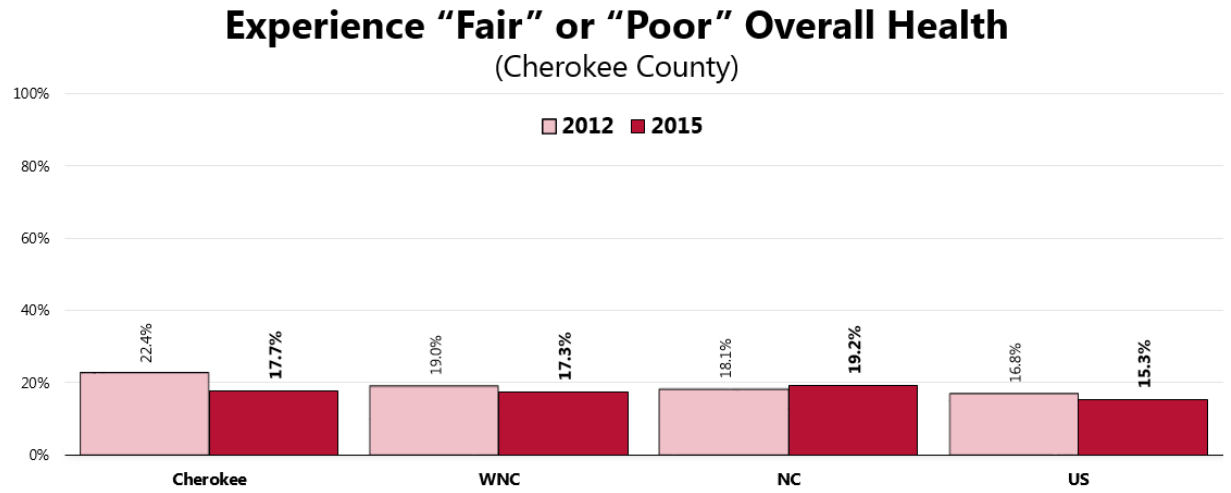
Health Status & Behaviors

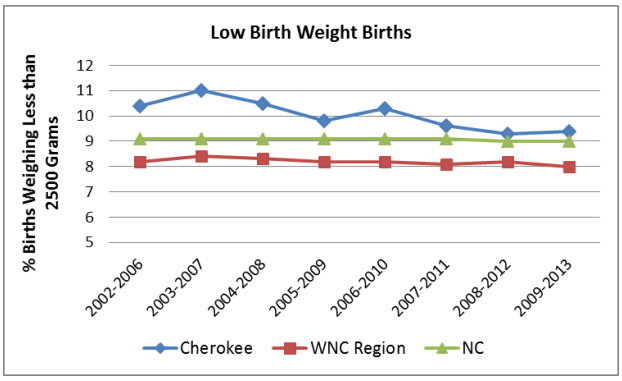
Overall Health Status



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 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): North Carolina data.
- PRC National Health Surveys, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

Maternal & Infant Health



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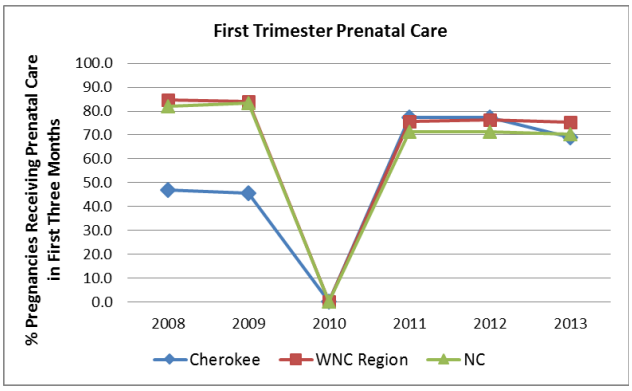
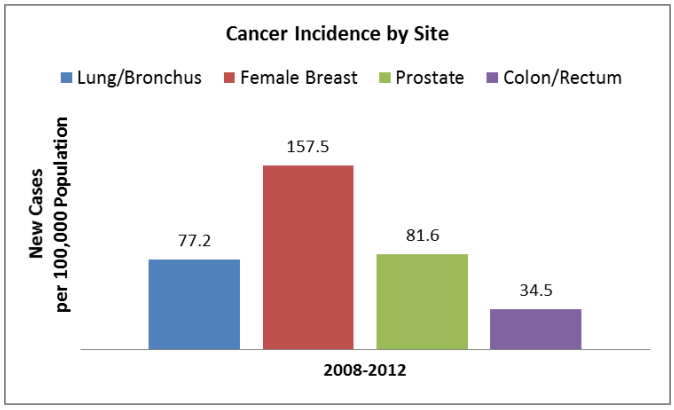


Source: http://www.schs.state.nc.us/data/vital/babybook/2013.htm

Chronic Disease



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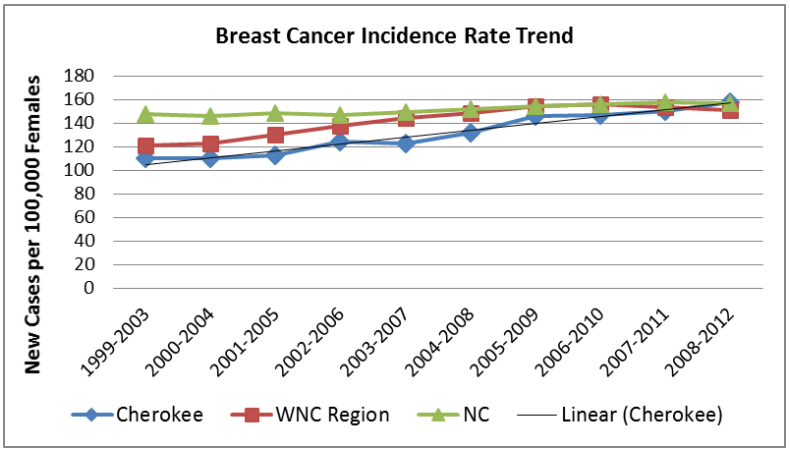

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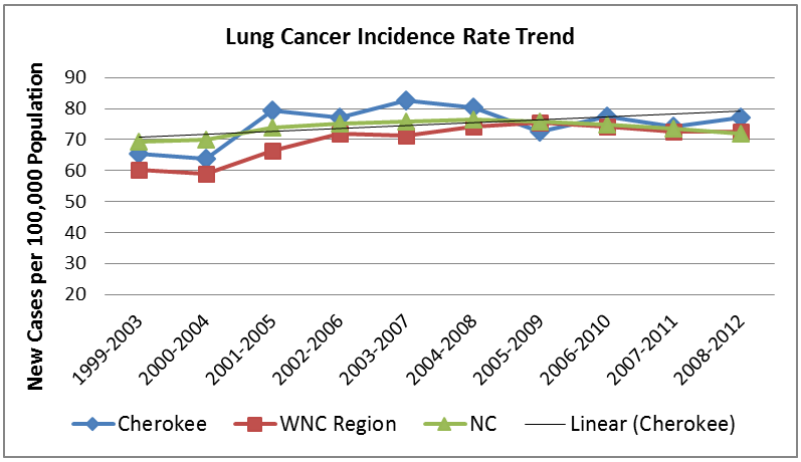

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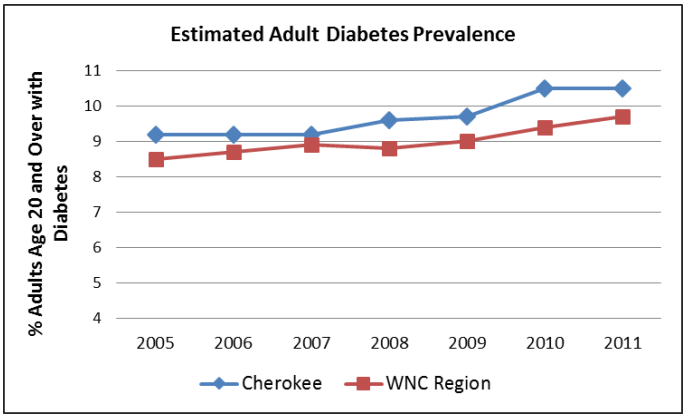
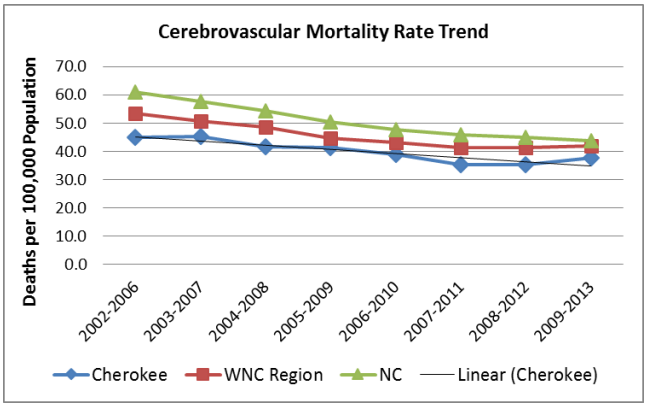
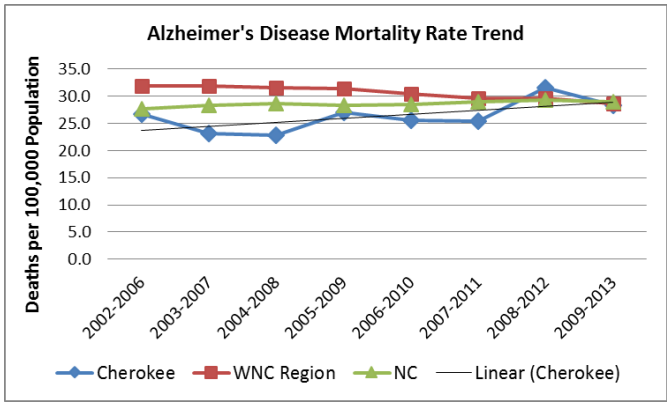


Source: http://www.cdc.gov/diabetes/atlas/countydata/atlas.html

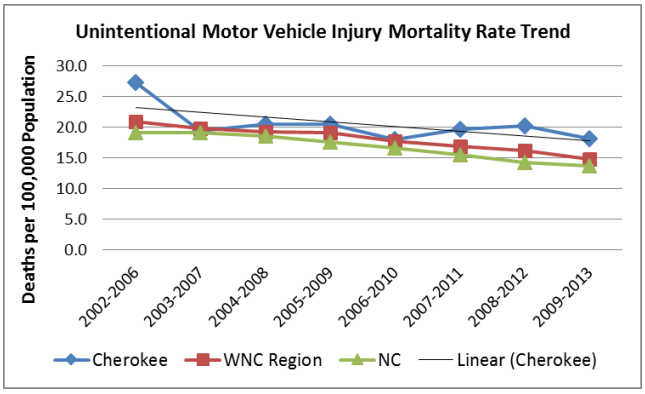


Source: http://www.schs.state.nc.us/data/vital.cfm

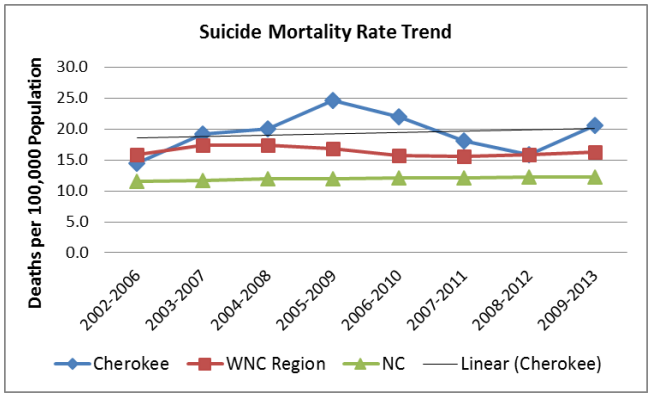


Source: http://www.schs.state.nc.us/data/vital.cfm

Injury & Violence



Source: http://www.schs.state.nc.us/data/vital.cfm

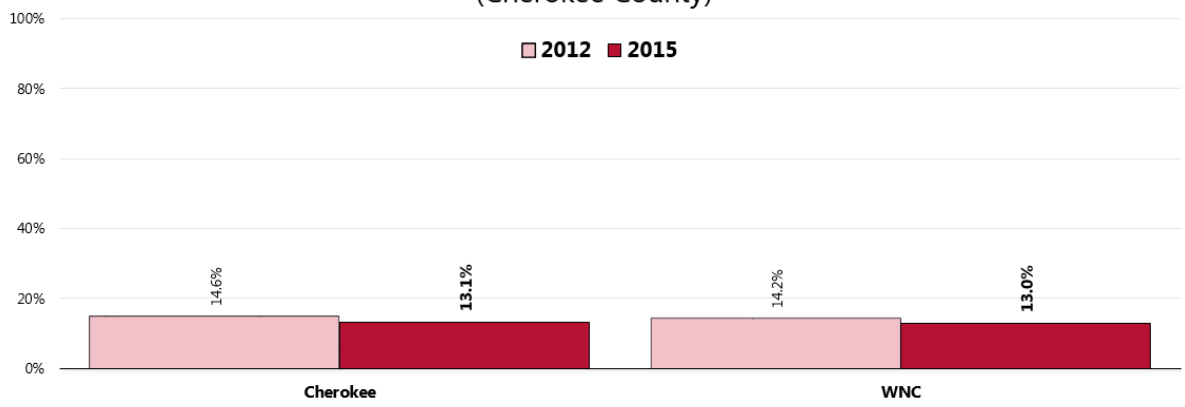


Source: http://www.schs.state.nc.us/data/vital.cfm

Mental Health & Substance Abuse

>7 Days of Poor Mental Health in the Past Month

(Cherokee County)

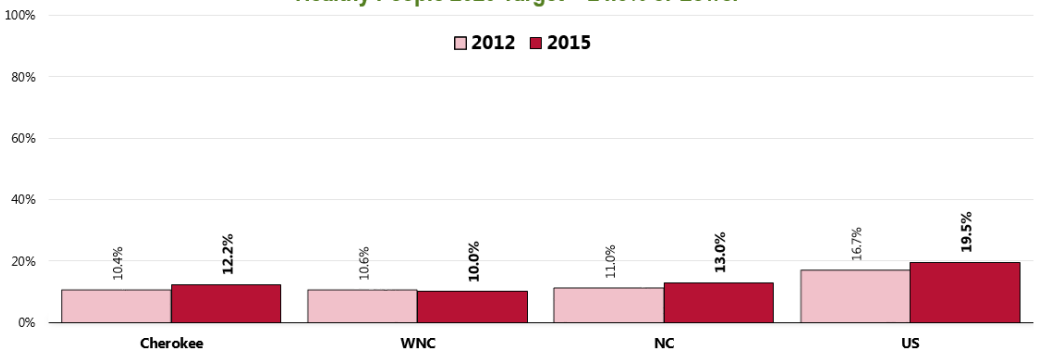


Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 83]
Notes: • Asked of all respondents.

Binge Drinkers

(Cherokee County)

Healthy People 2020 Target = 24.3% or Lower



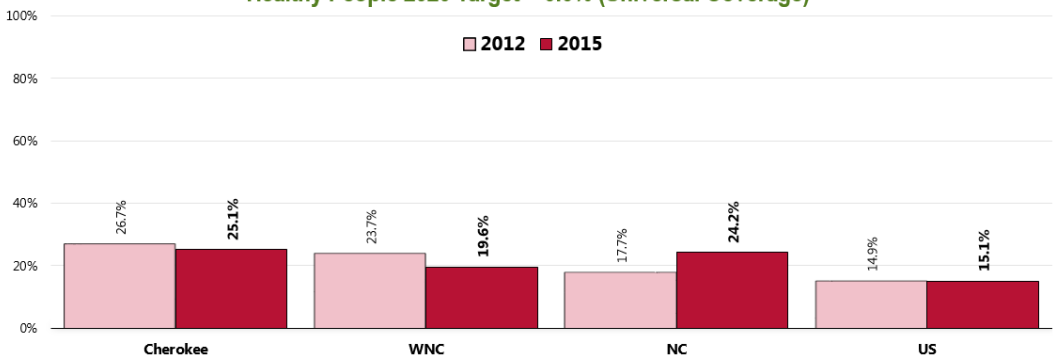
Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 148]
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): North Carolina data.
• PRC National Health Surveys, 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).

Clinical Care & Access

Lack of Healthcare Insurance Coverage

(Among Adults Age 18-64; Cherokee County)

Healthy People 2020 Target = 0.0% (Universal Coverage)



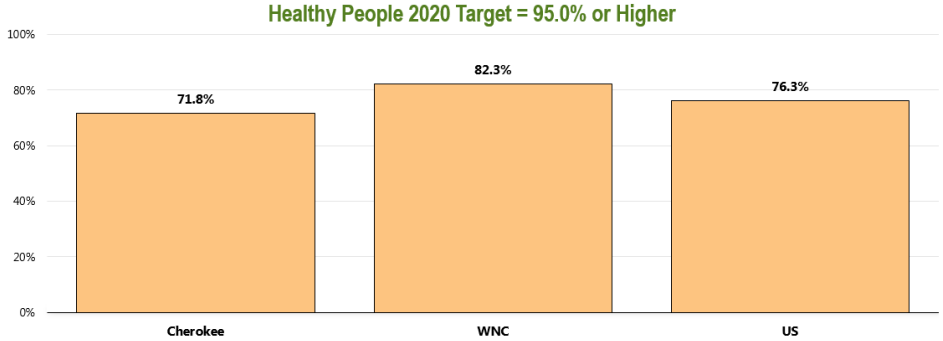
Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 165]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): North Carolina data.
- PRC National Health Surveys, 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.).

Have a Specific Source of Ongoing Medical Care

(Cherokee County, 2015)

Healthy People 2020 Target = 95.0% or Higher



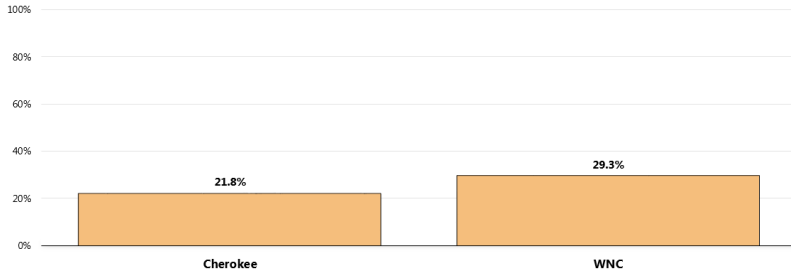
Sources:
- 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 152]
- PRC National Health Surveys, Professional Research Consultants, Inc.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective AHS-5.1]

Notes:
- Asked of all respondents.

Number of Active Health Professionals per 10,000 Population Ratios (2009 through 2012)

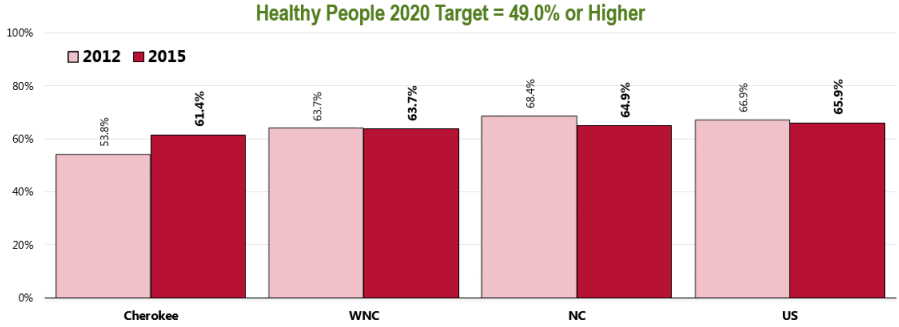
County	2012				
	Physicians	Primary Care Physicians*	Dentists	Registered Nurses	Pharmacists
Cherokee	14.43	5.92	2.96	86.57	8.51
WNC (Regional) Arithmetic Mean	14.29	6.84	3.61	76.94	7.97
State Total	22.31	7.58	4.51	99.56	10.06

Healthcare Provider Has Helped to Connect With a Community Resource (Classes, Coaching) to Educate About Condition
(Cherokee County, 2015)



Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 39]
Notes: • Asked of those respondents who have been diagnosed with COPD, heart disease, stroke, asthma, diabetes/pre-diabetes, hypertension, and/or high blood cholesterol.

Have Visited a Dentist or Dental Clinic Within the Past Year
(Cherokee County)
Healthy People 2020 Target = 49.0% or Higher



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 21]
• PRC National Health Surveys, 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); North Carolina data.
Notes: • Asked of all respondents.

At Risk Populations

There are 3 major at risk populations for chronic diseases here in Cherokee County. The first is the economically disadvantaged or low income individuals. Many of these individuals also have a compounded risk because of limited language or literacy. The second is the uninsured/underinsured population. The implementation of the Affordable Care Act has mandated that all individuals be insured or face a penalty but there are many who only registered for catastrophic care in order to avoid them. These plans have left many high out of pocket expenses for healthcare. The third population at risk is the geographically isolated, or those who live in far rural areas of Cherokee County who are 45-60minutes from the nearest healthcare facility or access to healthy food outlet.

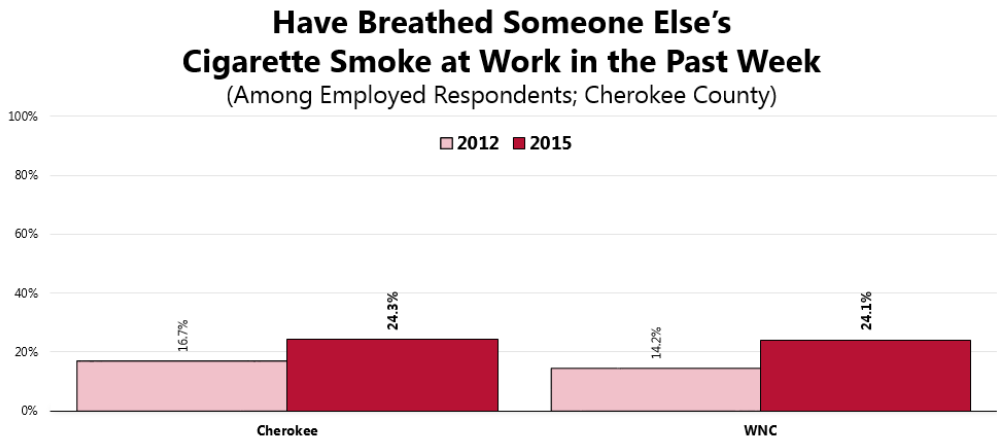
CHAPTER 5 – PHYSICAL ENVIRONMENT

Air Quality

Indoor Radon Levels

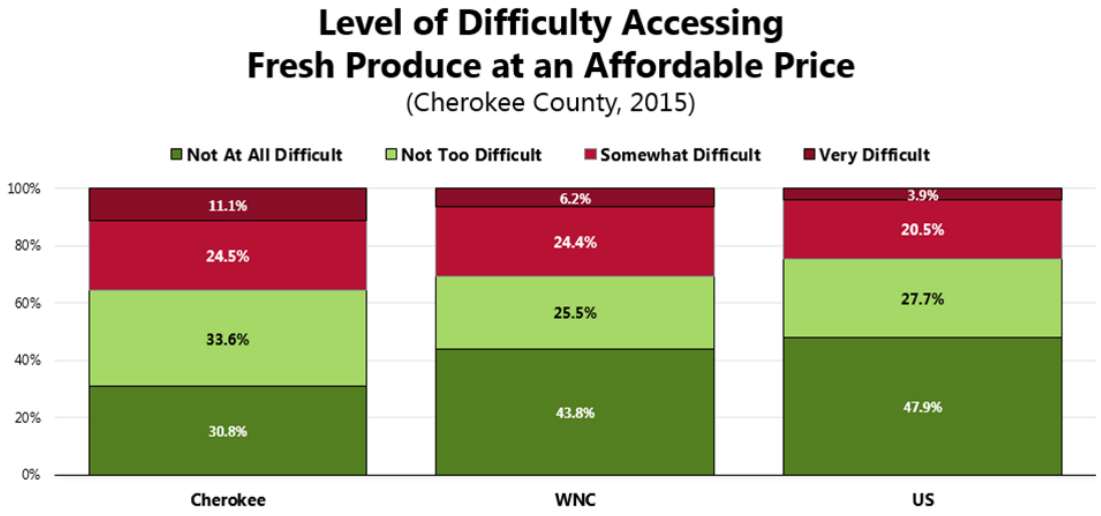
County	Average Indoor Radon Level (pCi/L)	% Variance from Average National Indoor Radon Level (1.3 pCi/L)	% Variance from Average Regional Indoor Radon Level (4.3 pCi.L)
Cherokee	5.2	300.0	20.9
WNC (Regional) Total	n/a	n/a	n/a
WNC (Regional) Arithmetic Mean	4.1	215.9	0.0
State Total	n/a	n/a	n/a

Source: http://nc-radon.info/NC_counties.html

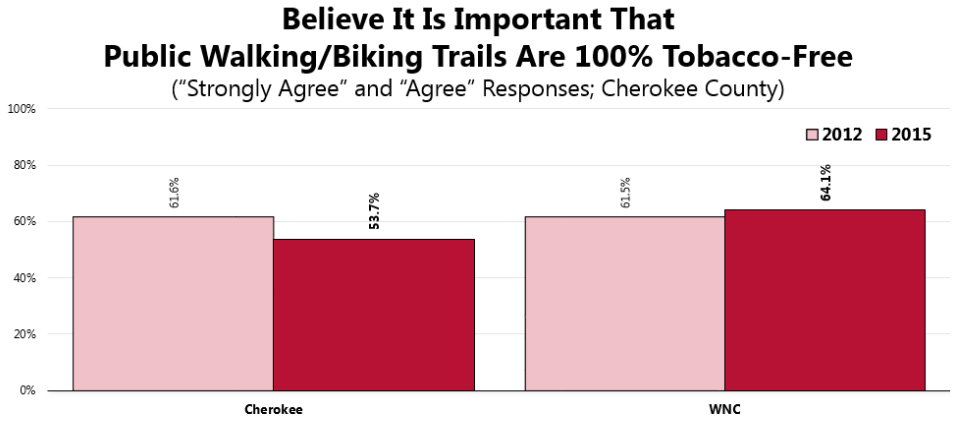


Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 49]
Notes: • Asked of employed respondents.

Access to Healthy Food & Places



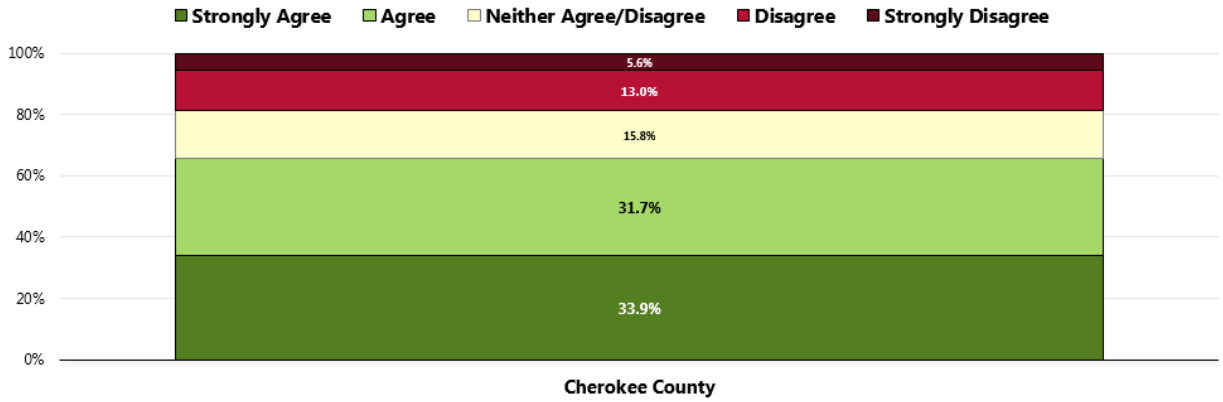
Sources: • 2015 PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 66]
• 2013 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: • Asked of all respondents.



Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 50]
Notes: • Asked of all respondents.
• Includes "very important" and "somewhat important" responses.

"I believe it is important for all public places to be 100% tobacco-free."

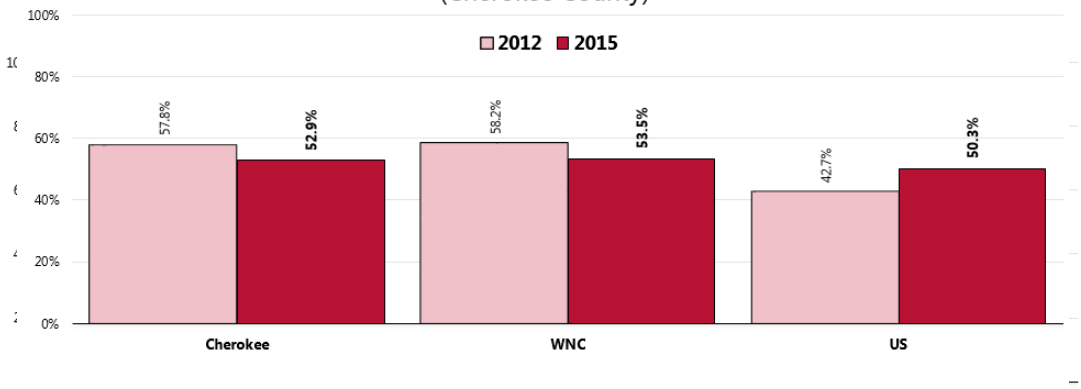
(Cherokee County, 2015)



Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 54]
Notes: • Asked of all respondents.

Meets Physical Activity Recommendations

(Cherokee County)



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 133]
• PRC National Health Surveys, 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.

CHAPTER 7- HEALTH RESOURCES

Health Resources

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

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

Resource Gaps

There are many resources that are needed in Cherokee County in order to close these resource gaps.

Some gaps include:

1.) Shortage of Heath Resources and Services Administration Health Professions- Primary Medical Care, Dental, and Mental Health.
2.) Lack of Specialists (Example: Closest Endocrinologist is located in Asheville)
3.) Lack of Adult Dental Health Clinic as part of Health Department
4.) Lack of resources for a rapidly growing, aging population.

CHAPTER 8 – IDENTIFICATION OF HEALTH PRIORITIES

Health Issue Identification

Process

To identify the significant health issues in our community, our key partners reviewed data and discussed the facts and circumstances of our community. We used the following criteria to identify significant health issues:

- County data deviates notably from the region, state or benchmark
- Significant disparities exist
- Data reflects a concerning trend related to burden, scope or severity
- Surfaced as a priority community concern

Identified Issues

The following health issues were surfaced through the above process:

- **Cancer Control and Prevention:** Cancer is the seconding leading cause of death here in Cherokee County.

- **Chronic Disease Control and Prevention:** Chronic Diseases account for 5 of the top 10 causes of death in Cherokee County.

- **Access to Healthcare:** Access to healthcare services in our county is still continuing to be a problem in residents being able to access health services.

- **Drug Abuse:** Local citizens voiced concerns over both illegal and prescription drug abuse.

- **Mental Health:** Lack of utilization of Mental Health services with limited resources.

Priority Health Issue Identification

Process

Priorities were discussed among the Community Health Assessment Team and were based on the top issues mentioned above. In discussing these priorities the 2012 Community Health Assessment, Healthy North Carolina 2020, and 2014 State of the County Health report (SOTCH) (See Appendix E) were also taken into consideration. Other rising community issues were also discussed. Questions considered when choosing priorities were how many people does this issue affect and can this issue be reduced with the help of collaborative efforts throughout the community.

Identified Priorities

The following priority health issues are the final community-wide priorities for our county that were selected through the process described above:

- **Cancer Control and Prevention:** Cancer is the seconding leading cause of death here in Cherokee County.

- **Chronic Disease Control and Prevention:** Chronic Diseases account for 5 of the top 10 causes of death in Cherokee County.

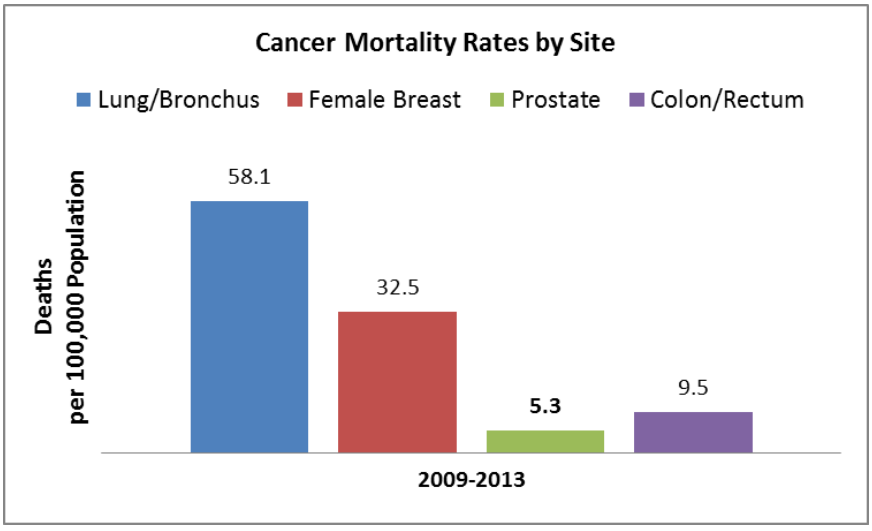
- **Access to Healthcare:** Access to healthcare services in our county is still continuing to be a problem in residents being able to access health services.

PRIORITY ISSUE #1- CANCER CONTROL & PREVENTION

Taken together, cancers of all types compose the second leading cause of death in Cherokee County, and the leading cause of death in NC for 2009-2013. The financial costs of cancer to families, communities, state, and nation also are overwhelming. According to the National Institutes of Health, cancer cost the United States an estimated $263.8 billion in medical costs and lost productivity in 2010. Although these numbers may seem overwhelming and out of control there are still opportunities that exist to reduce cancer risk and prevent some cancers. Cancer risk can be reduced by avoiding tobacco, limiting alcohol use, limiting exposure to ultraviolet rays from the sun and tanning beds, eating a diet rich in fruits and vegetables, maintaining a healthy weight, being physically active, and seeking regular medical care.

Data Highlights

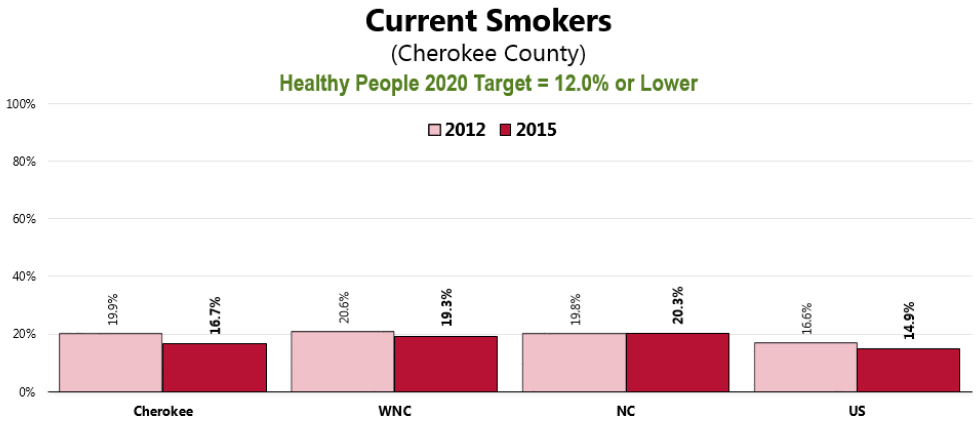
Health Indicators



Source: http://www.schs.state.nc.us/data/vital.cfm

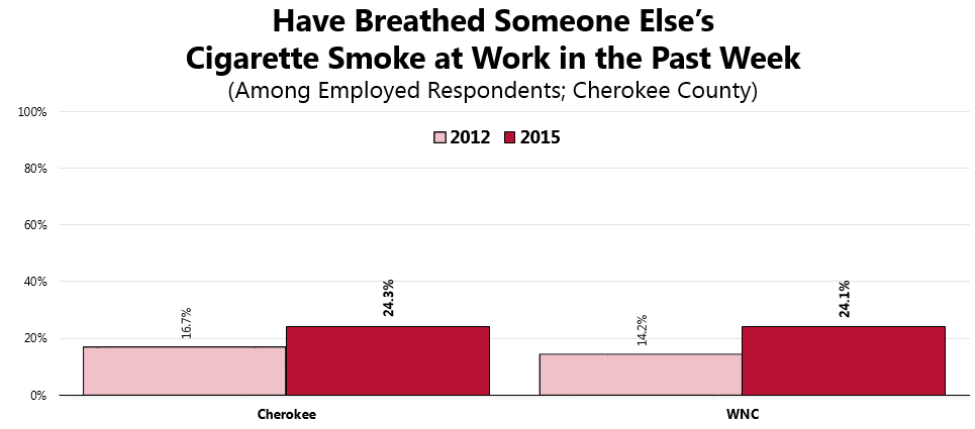
Mortality data shows that lung/bronchus cancer accounts for over half of all cancer deaths in Cherokee County. Health indicators however are showing progress in some areas of contributing factors to this particular kind of cancer.

Since the last Community Health Assessment in 2012 survey respondents who self-reported as current smokers had decreased. However, the percentage of people who said they were exposed to second hand smoke at work had increased.



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 45]
- PRC National Health Surveys, 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): 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 (everyday and some days).



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 49]

Notes:
- Asked of employed respondents.

Specific Populations At-Risk

As addressed in the mortality data in Chapter 5, males have a much higher total cancer mortality rate than females.

Health Resources available/needed

Cherokee County Health Department currently offers the Breast and Cervical Cancer Control Program which provides free or low-cost breast and cervical cancer screenings and follow-up to eligible women. The health department also educates patients on the importance self-monitoring and regular preventative screenings for colorectal cancer, prostate cancer, and skin cancer. Additional prevention efforts include the education and administration of the HPV vaccine for both females and males of appropriate ages. Referral resources are offered to patients who have noticed abnormal self-exams.

PRIORITY ISSUE #2- CHRONIC DISEASE CONTROL AND PREVENTION

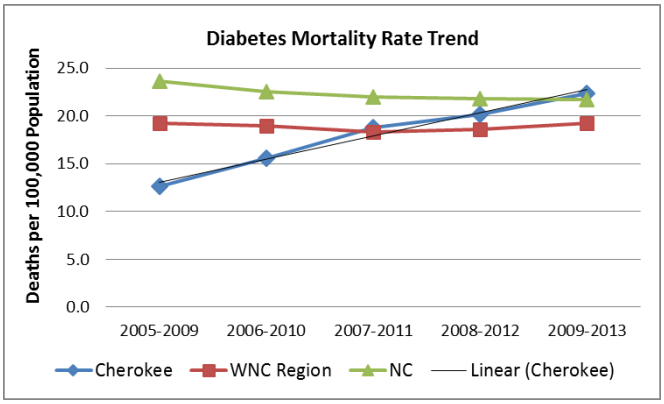
According to the Centers for Disease Control and Prevention heart disease and stroke, the first and third leading causes of death for men and women, are among the most widespread and costly health problems facing our nation today, yet they also are among the most preventable. Cardiovascular diseases, including heart disease and stroke, account for more than one-third (33.6%) of all U.S. deaths. In 2010, the total costs of cardiovascular diseases in the United States were estimated to be $444 billion. Treatment of these diseases accounts for about $1 of every $6 spent on health care in this country. As the U.S. population ages, the economic impact of cardiovascular diseases on our nation's health care system will become even greater. All of these trends are true in Cherokee County as well. Secondary county level data from the PRC survey showed a prevalence of heart disease at 7.9%, this was higher than the WNC average of 6.5%.

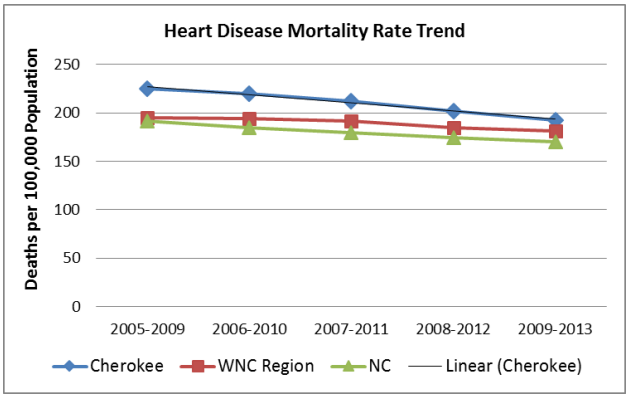
Type 2 Diabetes accounts for 90%–95% of diabetes cases and is usually associated with older age, obesity and physical inactivity, family history, or a personal history of gestational diabetes. However type 2 diabetes can be prevented through healthy food choices, physical activity, and weight loss, it can also be controlled with these same activities. This chronic disease is one that we have made progress on reducing here in Cherokee County but we have a long way to go Increasing physical activity and lowering the obesity rate are going to contribute heavily to continuing to see these numbers decline.

Chronic Obstructive Pulmonary Disease, or COPD, refers to a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema, chronic bronchitis, and in some cases asthma. This is the 4th leading cause of death in Cherokee County (See Chapter 5). Tobacco use is a key factor in the development and progression of COPD, but asthma, exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role.

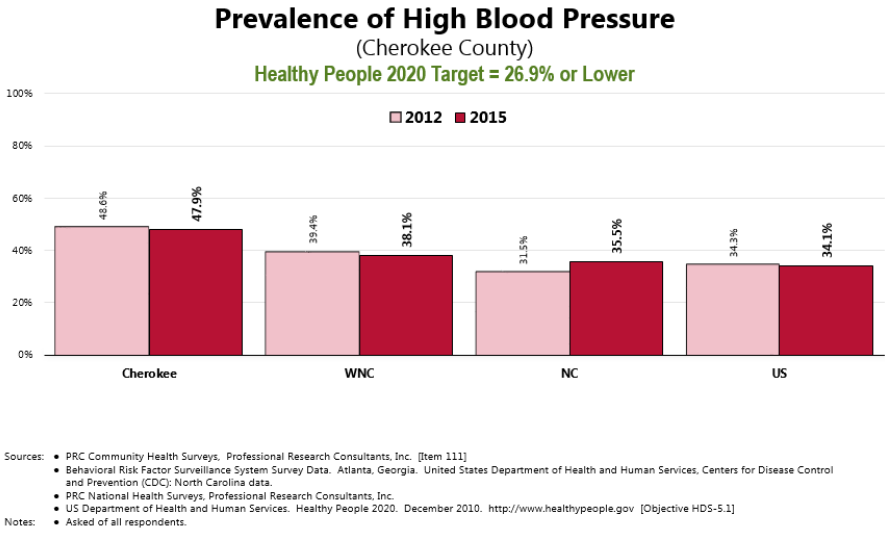
Data Highlights

Health Indicators

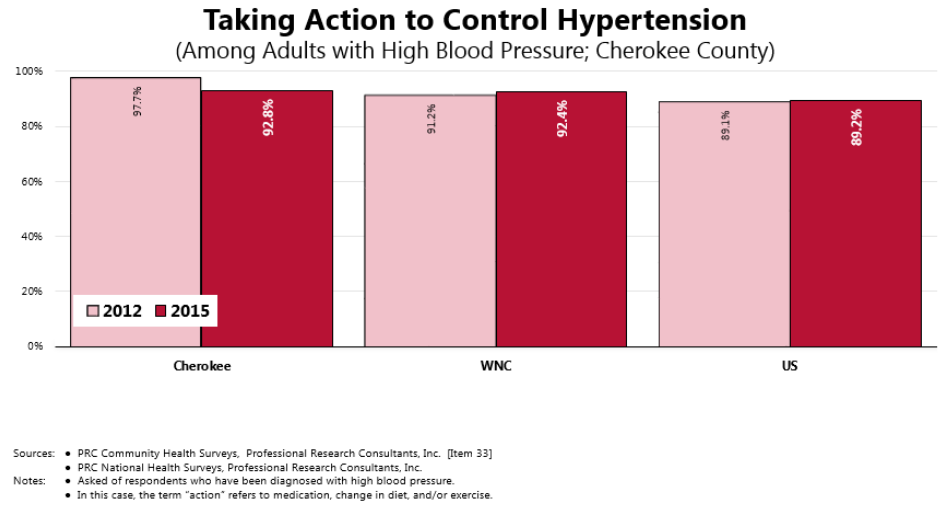




Source: http://www.schs.state.nc.us/data/vital.cfm

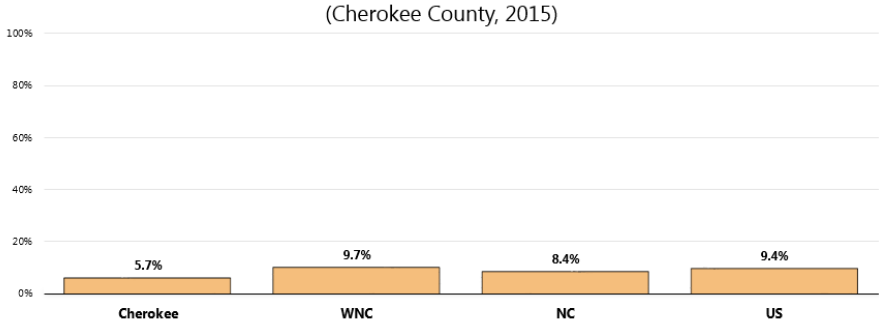


While the PRC survey showed the prevalence of High Blood Pressure had lowered slightly from 48.6&% in 2012 to 47.9% in 2015. Of those respondents who answered yes to having high blood pressure only 92.8% reported taking action to control it, this is down from 97.7% in 2012.



Current Prevalence of Asthma

(Cherokee County, 2015)

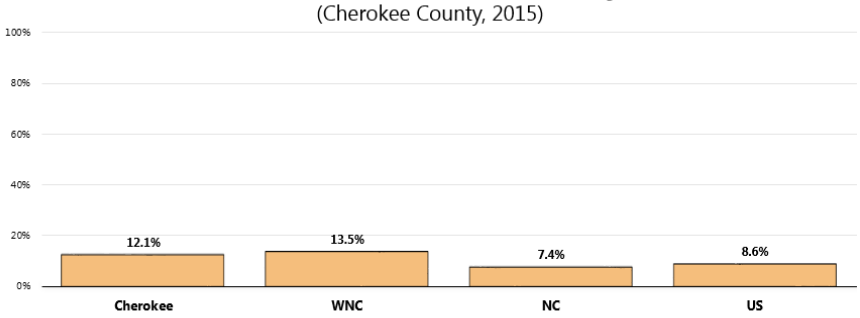


Sources:
- 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 120]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2013 North Carolina data.
- 2013 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Includes those who have ever been diagnosed with asthma and who report that they still have asthma.

Prevalence of Chronic Obstructive Pulmonary Disease (COPD)

(Cherokee County, 2015)



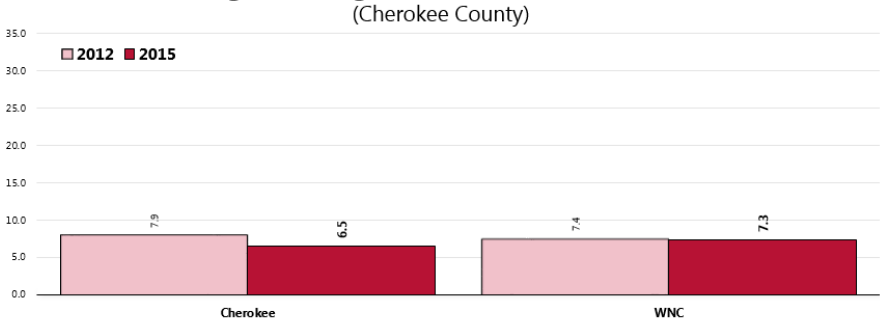
Sources:
- 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 23]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2013 North Carolina data.
- 2013 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.
- Includes those have ever suffered from or been diagnosed with COPD or chronic obstructive pulmonary disease, including bronchitis or emphysema.

PRC survey showed the average number of servings of fruits in the past week was 6.5 as compared to 7.9 in 2012.

Average Servings of Fruits in the Past Week

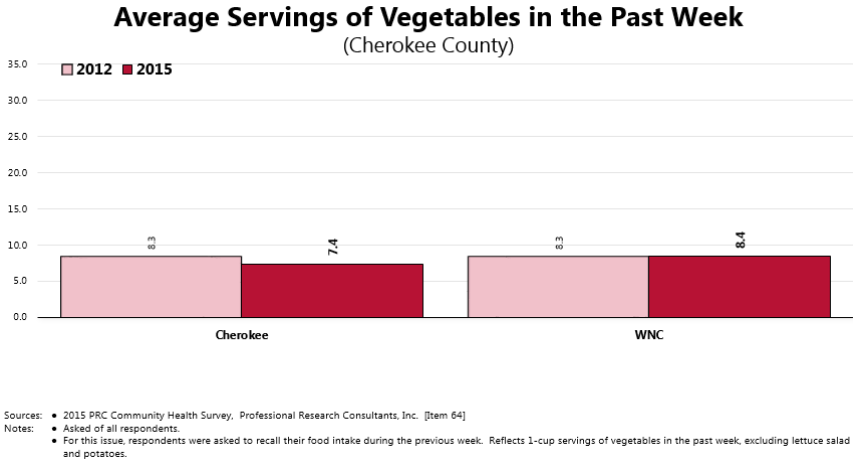
(Cherokee County)



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 63]

Notes:
- Asked of all respondents.
- For this issue, respondents were asked to recall their food intake during the previous week. Reflects 1-cup servings of fruits in the past week.

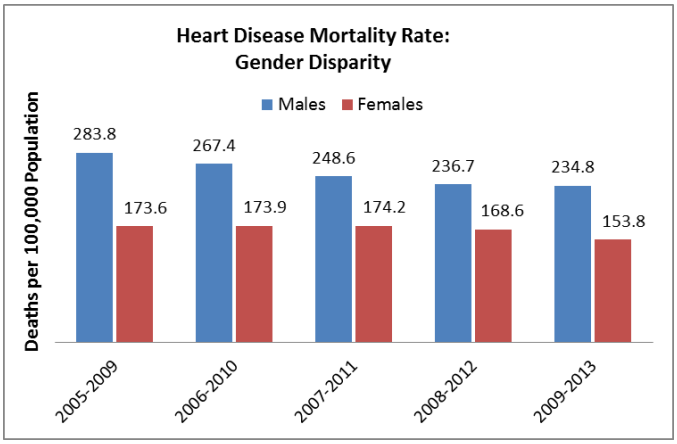
Similar to the fruit intake results the average servings of vegetables was far below the recommended level for optimal health.

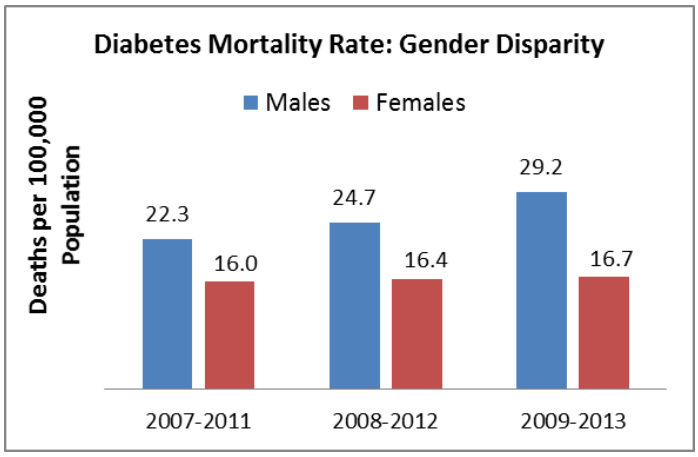


Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 64]
Notes: • Asked of all respondents.
• For this issue, respondents were asked to recall their food intake during the previous week. Reflects 1-cup servings of vegetables in the past week, excluding lettuce salad and potatoes.

Specific Populations At-Risk

When looking at the primary data for chronic diseases mortality rates there is a clear gender disparity in Cherokee County for heart disease and diabetes as well.





Health Resources available/needed

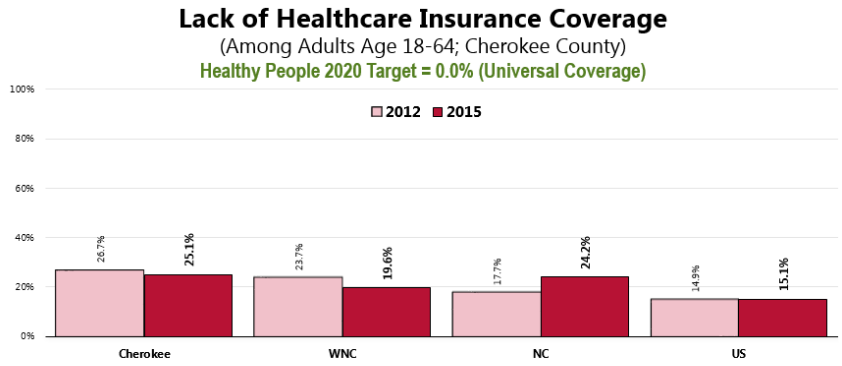
Chronic Disease causes a very heavy burden on our citizens in Cherokee County, WNC, and our state. Health resources targeted at helping people achieve a healthy life are abundant here however, they are seldom utilized to their full potential. Cherokee County Health Department has a Diabetes Self-Management Class that is open to all community members as well as referrals from area physicians. North Carolina Quitline resources are also promoted and used in clinics on a daily basis as well as in the community. Nursing staff in the health department are also screening all patients for the 5A's to encourage smoking cessation. Other strategies include decreasing tobacco use through tobacco policy as well to promote tobacco free places throughout the county and ensuring healthy environments for people of all ages.

PRIORITY ISSUE #3-ACCESS TO HEALTHCARE

Access and Quality of Health Care was one of the top priorities as identified by our CHA Team. In 2012 only 50% of survey respondents said they felt "Considering cost, quality, number of options and availability, there is good health care in my county." Since 2012 not much has changed in regards to availability of care in Cherokee County. There is a shortage of providers in the county in the specialties of obstetrics/gynecology, pediatrics, occupational therapy assistants, and psychological assistants.

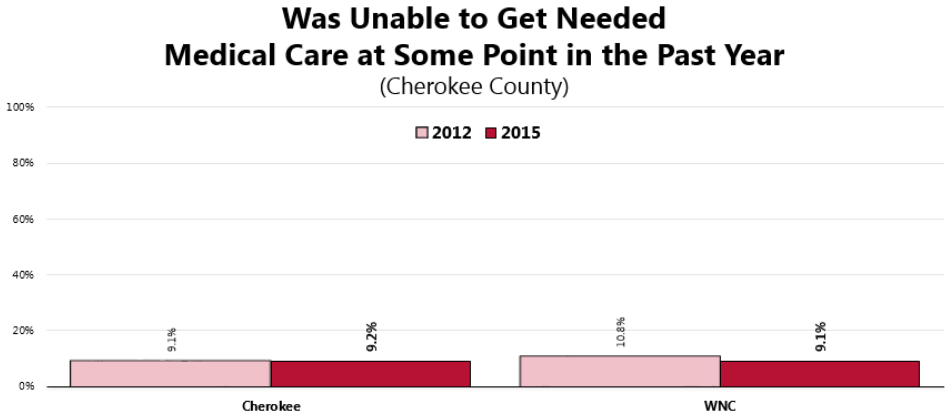
Data Highlights

Health Indicators



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 165]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): North Carolina data.
- PRC National Health Surveys, 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.).



Sources:
- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 8]

Notes:
- Asked of all respondents.

Number of Active Health Professionals per 10,000 Population Ratios (2009 through 2012)

County	2012				
	Physicians	Primary Care Physicians*	Dentists	Registered Nurses	Pharmacists
Cherokee	14.43	5.92	2.96	86.57	8.51
WNC (Regional) Arithmetic Mean	14.29	6.84	3.61	76.94	7.97
State Total	22.31	7.58	4.51	99.56	10.06

Specific Populations At-Risk

Uninsured and underinsured individuals are more at risk for not being able to access healthcare services when they are needed.

Health Resources available/needed

There is a shortage of providers in the county in the specialties of obstetrics/gynecology, pediatrics, occupational therapy assistants, and psychological assistants. Cherokee County Health Department is going to be continuing to market existing services for clinics offered on a sliding fee scale. In the coming three years there will continue to be cross county partnership to share what resources we have. Cherokee County Health Department will be volunteering and referring clients to the Department of Defense Medical Mission that will be taking place in Clay County in the near future. We will also continue to partner in outreach with our community hospital Murphy Medical Center for community health fairs and promotion events.

CHAPTER 9 - NEXT STEPS

Sharing Findings

Going forward sharing the findings of the CHA will happen in three major ways. First, hard copies of the 2015 Community Health Assessment will be available in the Nantahala Regional Public Library and the Cherokee County Chamber of Commerce after state approval. Second, there will also be a digital copy on the Health Departments page of the Cherokee County Website. The third will be that a CHA overview will be given to local county commissioners at a regular meeting in order to share the findings of this new assessment with them as well as the public.

Collaborative Action Planning

Collaborative action planning with hospitals and other community partners will result in the creation of a community-wide plan that outlines what will be aligned, supported and/or implemented to address the priority health issues identified through this assessment process.

WORKS CITED

CDC. (2015, August 19). *CDC Community Health Improvement Navigator*. Retrieved October 7, 2015, from www.cdc.gov/chinav

National Cancer Institute, National Institutes of Health. (n.d.). *Cancer*. Retrieved July 10, 2012, from NCI Dictionary of Cancer Terms website: http://www.cancer.gov/dictionary?CdrID=45333

APPENDICES

Appendix A – Data Collection Methods & Limitations

Appendix B – Secondary Data Profile

- 2ndary Data Summary

Appendix C – Survey Findings

- WNC Healthy Impact Survey Instrument
- Community Health Survey Results
-

Appendix D- Community Health Resource List

APPENDIX A - DATA COLLECTION METHODS & LIMITATIONS

Secondary Data from Regional Core

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 data past a certain date; in most cases that end-point was August 2015.

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; and NC DETECT. 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. The WNC regional comparison is used as "peer" for the purposes of this assessment. 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. 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 rates 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.

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, *2015 WNC Healthy Impact Survey* (a.k.a. 2015 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.

Professional Research Consultants, Inc.

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

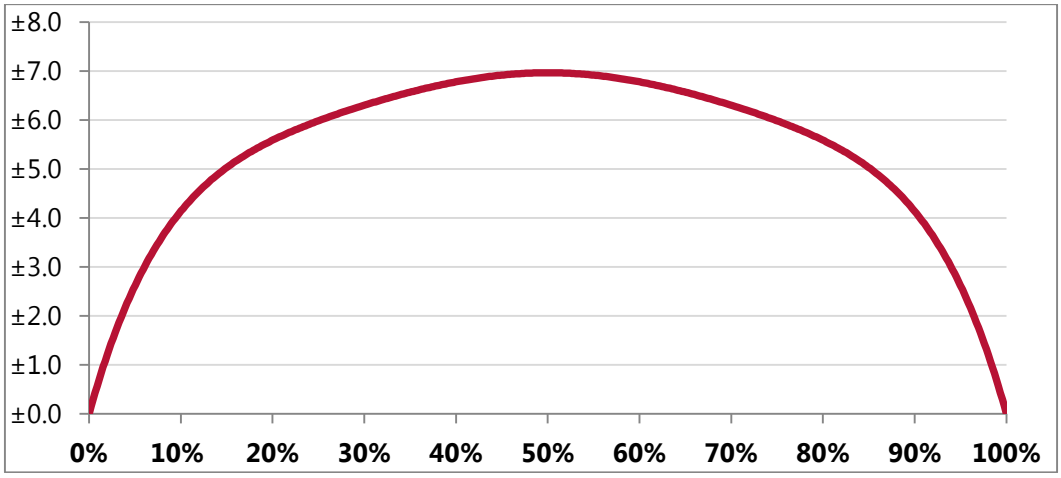
To ensure the best representation of the population surveyed, a telephone interview methodology (one that incorporates both landline and cell phone interviews) was employed. The primary advantages of telephone interviewing are timeliness, efficiency and random-selection capabilities.

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, with 200 from our county. 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 at the 95% confidence level is ±6.9%).

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



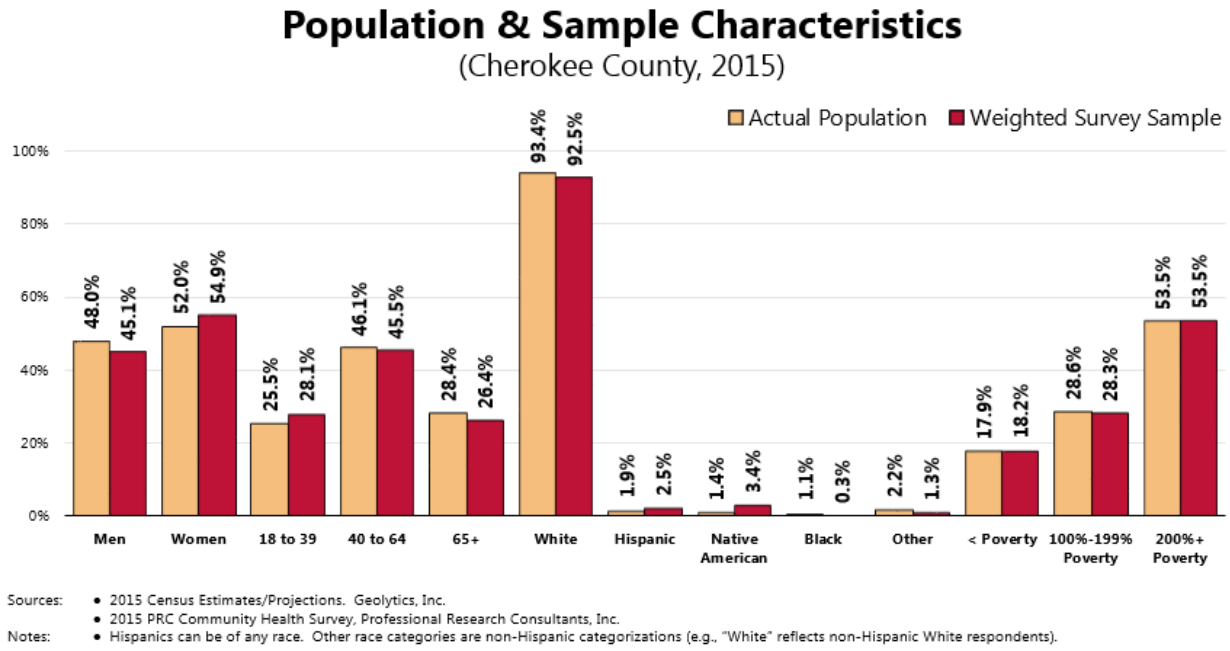
Note:
- The "response rate" (the percentage of a population giving a particular response) determines the error rate associated with that response. A "95 percent level of confidence" indicates that responses would fall within the expected error range on 95 out of 100 trials.

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 apply post-stratification weights to the raw data to improve this representativeness even further. 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.



Sources:
- 2015 Census Estimates/Projections. Geolytics, Inc.
- 2015 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 2015 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 *2013 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

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.

Interviewing Protocols and Quality Assurance

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.

Before going into the field in the latter half of February, 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 employs the latest CATI (computer-aided telephone interviewing) system technology in its interviewing facilities. The CATI system automatically generates the daily sample for data collection, retaining each telephone number until the Rules of Replacement are met. 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.

Interviewing for this study took place primarily during evening and weekend hours (Eastern Time: Monday-Friday 5pm-9pm; Saturday 10am-4pm; Sunday 2pm-9pm). Some daytime weekday attempts were also made to accommodate those for whom these times might be more convenient. Up to five call attempts were 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.

Cell Phones

Cell phone numbers were integrated into the sampling frame developed for the interviewing system for this project. Special protocols were followed if a cell phone number was drawn for the sample to ensure that the respondent lives in the area targeted and that (s)he is in a safe place to talk (e.g., not while driving). Using this dual-mode approach yielded a sample comprised of 6% cell phone numbers and 94% landline numbers. While this proportion is lower than actual cell phone penetration, it is sufficient in supplementing demographic segments that might otherwise be undersampled in a landline-only model, without greatly increasing the cost of administration.

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 (see above for more detailed description).

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 – SECONDARY DATA PROFILE

Supplementary to this Community Health Assessment is the WNC Healthy Impact Secondary Data Workbook (Data Workbook) that contains complete county-level data from a wide range of sources, as well as the state and regional averages and totals described here. Readers can consult the Data Workbook if looking for the direct source information and links to this secondary data for all counties in the region.

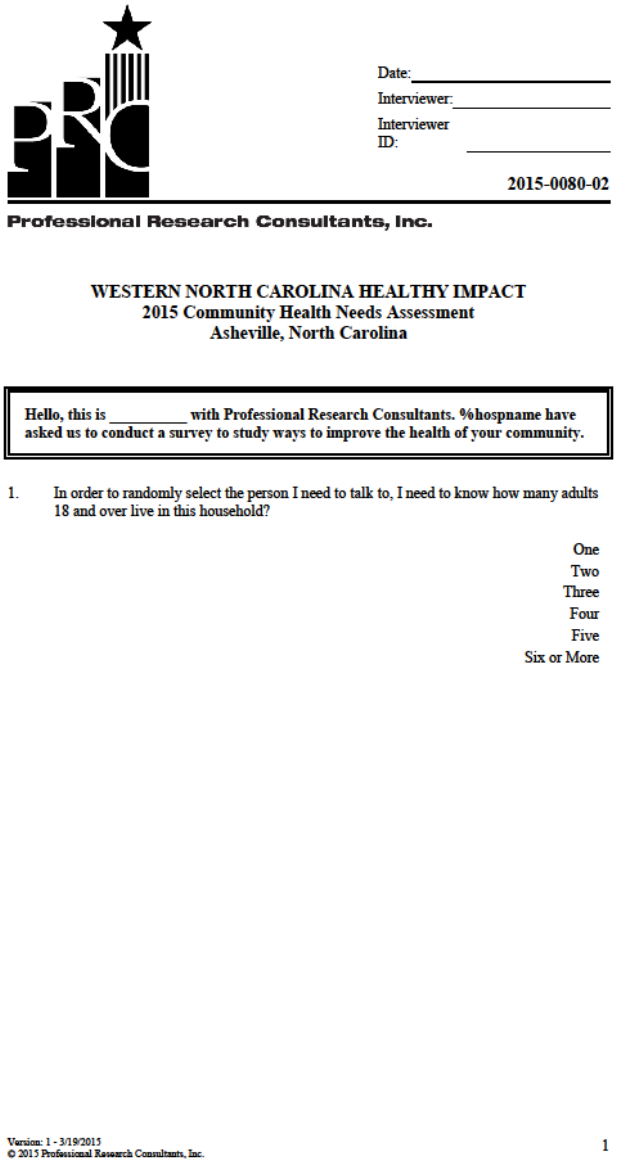
This data workbook was created by WNC Healthy Impact to manage and report the large amount of secondary data collected from a variety of sources during our regional process. This process and product were part of our regional effort to improve efficiency and standardization of data collection and reporting across a sixteen county region.

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).

APPENDIX C – SURVEY FINDINGS

WNC Healthy Impact 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.



Date: _____

Interviewer: _____

Interviewer ID: _____

2015-0080-02

Professional Research Consultants, Inc.

WESTERN NORTH CAROLINA HEALTHY IMPACT
2015 Community Health Needs Assessment
Asheville, North Carolina

Hello, this is _____ with Professional Research Consultants. %hospname have asked us to conduct a survey to study ways to improve the health of your community.

1. In order to randomly select the person I need to talk to, I need to know how many adults 18 and over live in this household?

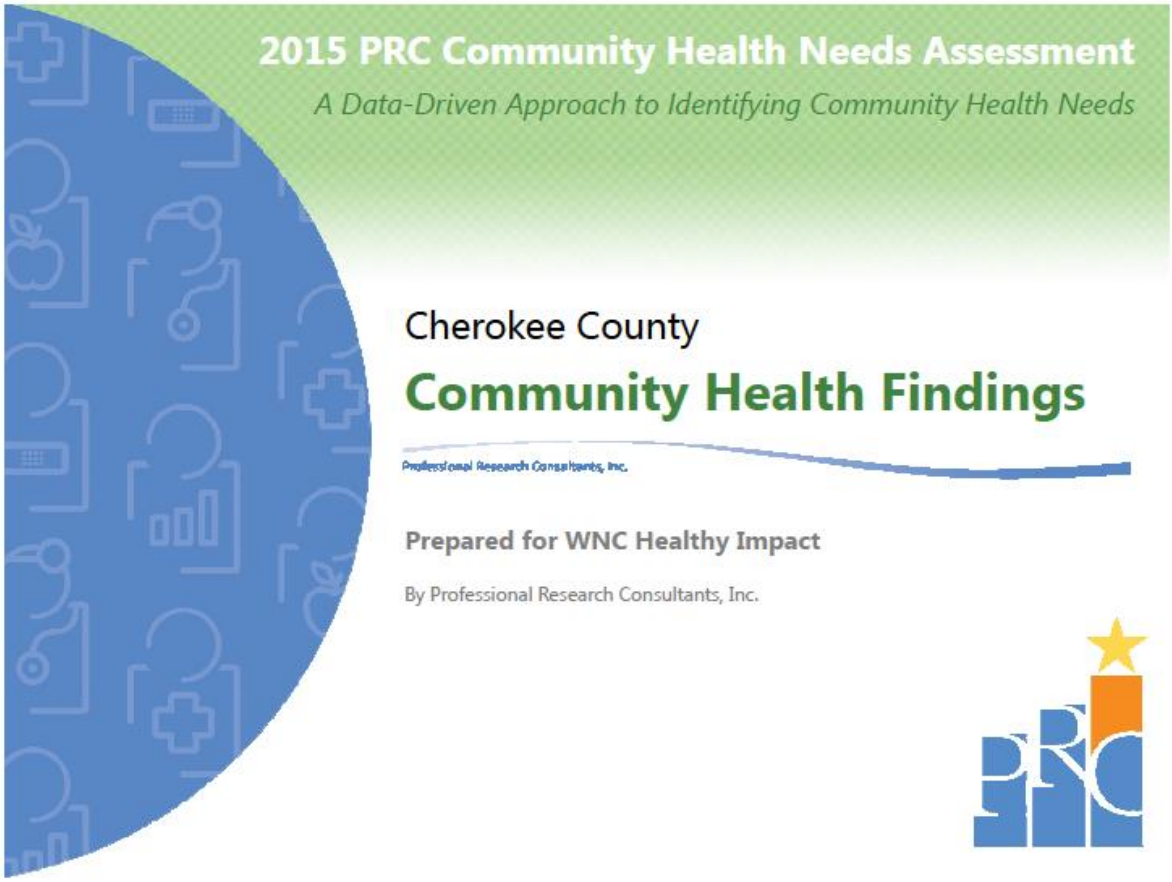
One
Two
Three
Four
Five
Six or More

Version: 1 - 3/19/2015
© 2015 Professional Research Consultants, Inc.

1

Survey Findings

Double-click on the slide below to access the complete survey results. If you cannot access this, please contact your local health department for a copy.



APPENDIX D- COMMUNITY HEALTH RESOURCE LIST

Cherokee County Health & Wellness Resource List

Physicians				
Type of Service	Name of Provider	Provider Facility	Address	Phone
Allergies	Dr. Malony Dr. Yarbrough Donnell Ducote, FNP	Allergy & Asthma Clinic of Northeast GA	520 Jesse Jewell Parkway Gainsville, GA 30501	770-534-0534
	Dr. Atwater Dr. Brown Dr. McCann Dr. Copenhaver Dr. Cross Dr. Cypcar Dr. Elliston Dr. Jenkins Dr. Russell Dr. Schwietz Dr. Van Wye Lucinda Molnar, PA-C Vickie B. Moore FNP	Allergy Partners of Western North Carolina	55 Medical Park Drive Suite 300 Franklin, NC 28734 8 Physicians Drive Clyde, NC 28721	828-349-8296 828-452-4474
	Dr. Richard Weisenburger	Peachtree ENT and Facial Plastics	145 Medical Park Ln Suite J Murphy, NC 28906	828-837-3223
	Dr. Leon Elliston Dr. John Van Wye	Regional Allergy	8 Physicians Drive Clyde, NC 28721	828-452-1600 1-800-649-3382
Dermatology	Dr. Michael Masters Dr. Rufus Thomas Dr. Gina Singleton	Blue Ridge Dermatology	540 Hospital Drive Clyde, NC 28721	828-456-7343
Ear, Nose and Throat	Dr. Benjamin Douglas Dr. John Buenting	Mountain Ear, Nose & Throat	166 Holly Springs Park Drive Franklin, NC 28734	828-524-5599 Franklin 828-586-7474 Sylva
	Dr. Richard Weisenburger	Peachtree ENT & Facial Plastics	145 Medical Park Ln Suite J Murphy, NC 28906	828-837-3223
Family Practice	John Tucker, PA	Andrews Internal Medicine	2751 Business Hwy 19 Andrews, NC 28901	828-321-4510
	Dr. Charles Watras	Charles Watras Family Medicine	3905 Hwy 64 E Suite 7 Murphy, NC 28906	828-835-8733

APPENDIX E- 2014 SOTCH

Cherokee County 2014 *State of the County Health Report*

TO ASSESS, ADDRESS AND ASSURE THE HEALTH AND ENVIRONMENTAL NEEDS OF CHEROKEE COUNTY.

Contents:

The Cherokee County Health Department is pleased to present the 2014 State of the County Health Report (SOTCH), with the focus on Cherokee County's top health issues. Cherokee County completed their most recent Community Health Assessment (CHA) in 2012. Physical Activity and Nutrition was determined to be the first priority because they work together for better health. In Cherokee County obesity and disease rates are on the rise with inadequate nutrition and physical activity practices being two of the most common contributing factors. Tobacco use was the second priority and Chronic Disease was chosen to be the third. This SOTCH report will give and update on how we are working to address these issues, and will also serve to educate Cherokee County residents about the health issues in their community. There have been no new emerging issues affecting the communities health since the 2012 CHA was completed in December 2012.

Top Health Concerns Based on Primary and Secondary Data

- PHYSICAL ACTIVITY & NUTRITION
- TOBACCO USE
- CHRONIC DISEASE

**Unless otherwise, all data is from the State Center for Health Statistics*