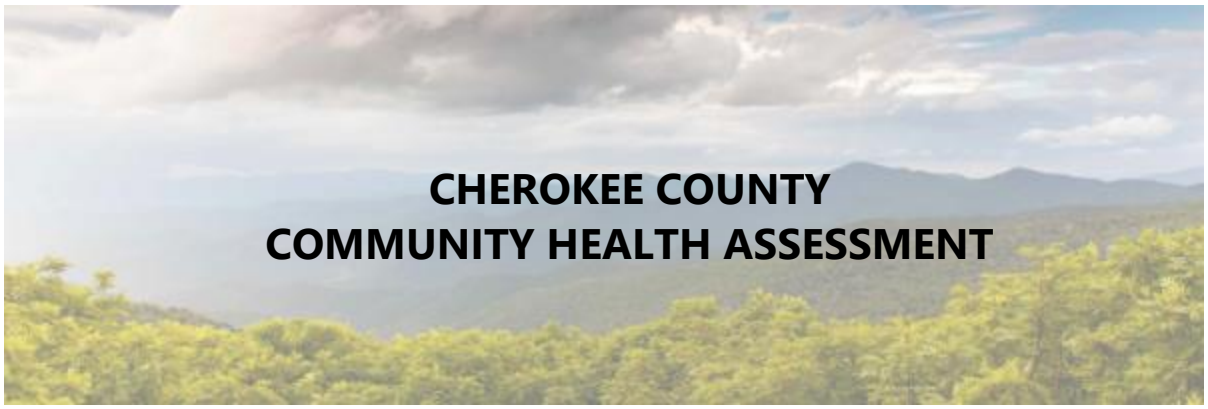
2018

Cherokee County Community Health Assessment

Cherokee County Health Department

NORTH CAROLINA Accredited Health Department 2018-2022 Local Health Department Accreditation Board



ACKNOWLEDGEMENTS

This document was developed by Cherokee County Health Department in partnership with Erlanger Western Carolina Hospital 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**	**Duration of Participant**
Sara Wilson	Cherokee County Health Department	Head of CHA Advisory Committee	2015-2018
David Badger	Cherokee County Health Department	Health Director	2016-2018
Candace Baldwin	Cherokee County Health Department	CCHD Director of Nursing	2016-2018
Deena Collins	Erlanger Western Carolina Hospital	Community Partner	2015-2018
Jenni Irwin	Coalition for a Safe and Drug Free Cherokee County	Community Partner	2015-2018
Martin McKay	Erlanger Western Carolina Hospital	Hospital Partner	2018
Harlie Waldon	Erlanger Western Carolina Hospital	Hospital Partner	2018

Our community health assessment process and products were supported collaboratively by **WNC Healthy Impact**, a partnership between hospitals and health departments to improve community health in western North Carolina. This innovative regional effort is coordinated, housed and financially supported by **WNC Health Network**, the alliance of western NC hospitals working together to improve health and healthcare. Learn more at www.WNCHN.org.

TABLE OF CONTENTS

CHEROKEE COUNTY 2018 COMMUNITY HEALTH ASSESSMENT EXECUTIVE SUMMARY

Community Results Statement

The vision of the Cherokee County Health Department to promote, nurture, and protect the health of our community. This vision along with the combined efforts of our local hospital partner Erlanger Western Carolina Hospital and other community partners will help create a healthy and safe Cherokee County.

Leadership for the Community Health Assessment Process

The leadership for this cycle of the Community Health Assessment was traditional in that this document is the main responsibility of the Health Department with input from the local partners, local hospital, and community representatives.

Partnerships

Since our previous community health assessment our local hospital was purchased by Erlanger Health System based out of Chattanooga, Tennessee. This transition took place over the course of about a year in 2017-2018 and has resulted in new partnerships with this organization.

Partnerships	Number of Partners
Public Health Agency	**1**
Hospital	**1**
Healthcare Providers	**4**
Behavioral Health Providers	**3**
EMS Providers	**2**
Pharmacies	**2**
Community/ Religious Organizations	**5**
Businesses	**3**
Public School Systems	**1**
Media/ Communication Outlets	**3**
Public Members	**5**

Regional/Contracted Services

Our county received support from **WNC Healthy Impact**, a partnership and coordinated process between hospitals, public health agencies, and key regional partners in western North Carolina working towards a vision of improved community health. We work together locally and regionally to assess health needs, develop collaborative plans, take action, and evaluate progress and impact. This innovative regional effort is coordinated and supported by **WNC Health Network**. WNC Health Network is the alliance of hospitals working together to improve health and healthcare in western North Carolina. Learn more at www.WNCHN.org.

Theoretical Framework/Model

WNC Health Network provides local hospitals and public health agencies with tools and support to collect, visualize, and respond to complex community health data through Results-Based Accountability™ (RBA). RBA is a disciplined, common-sense approach to thinking and acting with a focus on how people, agencies, and communities are better off for our efforts.

Through WNC Healthy Impact, all hospitals and their public health partners can access tailored Results-Based Accountability training and coaching; scorecard licenses and development (including the electronic Hospital Implementation Strategy); and scorecard training and technical assistance.

Collaborative Process Summary

Cherokee County collaborative process is supported by WNC Healthy Impact, which works at the regional level.

Locally, our process is to share our Community Health Assessment Primary and Secondary Data with our CHA team and board of health to identify and prioritize our priorities for the CHA.

Phase 1 of the collaborative process began in January, 2018 with the collection of community health data. For more details on this process see Chapter 1 – Community Health Assessment Process.

Key Findings

Since the last Community Health Assessment in 2012 there have not been any major data shifts. Issues such as cancer, diabetes, heart disease, and COPD continue to cause a major burden on our health status. Lifestyle behaviors and health status such as inactivity, obesity, and lack of proper nutrition are continuing to be an issue facing our community.

Health Priorities

Cancer Control and Prevention
Chronic Disease Control and Prevention
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 Erlanger Western Carolina Hospital and our partners on collaborative planning to create a Community Health Improvement Plan (CHIP). This phase of the process will begin in the Spring of 2018.

CHAPTER 1 – COMMUNITY HEALTH ASSESSMENT PROCESS

Purpose

Community health assessment (CHA) is an important part of improving and promoting the health of county residents. A community health assessment (CHA) – which is a process that results in a public report – 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.

What are the key phases of the Community Health Improvement Process?

In the **first phase** of the cycle, process leaders for the CHA collect and analyze community data – deciding what data they need and making sense of it. They then decide what is most important to act on by clarifying the desired conditions of wellbeing for their population and by then determining local health priorities.

The **second phase** of the cycle is community health strategic planning. In this phase, process leaders work with partners to understand the root causes of the identified health priorities, both what's helping and what's hurting the issues. Together, they make a plan about what works to do better, form workgroups around each strategic area, clarify customers, and determine how they will know people are better-off because of their efforts.

In the **third phase** of the cycle, process leaders for the CHA take action and evaluate health improvement efforts. They do this by planning how to achieve customer results and putting the plan into action. Workgroups continue to meet, and monitor customer results and make changes to the plan as needed. This phase is vital to helping work groups understand the contribution their efforts are making toward their desired community 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 Erlanger Western Carolina Hospital community for the purposes of community health improvement, and as such they were key partner in this local level assessment.

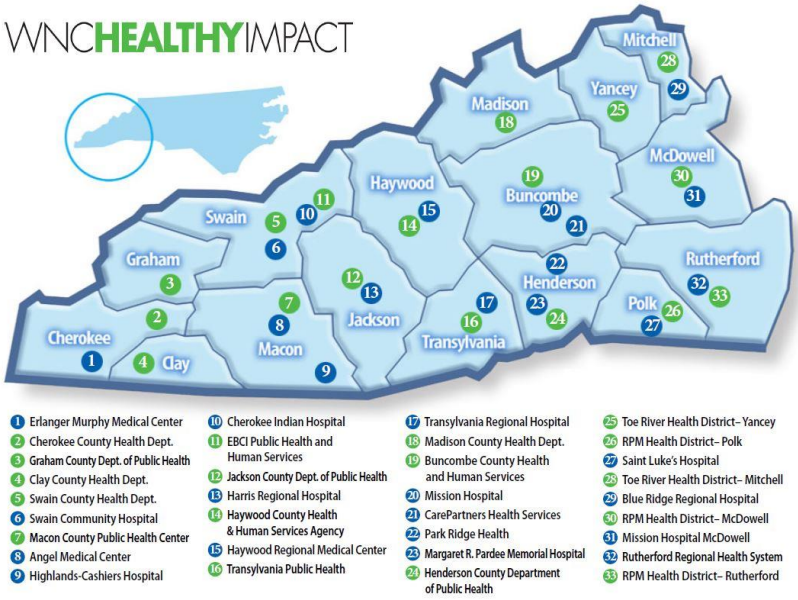
WNC Healthy Impact

WNC Healthy Impact is a partnership and coordinated process between hospitals, public health agencies, and key regional partners in western North Carolina working towards a vision of improved community health. We work together locally and regionally to assess health needs, develop collaborative plans, take action, and evaluate progress and impact.

This regional initiative is designed to support and enhance local efforts by:

- Standardizing and conducting data collection,
- Creating communication and report templates and tools,
- Encouraging collaboration,
- Providing training and technical assistance,
- Addressing regional priorities, and
- Sharing evidence-based and promising practices.

This innovative regional effort is supported by financial and in-kind contributions from hospitals, public health agencies, and partners, and is coordinated by **WNC Health Network**. WNC Health Network, Inc. is an alliance of hospitals working together, and with partners, to improve health and healthcare. Learn more at www.WNCHN.org.



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 we share a general overview of health and influencing factors, then focus more on priority health issues identified through a 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 publicly available secondary data metrics with our county compared to the sixteen county WNC region
- Set of maps accessed from Community Commons and NC Center for Health Statistics
- WNC Healthy Impact Community Health Survey (cell phone, landline and internet-based survey) of a random sample of adults in the county
- Online key informant survey

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

Health Resources Inventory

We conducted an inventory of available resources of our community by reviewing a subset of existing resources currently listed in the 2-1-1 database for our county as well as working with partners to include additional information. Where gaps were identified, we partnered with 2-1-1 to fill in or update this information when applicable. See **Chapter 7** for more details related to this process.

Community Input & Engagement

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

- Partnership on conducting the health assessment process
- Through primary data collection efforts (survey, key informant interviews, etc.)
- By reviewing and making sense of the data to better understand the story behind the numbers
- 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 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 ensure that 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, 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. For the purposes of the overall community health assessment, we aimed to understand differences in health outcomes, correlated variables, and access, particularly among medically underserved, low-income, and/or minority populations, and others experiencing health disparities.

The at-risk and vulnerable populations of focus for our process and product include:

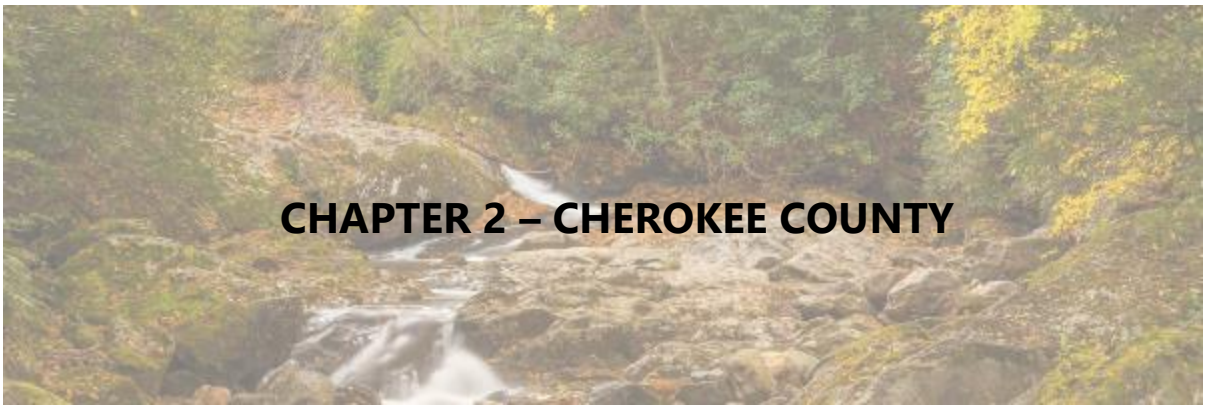
- Non-English speaking individuals
- Pregnant Women who Smoke
- IV Drug Users
- Elderly Adults
- Males with High Blood Pressure
- Underinsured and Uninsured

Though there are not universally accepted definitions of the three groups, here are some basic definitions from the Health Department Accreditation Self-Assessment Instrument (in some cases definitions have been slightly altered to better represent our region):

Underserved populations relate to those who do not access health care either because there is a lack of services or providers available or because of limitations such as income, literacy/language barriers or understanding on how to access services, cultural competency of clinicians, trust, transportation, etc.

At-risk populations are the members of a particular group who are likely to, or have the potential to, get a specified health condition. This could be from engaging in behavior (such as pregnant women who smoke) that could cause a specified health condition, having an indicator or precursor (high blood pressure) that could lead to a specified health condition or having a high ACE score (traumatic experiences), which is correlated with increased risk of specified health conditions.

A vulnerable population is one that may be more susceptible than the general population to risk factors that lead to poor health outcomes. Vulnerable populations, a type of at-risk population, can be classified by such factors as race/ethnicity, socio-economic status, cultural factors and age groups.



CHAPTER 2 – CHEROKEE COUNTY

Location, Geography, and History of Cherokee County

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 ACS estimates in 2016, the total population of Cherokee County is 27,226. 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. Estimates of Population and Distribution, by Gender (2016)

Geography	Total ACS Population Est. (2016)	# Males	% Males	# Females	% Females
Cherokee County	27,226	13,308	48.9	13,918	50.4
Regional Total	775,745	376,101	48.5	399,641	51.5
State Total	9,940,828	4,834,592	48.6	5,106,236	51.4

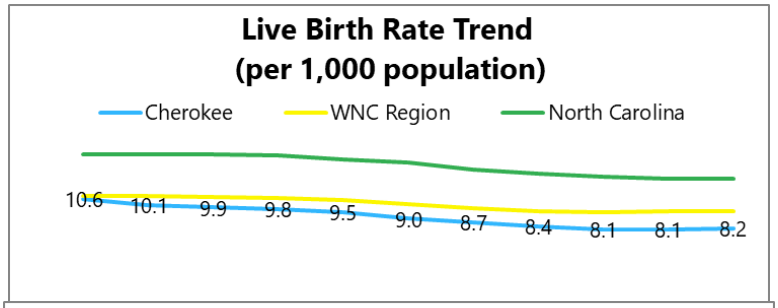
Table 2. Median Age and Population Distribution, by Age Group (2010)

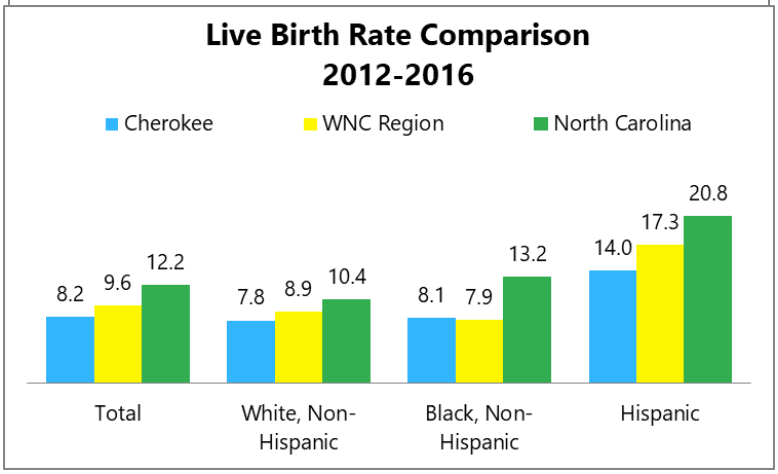
Geography	Median Age	# Under 5 Years Old	% Under 5 Years Old	# 5-19 Years Old	% 5-19 Years Old	# 20 - 64 Years Old	% 20 - 64 Years Old	# 65 Years and Older	% 65 Years and Older
Cherokee County	48.1	1,377	5.0	4,465	16.3	15,318	55.8	6,284	22.9
Regional Total	44.7	40,927	5.4	132,291	17.4	441,901	58.2	144,608	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

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

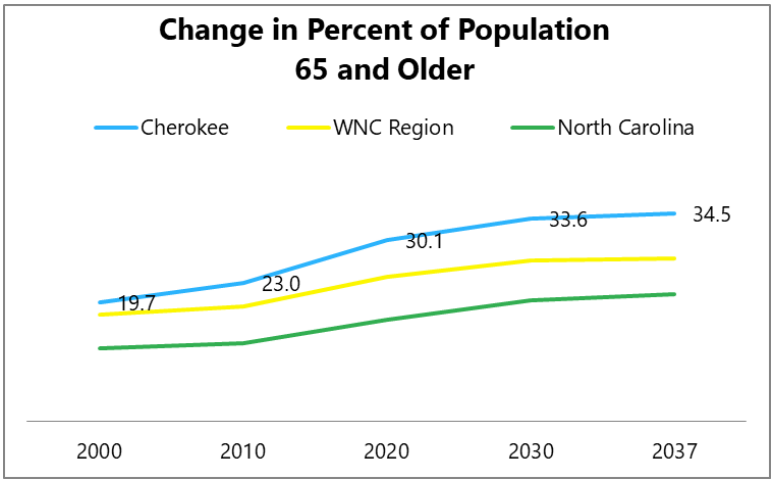
Geography	White	Black or African American	American Indian, Alaskan Native	Asian	Native Hawaiian, Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino (of any race)
Cherokee County	93.6	1.3	1.3	0.5	0.0	0.8	2.5	2.5
Regional Total	89.3	4.2	1.5	0.7	0.1	2.5	1.8	5.4
State Total	68.5	21.5	1.3	2.2	0.1	4.3	2.2	8.4

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.

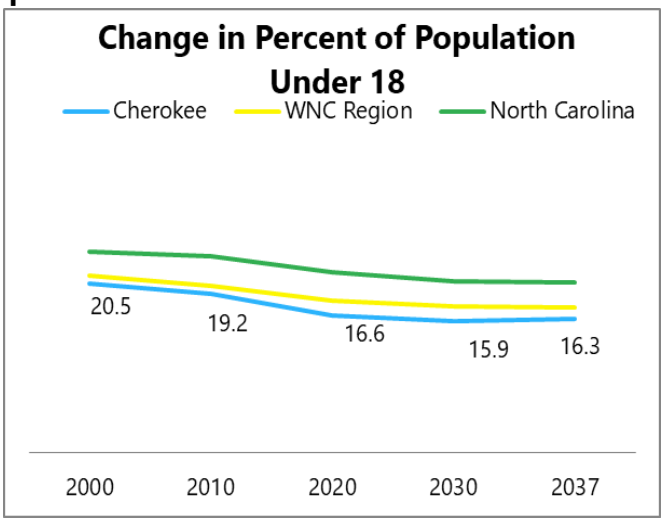




Trend: Growth in Elderly (Age 65 and Older) Population, by Decade, 2000 through 2037
Elderly Population as Numbers and as Percent of Total Population



Trend: Growth in Youth (Under 20) Population, 2000 through 2037
Youth Population as Numbers and as Percent of Total Population



CHAPTER 3 – A HEALTHY CHEROKEE COUNTY

Elements of a Healthy Community

In the online survey, key informants were asked to list characteristics of a healthy community. They were also asked to select the health issues or behaviors that they feel are the most critical to address collaboratively in their own community over the next three years or more. Follow-up questions asked them to describe which contributors to progress and impediments of progress exist for these issues, as well as the likelihood that collaborative effort could make a positive change for these issues.

When key informants were asked to describe what elements they felt contributed to a health community in our county, they reported:

- Awareness/ Education
- Employment
- Safe Environment
- Access to Care/ Services

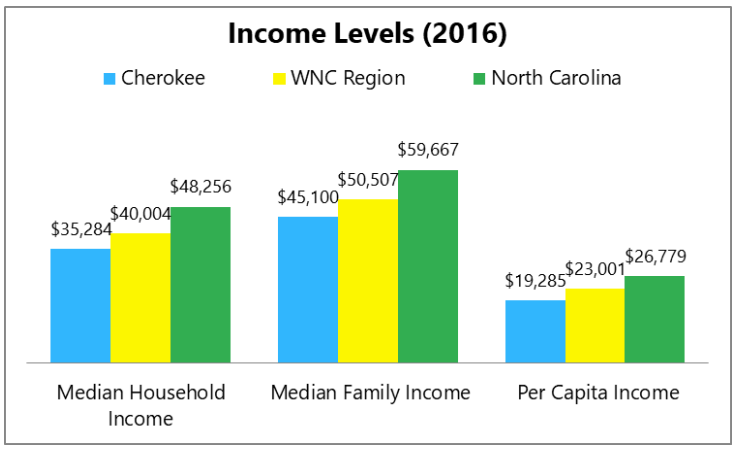
During our collaborative planning efforts and next steps, we will further explore these concepts and the results our community has in mind.

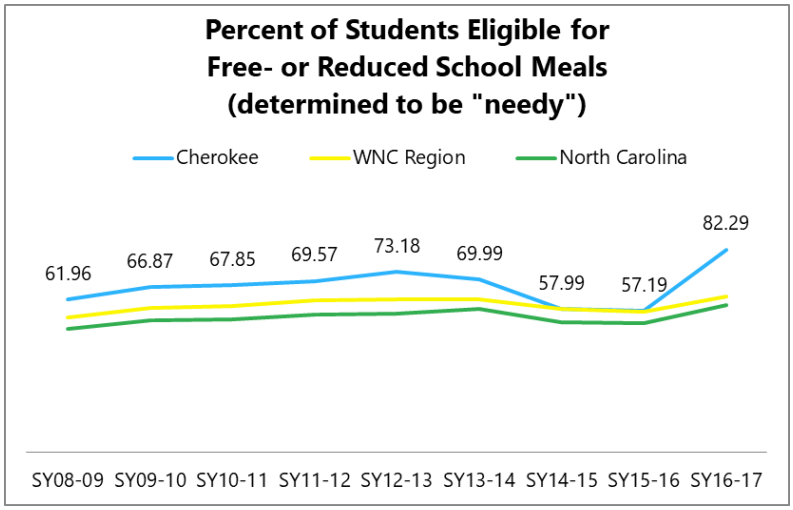
CHAPTER 4 – SOCIAL & ECONOMIC FACTORS

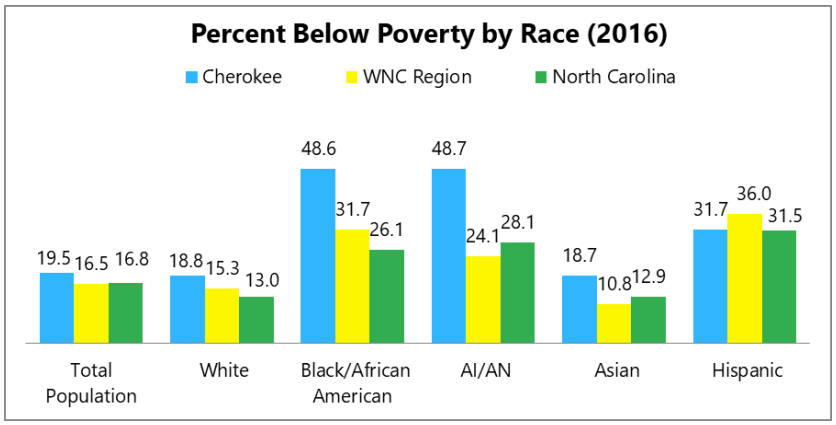
As described by Healthy People 2020, economic stability, education, health and healthcare, neighborhood and built environment, and social community and context are five important domains of social determinants of health. These factors are strongly correlated with individual health. People with higher incomes, more years of education, and a healthy and safe environment to live in have better health outcomes and generally have longer life expectancies. Although these factors affect health independently, they also have interactive effects on each other and thus on health. For example, people in poverty are more likely to engage in risky health behaviors, and they are also less likely to have affordable housing. In turn, families with difficulties in paying rent and utilities are more likely to report barriers to accessing health care, higher use of the emergency department, and more hospitalizations.

Income & Poverty

"Income provides economic resources that shape choices about housing, education, child care, food, medical care, and more. Wealth, the accumulation of savings and assets, helps cushion and protect us in times of economic distress. As income and wealth increase or decrease, so does health" (County Health Rankings, 2018).




Percent of Students Eligible for Free- or Reduced School Meals (determined to be "needy")
Cherokee
WNC Region
North Carolina
61.96
66.87
67.85
69.57
73.18
69.99
57.99
57.19
82.29
SY08-09
SY09-10
SY10-11
SY11-12
SY12-13
SY13-14
SY14-15
SY15-16
SY16-17

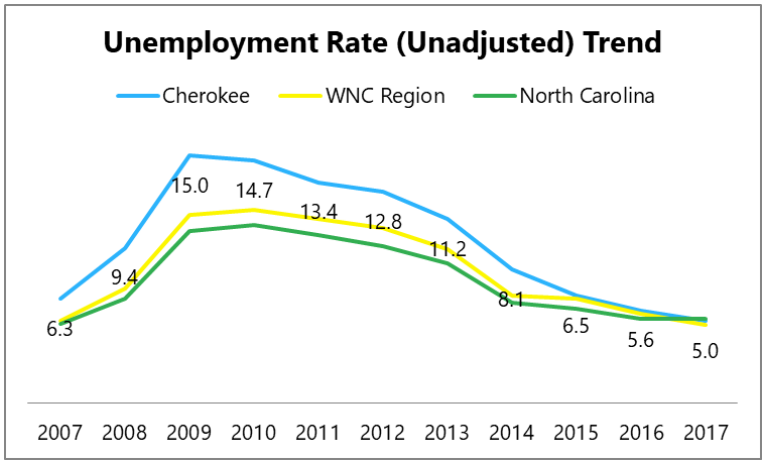

Percent Below Poverty by Race (2016)
Cherokee
WNC Region
North Carolina
19.5
16.5
16.8
18.8
15.3
13.0
48.6
31.7
26.1
48.7
24.1
28.1
18.7
10.8
12.9
31.7
36.0
31.5
Total Population
White
Black/African American
AI/AN
Asian
Hispanic

Employment

"Employment provides income and, often, benefits that can support healthy lifestyle choices. Unemployment and under employment limit these choices, and negatively affect both quality of life and health overall. The economic condition of a community and an individual's level of educational attainment both play important roles in shaping employment opportunities" (County Health Rankings, 2018).

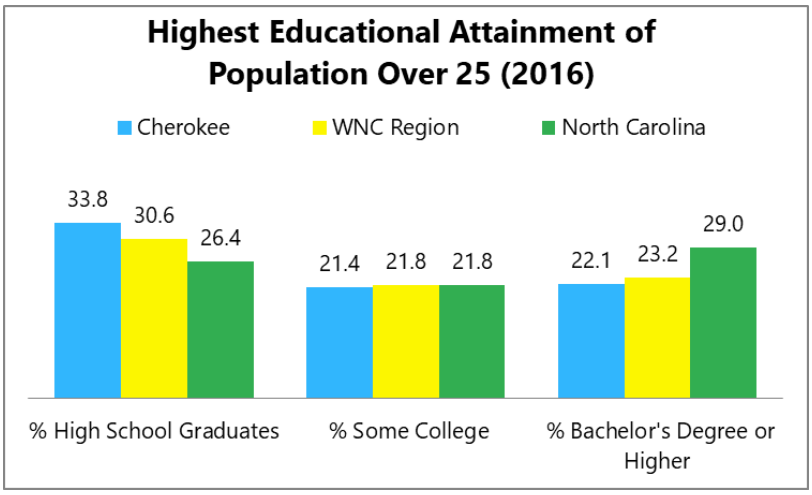
Employment and Wages by Sector: Regional Comparison, 2017

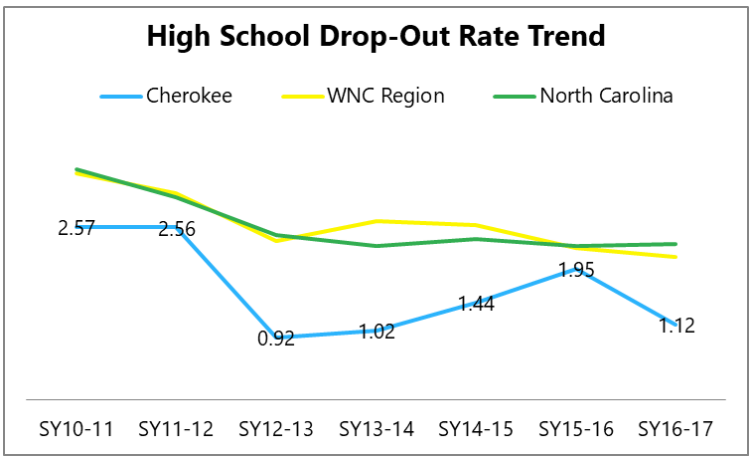
Sector	Cherokee County			Western Region		
	Annual Employmet (# workers)	Percent Employment by Sector***	Average Weekly Wage ($)	Annual Employmet (# workers)	Percent Employment by Sector***	Average Weekly Wage ($)
Accommodation & Food Services	972	12.24	$315.74	36,225	12.70	$330.57
Administrative & Waste Services	185	2.33	$434.77	12,789	4.49	$547.78
Agriculture, Forestry, Fishing & Hunting	54	0.68	$661.59	1,646	0.58	$978.19
Arts, Entertainment & Recreation	18	0.23	$303.63	9,439	3.31	$512.26
Construction	419	5.28	$683.11	13,696	4.80	$771.39
Educational Services	857	10.80	$695.90	21,279	7.46	$700.49
Finance & Insurance	200	2.52	$1,041.50	5,891	2.07	$947.45
Health Care & Social Assistance	1,361	17.15	$765.03	51,316	18.00	$714.49
Information	91	1.15	$611.44	3,275	1.15	$741.55
Management of Companies & Enterprises	*	n/a	*	1,110	0.39	$1,291.58
Manufacturing	849	10.70	$740.32	33,536	11.76	$813.43
Mining	*	n/a	*	546	0.19	$1,009.77
Other Services, Ex. Public Admin	196	2.47	$401.00	9,161	3.21	$565.24
Professional, Scientific & Technical Services	455	5.73	$810.42	9,904	3.47	$832.34
Public Administration	661	8.33	$640.68	18,935	6.64	$717.30
Real Estate & Rental & Leasing	98	1.23	$536.94	2,914	1.02	$622.41
Retail Trade	1,341	16.89	$464.86	39,873	13.98	$470.99
Transportation & Warehousing	79	1.00	$749.53	6,304	2.21	$823.61
Utilities	*	n/a	*	860	0.30	$1,628.84
Wholesale Trade	102	1.28	$874.03	6,441	2.26	$903.46
TOTAL ACROSS ALL SECTORS	7,938	100.00	$631.21	285,140	100.00	$725.51



Education

"Better educated individual's live longer, healthier lives than those with less education, and their children are more likely to thrive. This is true even when factors like income are taken into account" (County Health Rankings, 2018).





Community Safety

"Injuries through accidents or violence are the third leading cause of death in the United States, and the leading cause for those between the ages of 1 and 44. Accidents and violence affect health and quality of life in the short and long-term, for those both directly and indirectly affected, and living in unsafe neighborhoods can impact health in a multitude of ways" (County Health Rankings, 2018).

Index Crime Offenses, Single Years 2015 & 2016

County	2015								2016							
	Murder	Rape	Robbery	Aggravated Assault	Burglary	Larceny	Motor Vehicle Theft	Total	Murder	Rape	Robbery	Aggravated Assault	Burglary	Larceny	Motor Vehicle Theft	Total
Cherokee	3	11	2	55	268	487	27	853	1	10	8	39	228	584	50	920

Sexual Assault, Single Years 2016-2017

County	Complaint Trend		Types of Sexual Assault							
	# Calls	# Clients	Rape	Date Rape	Adult Survivor of Child Sexual Assault	Marital Rape	Child Sexual Offense	Incest	Other	Type of Assault Total
Cherokee	3,775	22	6	2	2	6	0	0	6	22

Housing

"The housing options and transit systems that shape our communities' built environments affect where we live and how we get from place to place. The choices we make about housing and transportation, and the opportunities underlying these choices, also affect our health" (County Health Rankings, 2018).

Housing Cost as Percentage of Household Income (2012-2016)

Location	Household Income less than $20,000			Household Income $20,000 to $34,999			Household Income $35,000 to $49,999			Household Income $50,000 to $74,999			Household Income $75,000 or more		
	Housing Cost <20% of household income	Housing Cost 20% to 29% of household income	Housing Cost >30% of household income	Housing Cost <20% of household income	Housing Cost 20% to 29% of household income	Housing Cost >30% of household income	Housing Cost <20% of household income	Housing Cost 20% to 29% of household income	Housing Cost >30% of household income	Housing Cost <20% of household income	Housing Cost 20% to 29% of household income	Housing Cost >30% of household income	Housing Cost <20% of household income	Housing Cost 20% to 29% of household income	Housing Cost >30% of household income
Cherokee	3.1	4.2	13.2	10.1	4.3	9.0	8.9	4.2	2.4	14.2	2.9	1.4	13.8	1.1	0.4

Housing Cost Percentages of Household Income, among Owned Units 5-Yr Estimates, 2006-2010 & 2012-2016

County	2006-2010				2012-2016					
	Total Units	Units Spending >30% of Household Income on Housing		Median Monthly Owner Costs	Total Units	Units Spending >30% of Household Income on Housing		Units Spending >50% of Household Income on Housing		Median Monthly Owner Costs
		#	%	$		#	%	#	%	$
Cherokee	4,649	1,627	35.0	$967	8,649	1,411	16.3	567	6.6	$901

Family & Social Support

"People with greater social support, less isolation, and greater interpersonal trust live longer and healthier lives than those who are socially isolated. Neighborhoods richer in social capital provide residents with greater access to support and resources than those with less social capital" (County Health Rankings, 2018).

PRC Phone Survey Data- % "Always/ Usually" Get Needed Social/Emotional Support

	2012	2015	2018
Cherokee	81.4%	79.9%	84.1%

Grandparents Responsible for Grandchildren (under 18yrs)

County	# Grandparents Living with Own Grandchildren (<18 Years)	Grandparent Responsible for Grandchildren (under 18 years)*			
		#	%	Below the Poverty Level	No Parent of Grandchildren Present
Cherokee	675	350	51.9	27.7	38.9

Composition of Families with Children
5-Yr Estimate, 2012-2016

County	Family Composition								Nonfamily households				
	# Total Households	# Total Family Households (families)	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)		# Total Nonfamily Households	Householder Living Alone		65 Years and Over	
			Est. #	%**	Est. #	%**	Est. #	%**		Est. #	%	Est. #	%
Cherokee	10,857	7,181	1,151	10.6	121	1.1	421	3.9	3,676	3,229	29.7	1,728	15.9

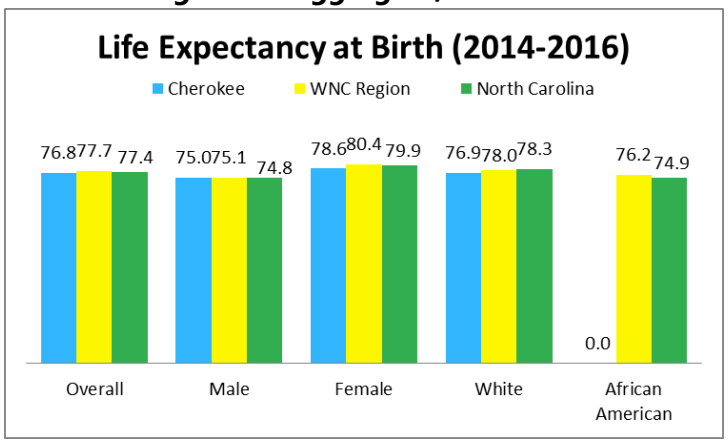
CHAPTER 5 – HEALTH DATA FINDINGS SUMMARY

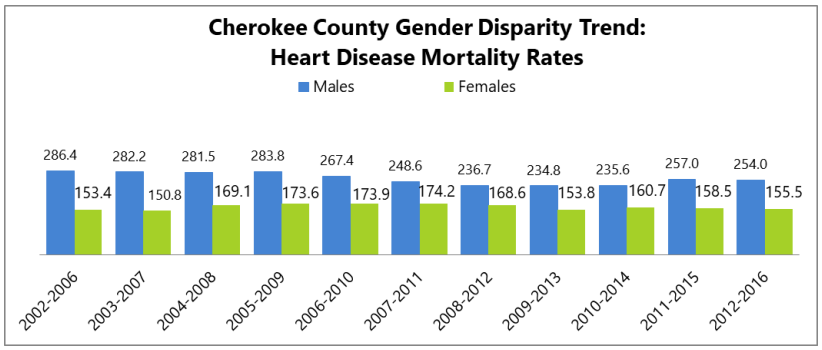
Mortality

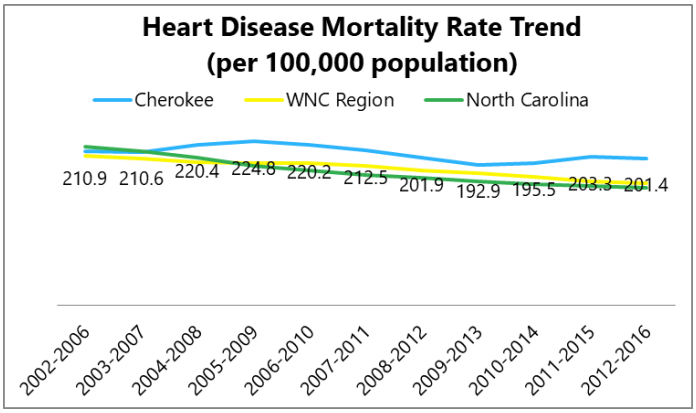
Leading Causes of Death
Age Adjusted Death Rates per 100,000 population
Single 5-year Aggregate, 2012-2016

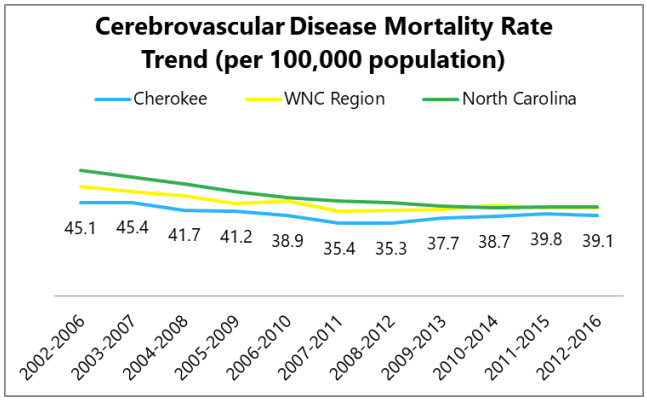
Rank	Cause of Death	Cherokee	
		# Deaths	Death Rate
1	Diseases of Heart	463	201.4
2	Cancer	396	165.7
3	Chronic Lower Respiratory Diseases	144	57.3
4	All Other Unintentional Injuries	64	42.1
5	Cerebrovascular Disease	91	39.1
6	Alzheimer's disease	80	34.1
7	Suicide	34	24.7
8	Unintentional Motor Vehicle Injuries	29	21.3
9	Diabetes Mellitus	46	20.5
10	Chronic Liver Disease and Cirrhosis	36	15.8
11	Pneumonia and Influenza	35	14.2
12	Nephritis, Nephrotic Syndrome, and Nephrosis	30	12.0
13	Septicemia	23	9.1
14	Homicide	**7**	**5.6**
15	Acquired Immune Deficiency Syndrome	**2**	**2.3**
All Causes (some not listed)		1,802	823.2

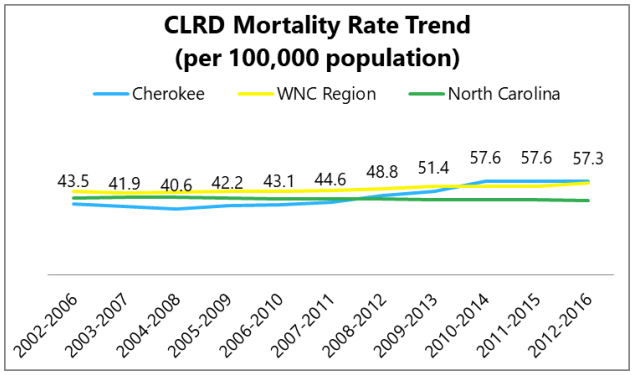
Life Expectancy at Birth
Single 3-Yr Aggregate, 2014-2016

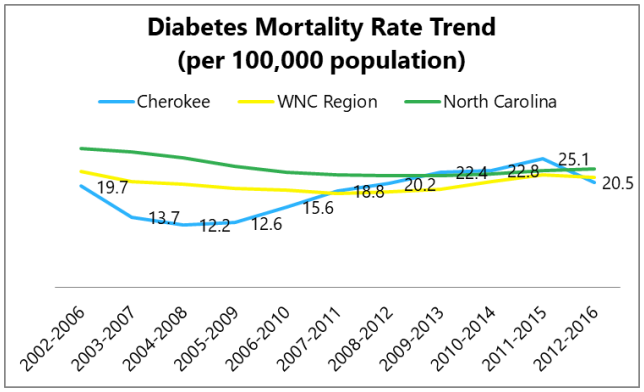


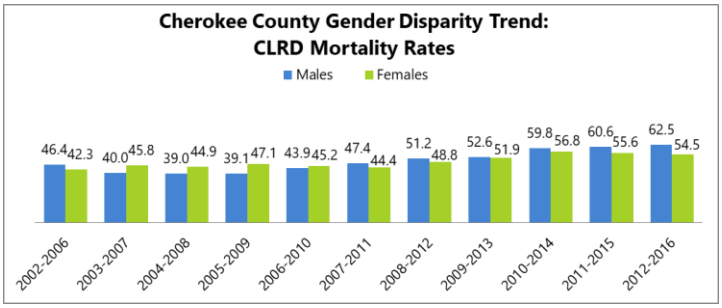

Cherokee County Gender Disparity Trend:
Heart Disease Mortality Rates
Males
Females
286.4
153.4
282.2
150.8
281.5
169.1
283.8
173.6
267.4
173.9
248.6
174.2
236.7
168.6
234.8
153.8
235.6
160.7
257.0
158.5
254.0
155.5
2002-2006
2003-2007
2004-2008
2005-2009
2006-2010
2007-2011
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Heart Disease Mortality Rate Trend
(per 100,000 population)
Cherokee
WNC Region
North Carolina
210.9
210.6
220.4
224.8
220.2
212.5
201.9
192.9
195.5
203.3
201.4
2002-2006
2003-2007
2004-2008
2005-2009
2006-2010
2007-2011
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Cerebrovascular Disease Mortality Rate
Trend (per 100,000 population)
Cherokee
WNC Region
North Carolina
45.1
45.4
41.7
41.2
38.9
35.4
35.3
37.7
38.7
39.8
39.1
2002-2006
2003-2007
2004-2008
2005-2009
2006-2010
2007-2011
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


CLRD Mortality Rate Trend
(per 100,000 population)
Cherokee
WNC Region
North Carolina
43.5
41.9
40.6
42.2
43.1
44.6
48.8
51.4
57.6
57.6
57.3
2002-2006
2003-2007
2004-2008
2005-2009
2006-2010
2007-2011
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016

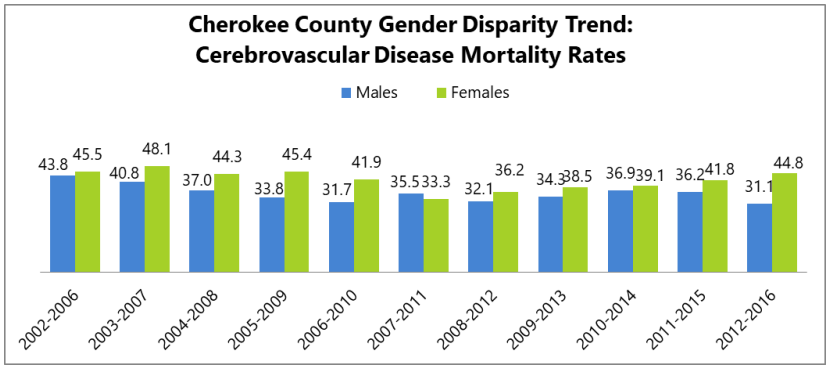




Cancer Mortality Rates, by Cancer Site
Age-Adjusted Rates per 100,000 Population

County	Colon/Rectum		Lung/Bronchus		Female Breast		Prostate		All Cancers	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Cherokee	30	13.6	127	48.7	25	20.3	18	**17.2**	396	163.4

Std Yr= Yr 2000 U.S. Population
Single 5-Yr Aggregate, 2012-2016

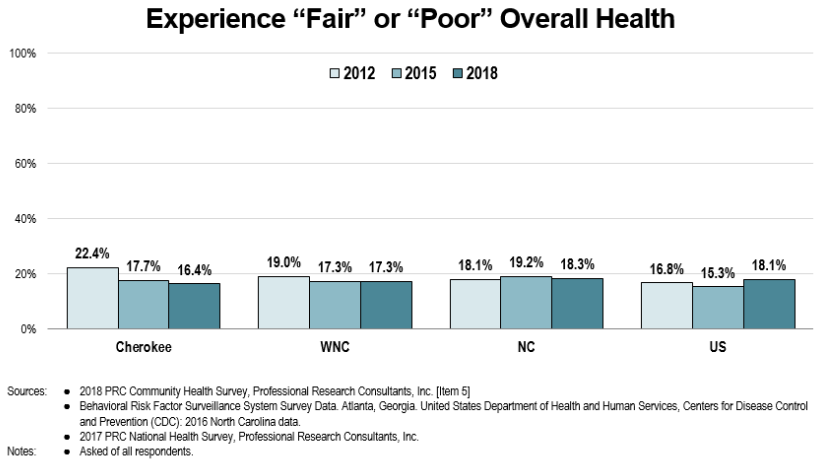


Three Leading Causes of Death by Age Group
Unadjusted Death Rates per 100,000 Population
Single 5-Yr Aggregate, 2012-2016

Cherokee County				
Age Group	**Rank**	**Leading Cause of Death**	**# Deaths**	**Death Rate**
00-19	1	Conditions originating in the perinatal period	5	18.6
	2	In-situ/benign neoplasms	2	7.4
		Suicide	2	7.4
		SIDS	2	7.4
20-39	1	Other Unintentional injuries	11	44.6
	2	Diseases of the heart	6	24.3
		Suicide	6	24.3
	4	Motor Vehicle Injuries	5	20.3
40-64	1	Cancer - All Sites	111	229.2
	2	Diseases of the heart	70	144.6
	3	Other Unintentional injuries	25	51.6
65-84	1	Diseases of the heart	231	710.3
	2	Cancer - All Sites	225	691.9
	3	Chronic lower respiratory diseases	95	292.1
85+	1	Diseases of the heart	155	4350.3
	2	Cancer - All Sites	58	1627.8
	3	Alzheimer's disease	49	1375.2

Health Status & Behaviors

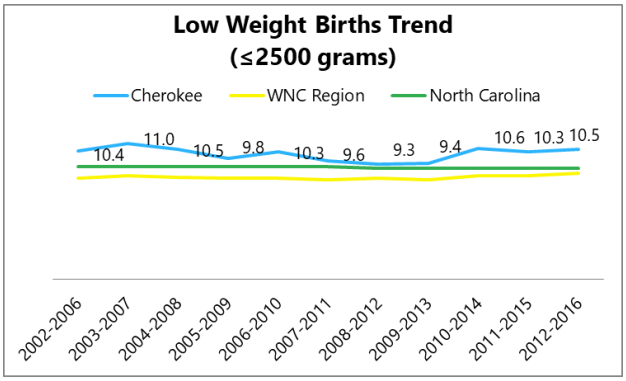
Overall Self-Reported Health Status

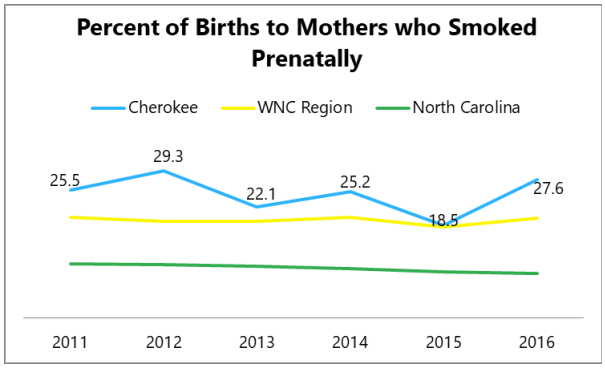


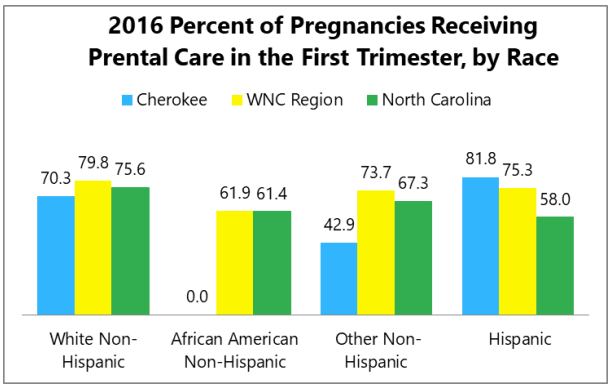
Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 5]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

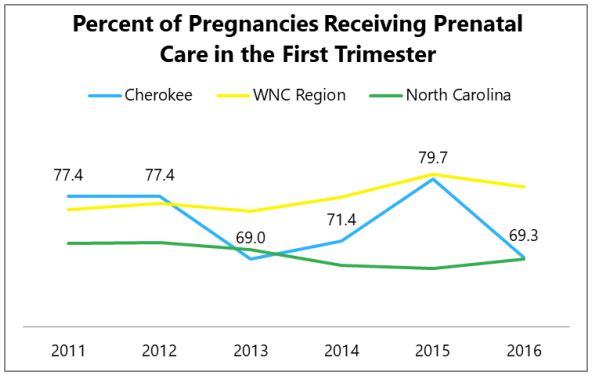
Notes:
- Asked of all respondents.

Maternal & Infant Health

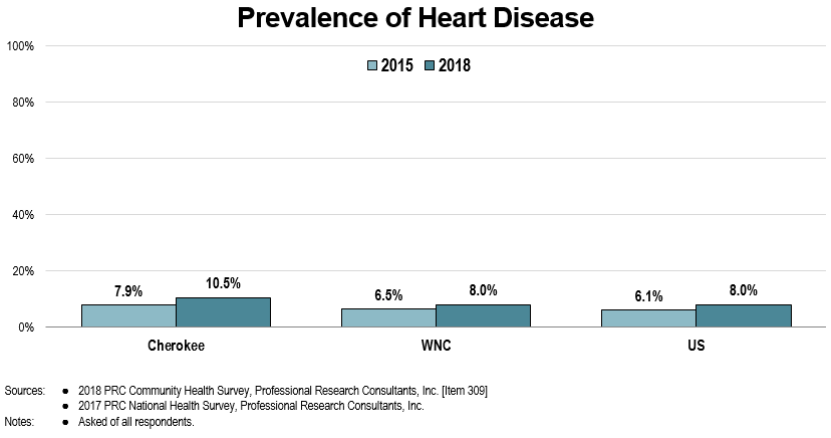








Chronic Disease Morbidity

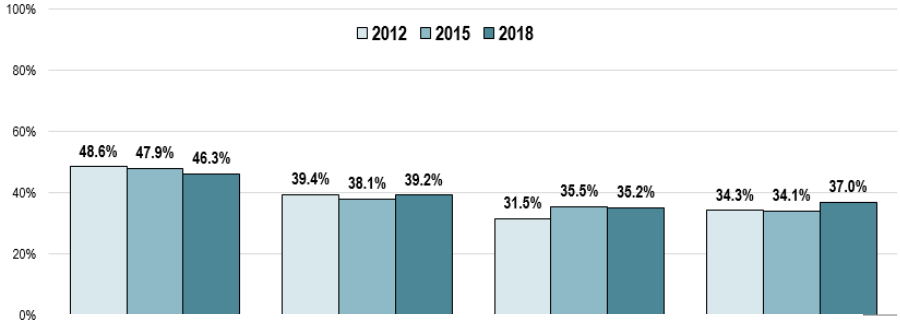


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 309]
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

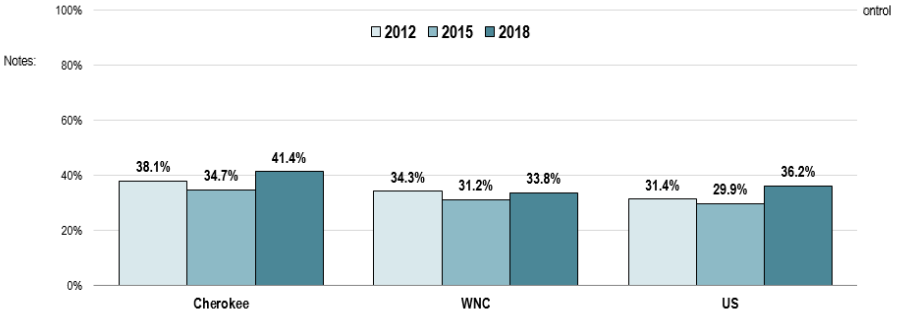
Prevalence of High Blood Pressure

Healthy People 2020 Target = 26.9% or Lower



Prevalence of High Blood Cholesterol

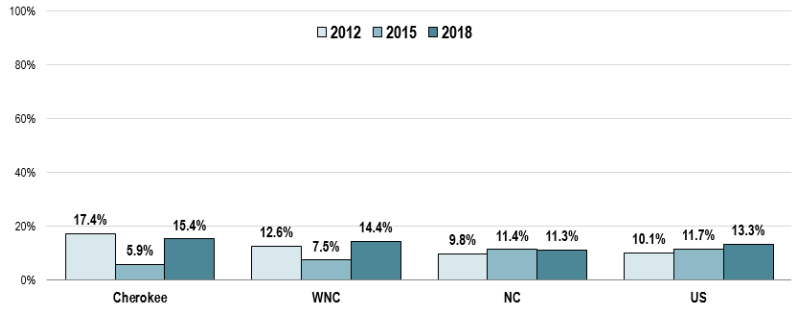
Healthy People 2020 Target = 13.5% or Lower



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 43]
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

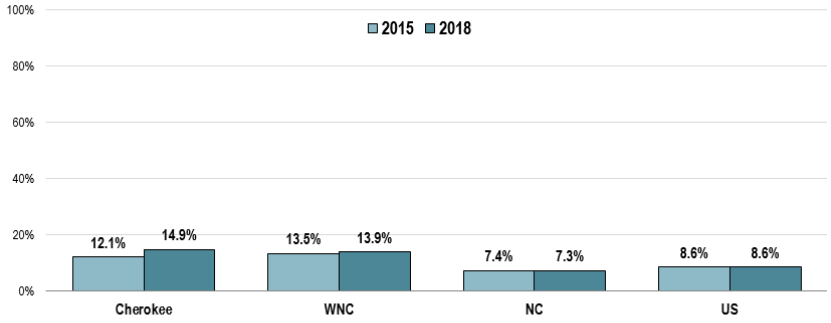
Prevalence of Diabetes (Ever Diagnosed)



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 140]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

Prevalence of Chronic Obstructive Pulmonary Disease (COPD)

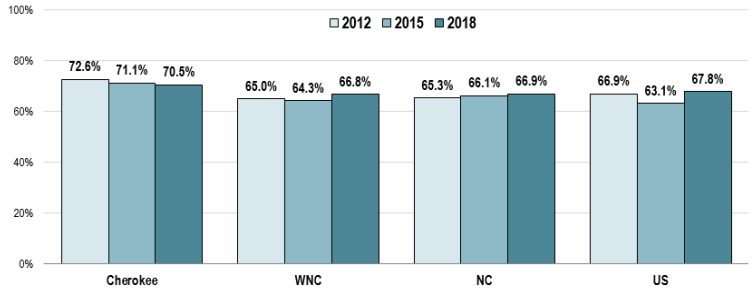


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 24]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

Total Overweight (Overweight or Obese)

(Body Mass Index of 25.0 or Higher)



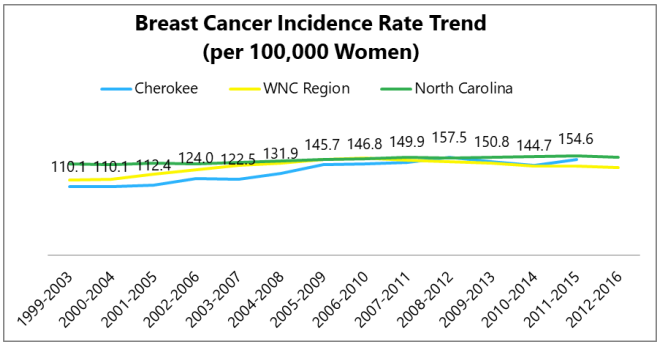
Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 154]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

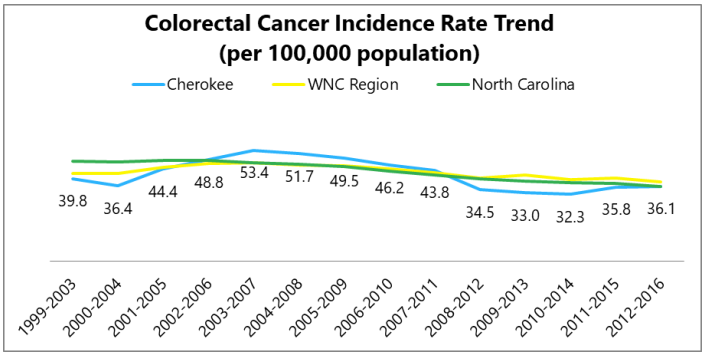
Notes:
- Based on reported heights and weights; asked of all respondents.
- The definition of overweight is having a body mass index (BMI), a ratio of weight to height (kilograms divided by meters squared), greater than or equal to 25.0, regardless of gender. The definition for obesity is a BMI greater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

Cancer Morbidity

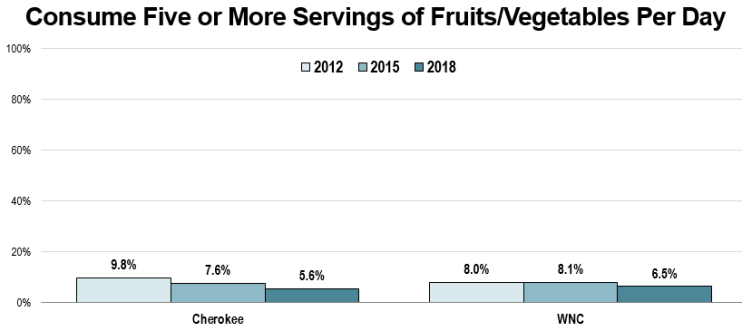
Cancer Incidence Rates, by Cancer Site
Age-Adjusted Rates per 100,000 Population
Standard Year= Year 2000 U.S. Population
Single 5-Year Aggregate, 2012-2016

County	Colon/Rectum		Lung/Bronchus		Female Breast		Prostate		All Cancers	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Cherokee	81	36.1	179	68.9	153	139.5	112	86.7	1,030	439.1



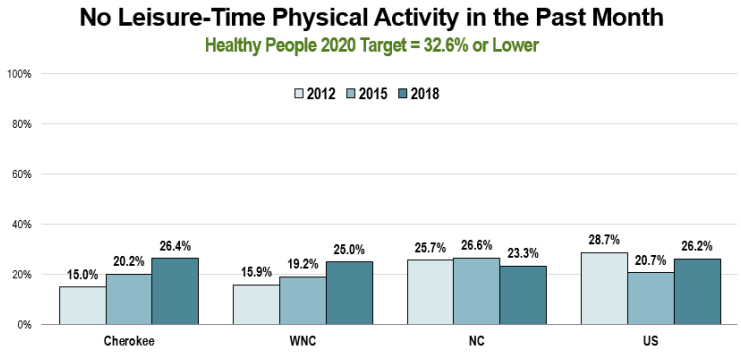


Health Behaviors



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 148]

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 and/or vegetables in the past week, excluding lettuce salad and potatoes.



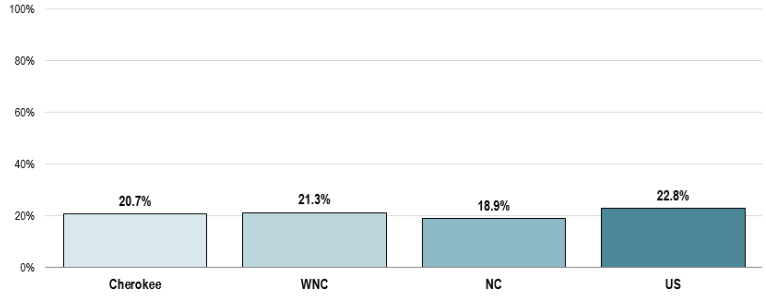
Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 89]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- 2017 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.

Meets Physical Activity Recommendations

(2018)

Healthy People 2020 Target = 20.1% or Higher

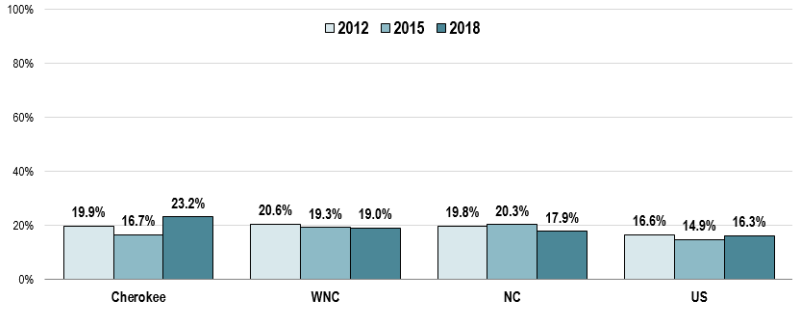


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 152]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2015 North Carolina data.
- 2017 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-2.4]

Notes:
- Asked of all respondents.

Current Smokers

Healthy People 2020 Target = 12.0% or Lower

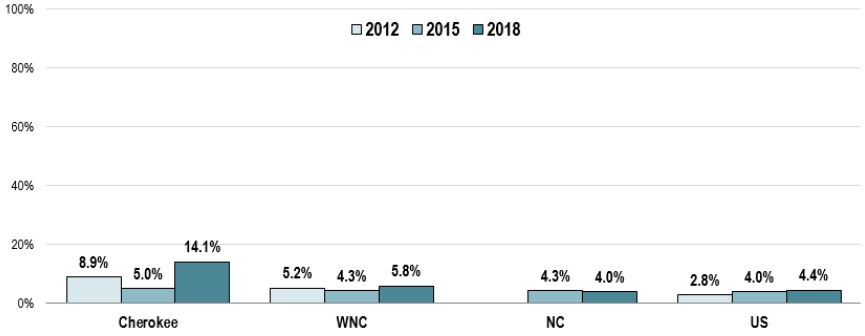


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 49]
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 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).

Currently Use Smokeless Tobacco Products

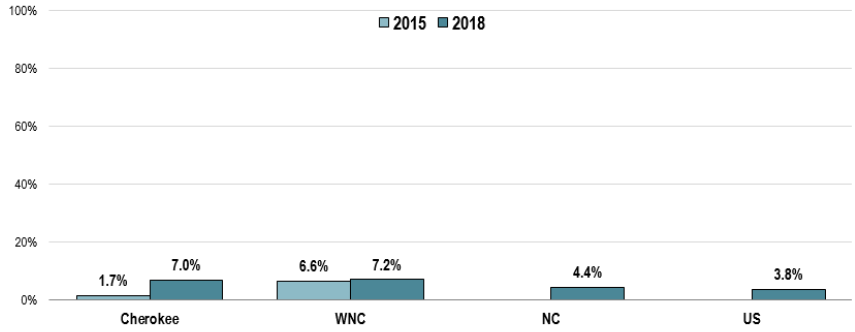
Healthy People 2020 Target = 0.3% or Lower



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 313]
- 2017 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): 2016 North Carolina data.
- 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 smokers (everyday and some days).

Currently Use Vaping Products (Such as E-Cigarettes)



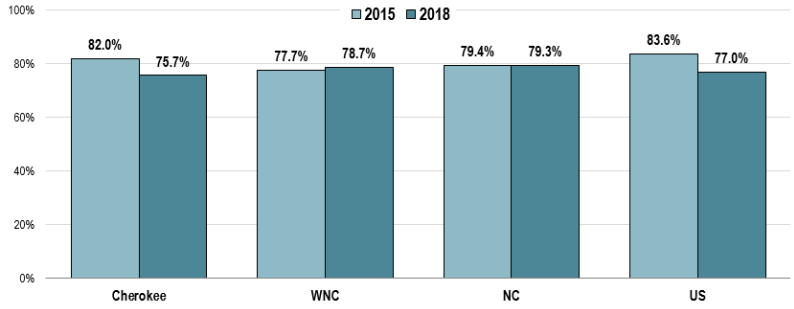
Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 54]
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.

Notes:
- Asked of all respondents.
- Vaping products (such as electronic cigarettes or e-cigarettes) are battery-operated decides that similar traditional cigarette smoking but do not involve the burning of tobacco. The cartridge or liquid "e-juice" used in these devices produces vapor and comes in a variety of flavors.
- Includes regular and occasional smokers (everyday and some days).

Have Had a Mammogram in the Past Two Years

(Women Age 50-74; By County, 2018)

Healthy People 2020 Target = 81.1% or Higher

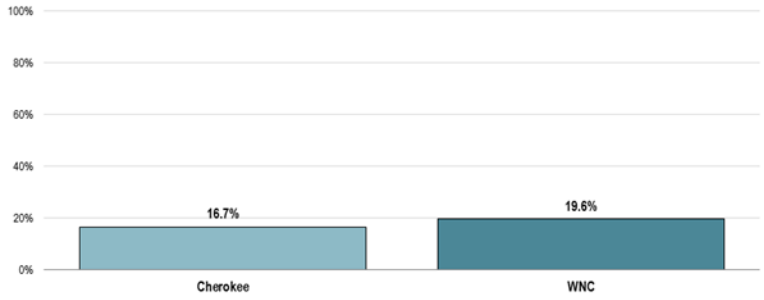


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 133]
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective C-17]

Notes:
- Reflects female respondents age 50-74.

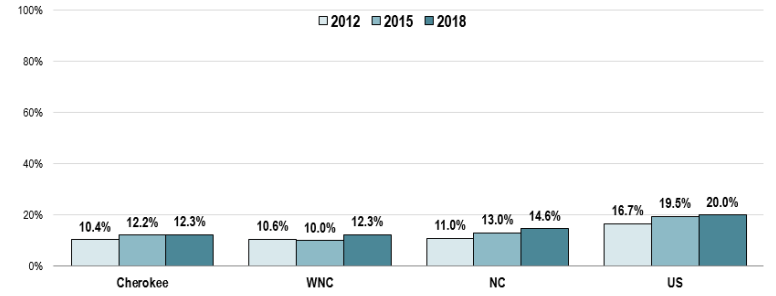
Substance Use

Used Opiates/Opioids in the Past Year, With or Without a Prescription
(2018)



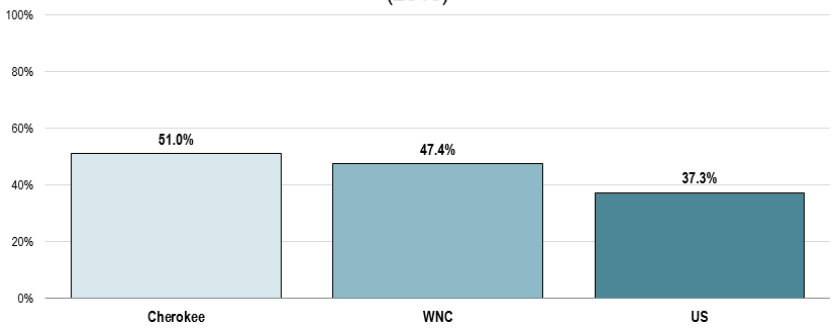
Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 316]
Notes: • Asked of all respondents.

Binge Drinkers
Healthy People 2020 Target = 24.2% or Lower



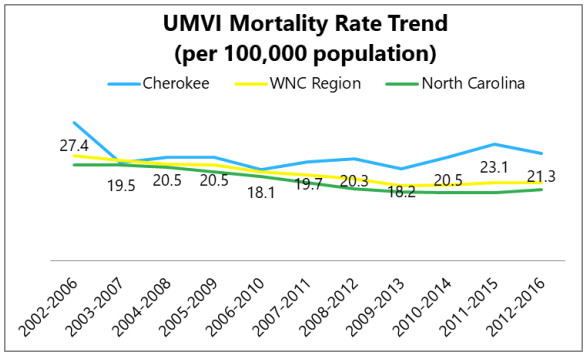
Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 166]
• 2017 PRC National Health Survey, Professional Research Consultants, Inc.
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2016 North Carolina data.
• 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 men consuming 5+ alcoholic drinks on any one occasion in the past month or women consuming 4+ alcoholic drinks on any one occasion in the past month.
• Previous survey data classified both men and women as binge drinkers if they had 5+ alcoholic drinks on one occasion in the past month.

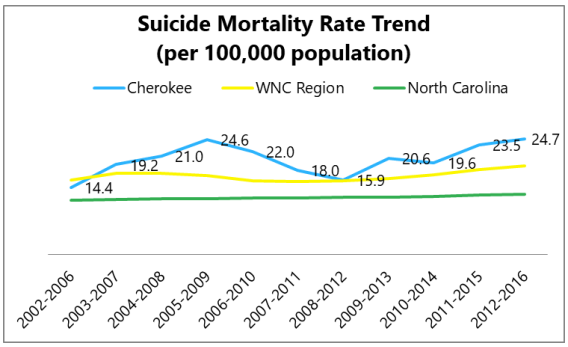
Life Has Been Negatively Affected by Substance Abuse (by Self or Someone Else)
(2018)



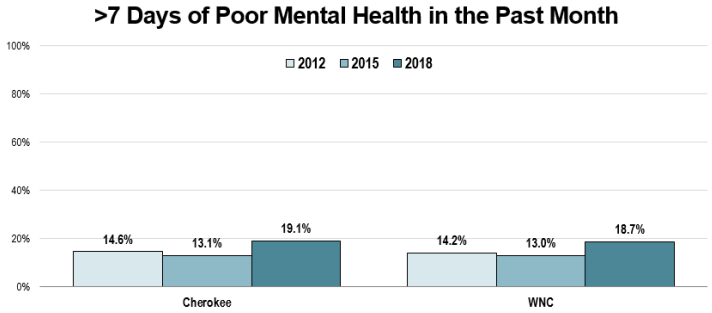
Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 61]
• 2017 PRC National Health Survey, Professional Research Consultants, Inc.
Notes: • Asked of all respondents.

Injury and Violence

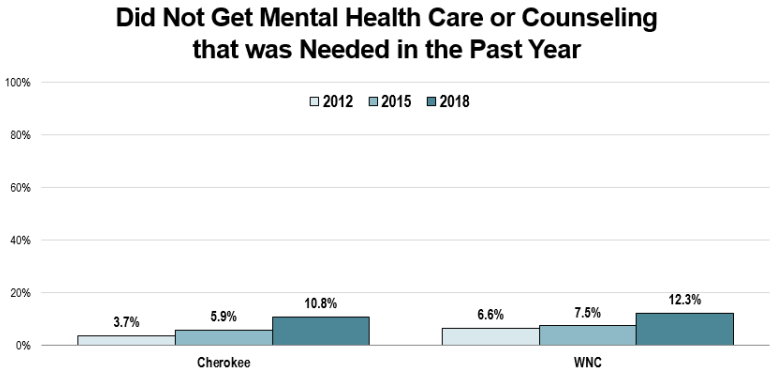




Mental Health



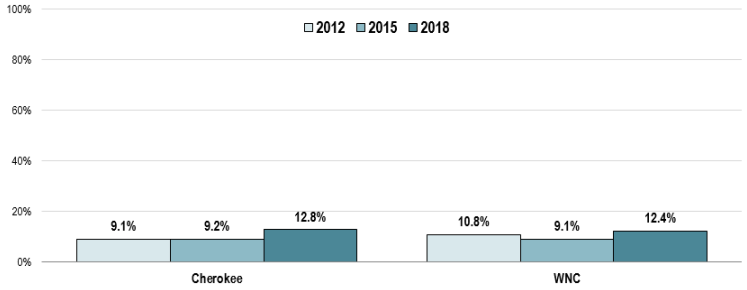
Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 337]
Notes: • Asked of all respondents.



Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 105]
Notes: • Asked of all respondents.

Clinical Care & Access

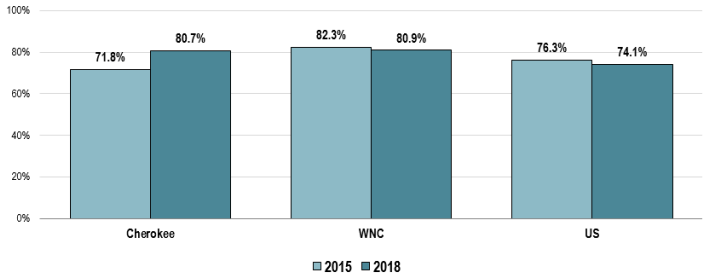
Was Unable to Get Needed Medical Care at Some Point in the Past Year



Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 303]
Notes: • Asked of all respondents.

Have a Specific Source of Ongoing Medical Care

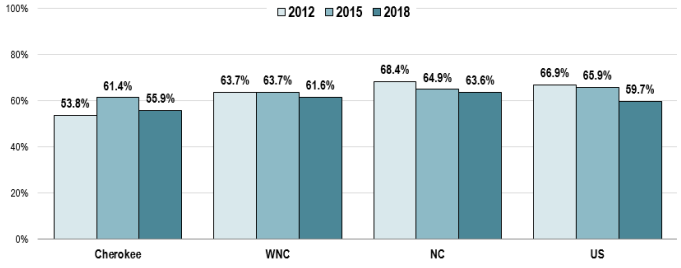
Healthy People 2020 Target = 95.0% or Higher



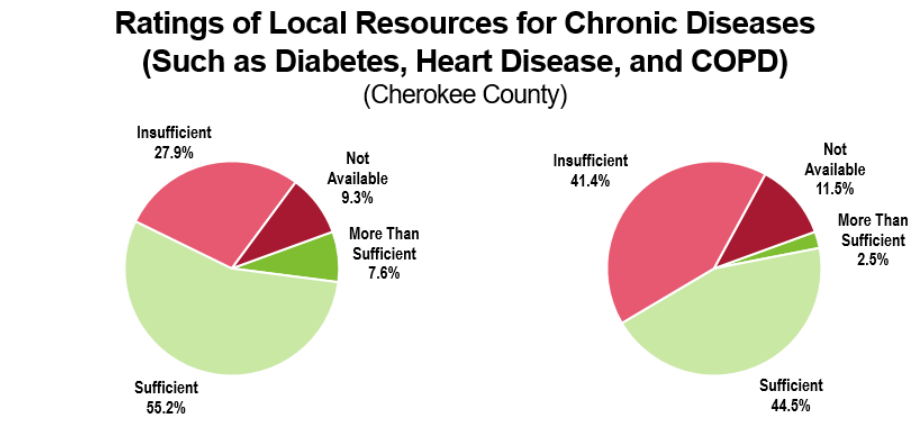
Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 170]
• 2017 PRC National Health Survey, Professional Research Consultants, Inc.
• US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective AHS-5.1]
Notes: • Asked of all respondents.

Have Visited a Dentist or Dental Clinic Within the Past Year

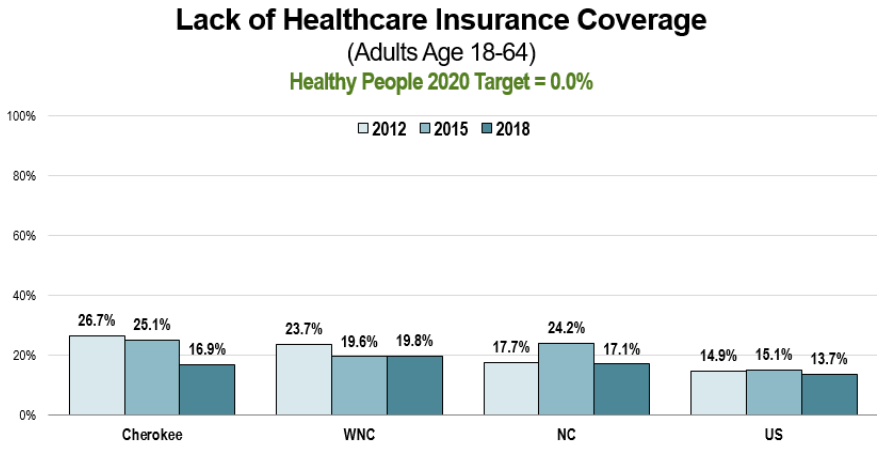
Healthy People 2020 Target = 49.0% or Higher



Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 20]
• 2017 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): 2016 North Carolina data.
• US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective OH-7]
Notes: • Asked of all respondents.



Sources: • 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 310]
Notes: • Asked of all respondents.



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 326]
- 2017 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): 2016 North Carolina data.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective AHS-1]

Notes:
- Reflects all respondents 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.).

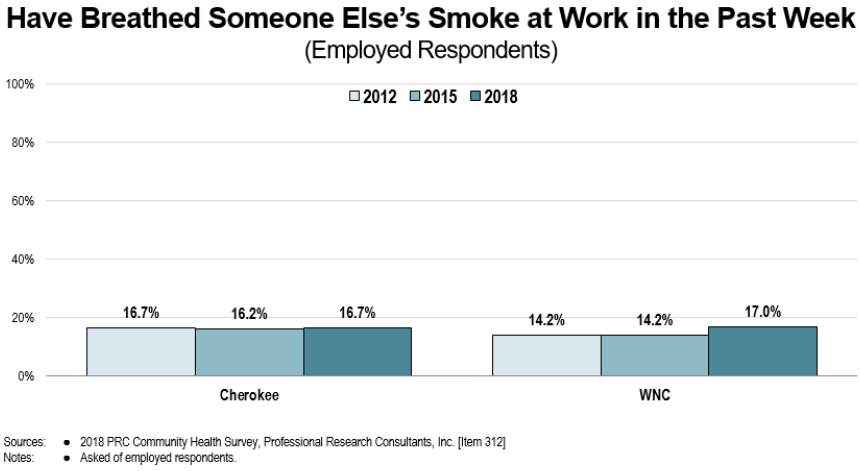
At Risk Populations

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 6 – PHYSICAL ENVIRONMENT

Air & Water Quality

"Clean air and safe water are prerequisites for health. Poor air or water quality can be particularly detrimental to vulnerable populations such as the very young, the elderly, and those with chronic health conditions. Clean air and water support healthy brain and body function, growth, and development. Air pollutants such as fine particulate matter, ground-level ozone, sulfur oxides, nitrogen oxides, carbon monoxide, and greenhouse gases can harm our health and the environment. Excess nitrogen and phosphorus run-off, medicines, chemicals, lead, and pesticides in water also pose threats to well-being and quality of life" (County Health Rankings, 2018).

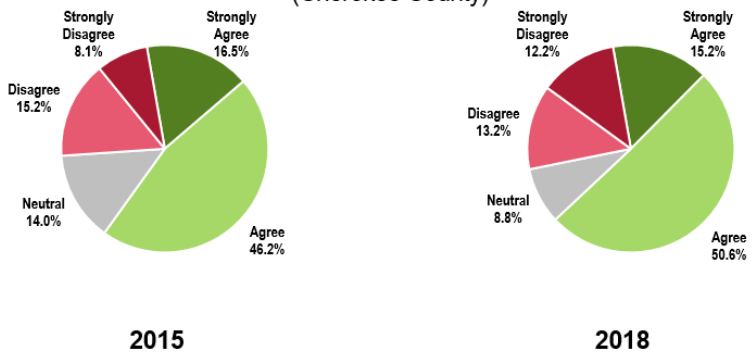


Access to Healthy Food & Places

"Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (Food and Agriculture Organization, 2006). The environments where we live, learn, work, and play affect our access to healthy food and opportunities for physical activity

which, along with genetic factors and personal choices, shape our health and our risk of being overweight and obese. As of 2013, 29 million Americans lived in a food desert, without access to affordable, healthy food. Those with lower education levels, already at-risk for poor health outcomes, frequently live in food deserts" (County Health Rankings, 2018).

"I believe my county provides the facilities and programs needed for adults, children, and youth to be physically active throughout the year."
(Cherokee County)



2015 **2018**

Sources: ● 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 332]
Notes: ● Asked of all respondents.

CHAPTER 7- HEALTH RESOURCES

Health Resources

Process

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

See Appendix E 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 Priority Identification

Process

Every three years we pause our work to improve community health so that we may step back and take a fresh look at all of the current data from our county that reflects the health of our community. We then use this information to help us assess how well we're doing, and what actions we need to take moving forward.

Beginning in 2018 our team spent time understanding the data and uncovering what issues were affecting the most people in our community. We also interviewed community leaders to find out what they're most concerned about. To identify the significant health issues in our community, our key partners (see a full list in the Executive Summary) reviewed data and discussed the facts and circumstances of our community.

We used the following criteria to identify significant health issues:

- Data reflects a concerning trend related to size or severity
- Significant disparities exist
- Issue surfaced as a high community concern
- County data deviates notably from the region, state or benchmark

Once our team made sense of the data, we presented key health issues to a wide range of partners and community members. The participants used the information we presented to score each issue, and then vote for their top areas of concern. Some of the factors they considered were how much the issue impacts our community, how relevant the issue is to multiple health concerns, and how feasible it is for our community to make progress on this issue.

This process, often called health issue prioritization, is an opportunity for various community stakeholders, to agree on which health issues and results we can all contribute to, which increases the likelihood that we'll make a difference in the lives of people in our community.

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 2015 Community Health Assessment, Healthy North Carolina 2020, and 2017 State of the County Health report (SOTCH) 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:

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

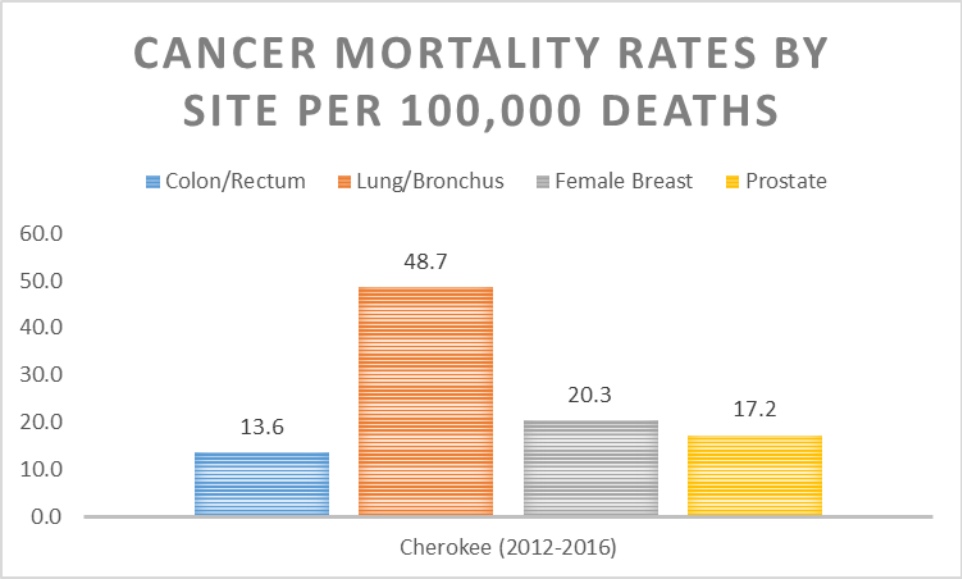
2.) Chronic Disease Control and Prevention: Chronic Diseases account for 5 of the top 10 causes of death in Cherokee County.

3.) 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 and Prevention

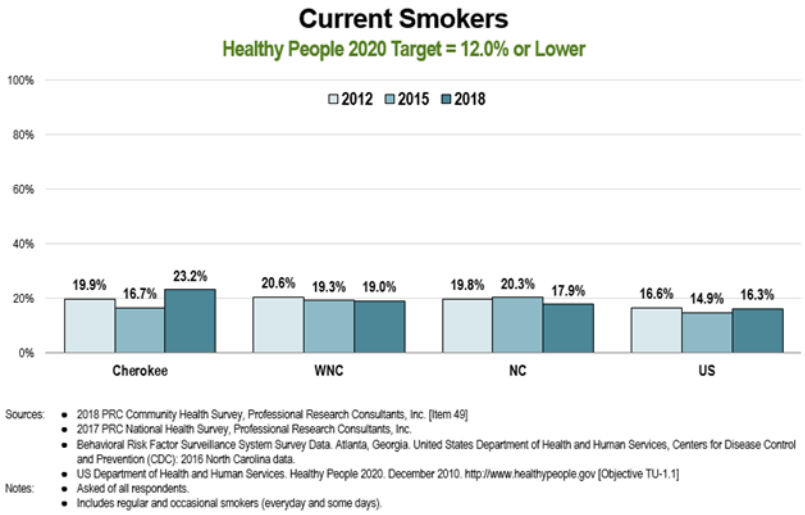
Taken together, cancers of all types compose the second leading cause of death in Cherokee County, and the leading cause of death in NC for 2012-2016. The financial costs of cancer to families, communities, state, and nation also are overwhelming. According to the National Institutes of Health, cancer cost the United States an estimated $158 billion in medical costs and lost productivity in 2020. 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

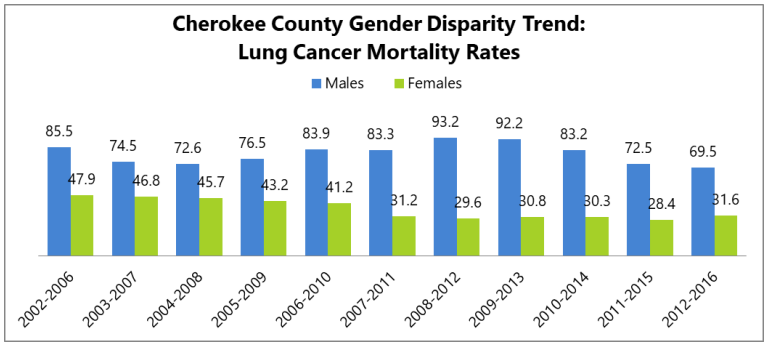


Source: http://www.schs.state.nc.us/data/vital.cfm

Mortality data shows that lung/bronchus cancer accounts for almost 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.

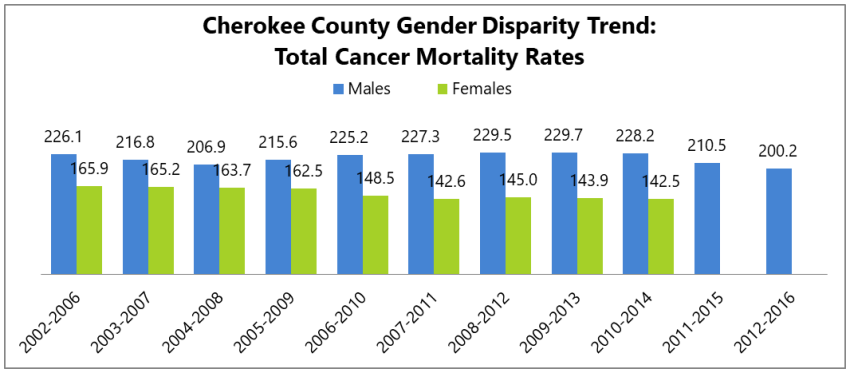


Since the last Community Health Assessment in 2015 survey respondents who self-reported as current smokers had increased once again.



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. “Light Up for What?” is a tobacco cessation class that is offered on a group and individual basis to the community by the Cherokee County Health Department. Through this program we are able to offer nicotine replacement aids and stress relief tools at no cost to participants. 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.

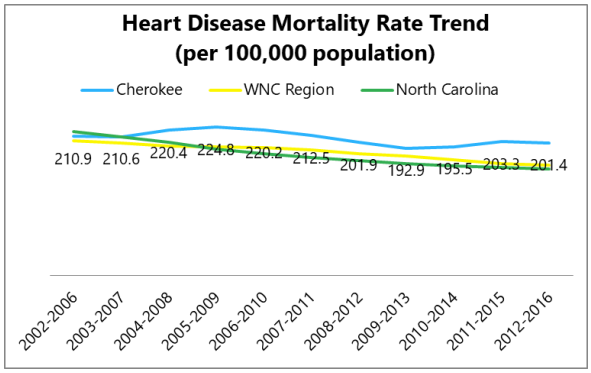
PRIORITY ISSUE #2- Chronic Disease Control and Prevention

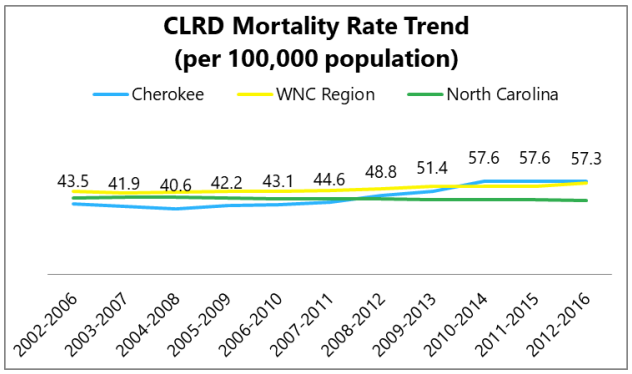
According to the Centers for Disease Control currently nothing kills more Americans than heart disease and stroke with mortality statistics of more than 859,000 deaths per year. These diseases are also extremely expensive to our healthcare system by costing more than $199billion per year also combined with lost productivity of $131billion in the jobs sector. 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 10.5%, this an increase from the 2015 CHA results of 7.9%.

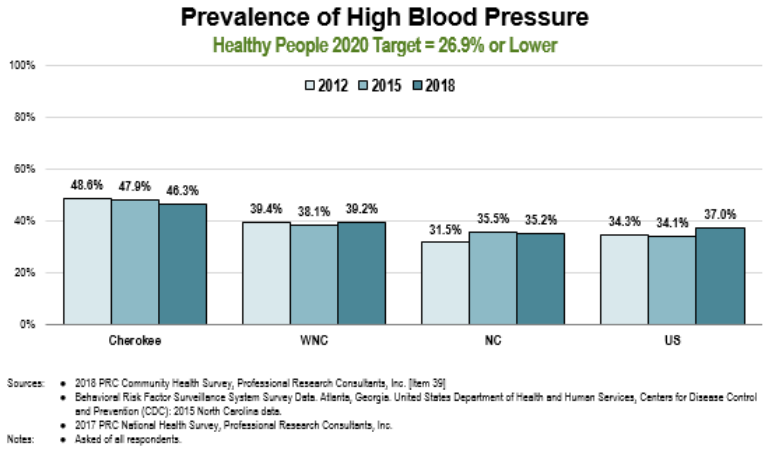
Type 2 Diabetes accounts for 90%–95% of diabetes cases and is usually associated with older age, obesity and physical inactivity, family history, or a personal history of gestational diabetes. However, type 2 diabetes can be prevented through healthy food choices, physical activity, and weight loss, 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 3RD 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

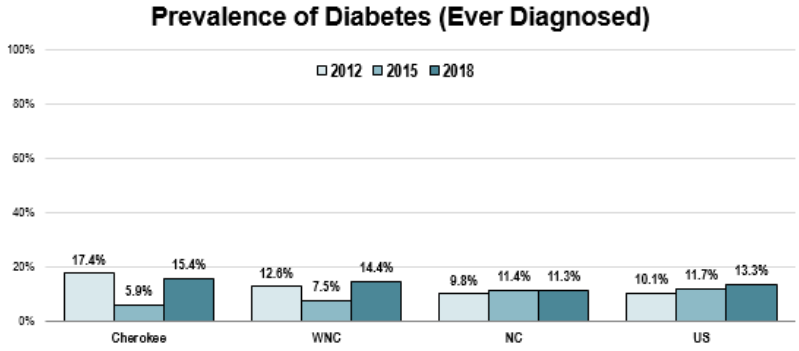






Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 39]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2015 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

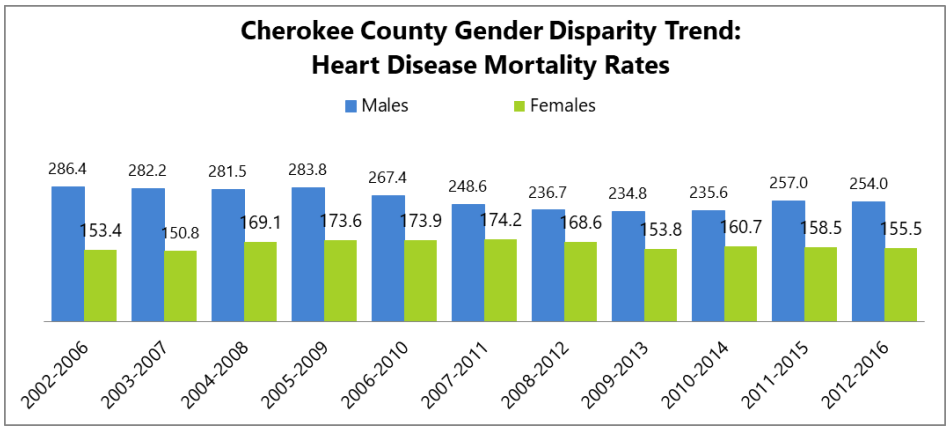


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 140]
- Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): 2015 North Carolina data.
- 2017 PRC National Health Survey, Professional Research Consultants, Inc.

Notes:
- Asked of all respondents.

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.



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

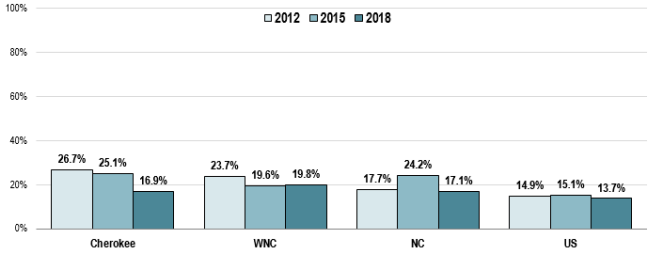
Access and Quality of Health Care was one of the top priorities as identified by our CHA Team. In 2012 only 50% of survey respondents said they felt "Considering cost, quality, number of options and availability, there is good health care in my county." Since 2015 not much has changed in regards to availability 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

Lack of Healthcare Insurance Coverage

(Adults Age 18-64)

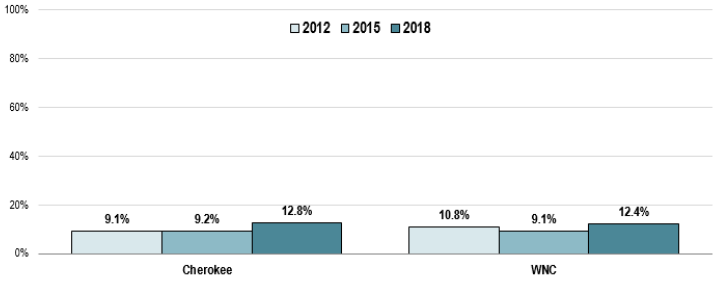
Healthy People 2020 Target = 0.0%



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 326]
- 2017 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): 2016 North Carolina data.
- US Department of Health and Human Services. Healthy People 2020. December 2010. http://www.healthypeople.gov [Objective AHS-1]

Notes:
- Reflects all respondents 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.).

Was Unable to Get Needed Medical Care at Some Point in the Past Year

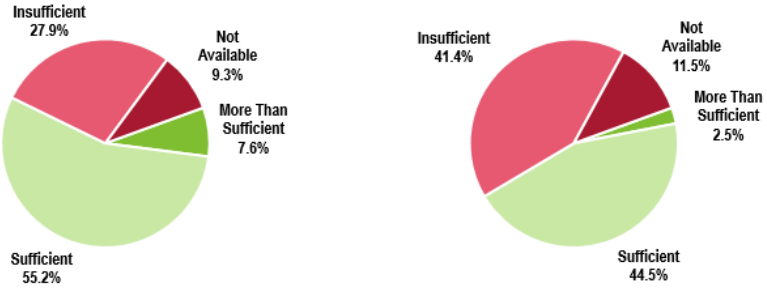


Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 303]

Notes:
- Asked of all respondents.

Ratings of Local Resources for Chronic Diseases (Such as Diabetes, Heart Disease, and COPD)

(Cherokee County)



Sources:
- 2018 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 310]

Notes:
- Asked of all respondents.

Specific Populations At-Risk

Uninsured and underinsured individuals are more at risk for not being able to access healthcare services when they are needed. Those with limited English speaking ability are also a specific at-risk population.

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 has recruited a Medical Doctor which has allowed us to expand the range of services available to the community. Our MD on staff is able to practice primary care, sick visits, OG/GYN, CDL Physicals, Child Health, Hepatitis C Treatment, and many other things a normal private providers can offer. Within our adult health clinic we are able to offer primary care to underinsured and uninsured clients based on a sliding fee scale which has shown tremendous success.

CHAPTER 9 - NEXT STEPS

Collaborative Planning

Collaborative 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.

Sharing Findings

Going forward sharing the findings of the CHA will happen in three major ways. First, hard copies of the 2018 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.

Where to Access this Report

-Cherokee County Chamber of Commerce
- Nantahala Regional Library in Murphy, NC
- www.cherokeecounty-nc.gov
- https://www.wnchn.org/wnc-healthy-impact/regional-data/
- Cherokee County Health Department

For More Information and to Get Involved Visit the Health Departments Page on the Cherokee County Government Website at www.cherokeecounty-nc.gov

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PHOTOGRAPHY CREDITS

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APPENDICES

Appendix A – Data Collection Methods & Limitations

Appendix B – Data Presentation

- Data Presentation Slides

Appendix C – Survey Findings

- WNC Healthy Impact Survey Instrument
- Community Health Survey Results

Appendix D – Key-Informant Survey Findings

Appendix E- 211Resource 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 data 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 Department of Health and Human Services; NC Office of State Budget and Management; NC Department of Commerce; Employment Security Commission of NC; UNC-CH Jordan Institute for Families; NC Department of Public Instruction; NC Department of Justice; NC Division of Medical Assistance; NC Department of Transportation; and the Cecil B. Sheps Center for Health Services Research. The WNC Healthy Impact data 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 2018.

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; the Centers for Disease Control and Prevention; National Center for Health Statistics; NC DPH Nutrition Services Branch; and NC DETECT.

Environmental data was gathered from sources including: US Environmental Protection Agency; US Department of Agriculture; and NC Department of Environment and Natural Resources.

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.

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.

Gaps in Available Information

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

The 2018 WNC Healthy Impact Community Health Survey was conducted from March to June. The purpose of the survey was to collect primary data to supplement the secondary core dataset, allow individual counties in the region to collect data on specific issues of concern, and hear from community members about their concerns and priorities. The survey was conducted throughout the entire WNC Healthy Impact region, which includes the following 16 counties: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey.

Professional Research Consultants, Inc. (PRC) designed and implemented the survey methodology, which included a combination of telephone (both landline and cell phone) interviews, as well as an online survey. The survey methodology was designed to achieve a representative sample of the regional population that would allow for stratification by certain demographic characteristics, while also maximizing data collection timeliness and efficiency. Survey sampling and implementation methodology is described in greater detail below.

Survey Instrument

The survey instrument was developed by WNC Healthy Impact's data workgroup, consulting team, and local partners, with assistance from PRC. Many of the questions were derived from the CDC Behavioral Risk Factor Surveillance System (BRFSS) and other validated public health surveys. Other questions were developed specifically by WNC Healthy Impact, with input from regional and local partners, 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 only of their county's residents.

The three additional county questions included in the 2018 survey were:
1) Rating of Local Resources for Chronic Diseases (Such as Diabetes, Heart Disease, and COPD)
2) "I believe it is important all public places to be 100% tobacco-free."
3) "I believe my county provides the facilities and programs needed for adults, children, and youth to be physically active throughout the year."

Sampling Approach & Design

PRC designed the survey methodology to minimize sample bias and maximize representativeness by using best practice random-selection sampling techniques. They also used specific data analysis techniques, including post stratification, to further decrease sample bias and account for underrepresented groups or nonresponses in the population. Post stratification

involves selecting demographic variables of interest within the population (here, gender, age, race, ethnicity, and poverty status) and then applying "weights" to the data to produce a sample which more closely matches the actual regional population for these characteristics. This technique preserves the integrity of each individual's responses while improving overall representativeness. In order to determine WNC regional estimates, county responses were weighted in proportion to the actual population distribution to appropriately represent Western North Carolina as a whole. Since the sample design and quality control procedures used in the data collection ensure that the sample is representative, the findings may be generalized to the region with a high degree of confidence.

Survey Administration

PRC piloted the survey through 30 interviews across the region and consulted with WNC Health Network staff to resolve substantive issues before full implementation. PRC used trained, live interviewers and an automated computer-aided telephone interviewing system to administer the survey region-wide. Survey interviews were conducted primarily during evening and weekend hours, with some daytime weekday attempts. Interviewers made up to five call attempts per telephone number. Interviews were conducted in either English or Spanish, as preferred by respondents. The final sample included 29 percent cell phone-based survey respondents and 71 percent landline-based survey respondents. Including cell phone numbers in the sampling algorithm allowed better representation of demographic segments that might otherwise be under sampled in a landline-only model.

PRC also worked with a third-party provider to identify and invite potential respondents for an online survey for a small proportion (20%) of the sample population. The online survey was identical to the telephone survey instrument and allowed better sampling of younger and more urban demographic segments.

About the Cherokee County Sample

Size: The total regional sample size was 3,265 individuals age 18 and older, with 200 from our county. PRC conducted all analysis of the final, raw dataset.

Sampling Error: For our county-level findings, the maximum error rate at the 95% confidence level is +6.9%.

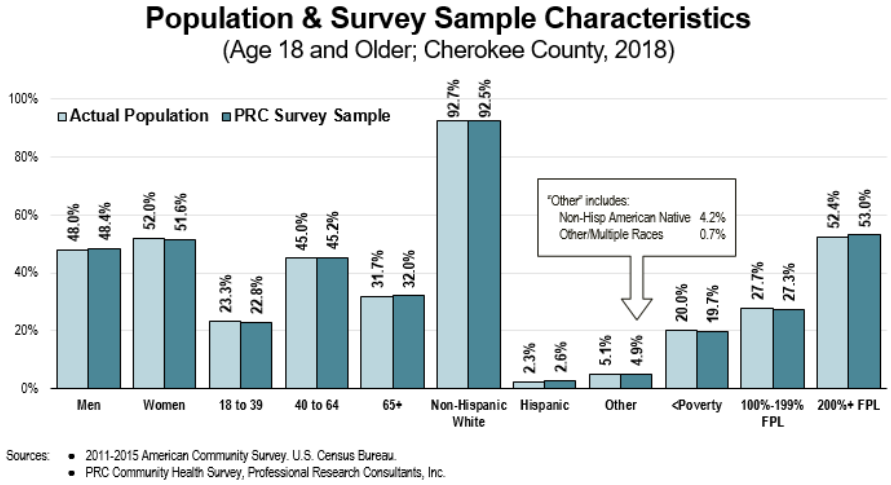
Expected Error Ranges for a Sample of Cherokee County
Respondents at the 95 Percent Level of Confidence

Examples:

- If 10% of a 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.

Characteristics: The following chart outlines the characteristics of the survey sample for our county by key demographic variables, compared to actual population characteristics from census data. Note that the sample consists solely of area residents age 18 and older.



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 2017 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.

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.

Online Key Informant Survey (Primary Data)

Online Survey Methodology

Purpose and Survey Administration

WNC Healthy Impact, with support from PRC, implemented an Online Key Informant Survey to solicit input from local leaders and stakeholders who have a broad interest in the health of the community. WNC Healthy Impact shared with PRC a list of recommended participants, including those from our county. This list included names and contact information for physicians, public health representatives, other health professionals, social service providers, and a variety of other community leaders. Potential participants were chosen because of their ability to identify primary concerns of the populations with whom they work, as well as of the community overall.

Key informants were contacted through an email that introduced the purpose of the survey and provided a link to take the survey online. Reminder emails were sent as needed to increase participation.

Online Survey instrument

The survey provided respondents the opportunity to identify critical health issues in their community, the feasibility of collaborative efforts around health issues, and what is helping/hurting their community's ability to make progress on health issues.

Participation

Through this process, input was gathered from several individuals whose organizations work with low-income, minority populations, or other medically underserved populations. Participating organizations included the following:

- Appalachian Community Services
- BOH Member
- BOH Member/Murphy Medical Center
- Cherokee County
- Cherokee County DDS
- Cherokee County Health Department
- Coalition for a Safe and Drug Free Cherokee County
- EMS Director

Online Survey Limitations

The Online Key Informant Survey was designed to gather input from participants regarding their opinions and perceptions of the health of the residents in the area. Thus, these findings are based on perceptions, not facts.

To collect this data, purposive sampling (a type of non-probability sampling which targets a specific group of people) was used. Unlike the random sampling technique employed in the telephone survey, the purpose is not to make generalizations or statistical inferences from the sample to the entire population, but to gather in-depth insights into health issues from a group of individuals with a specific perspective.

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 sixteen 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.

APPENDIX B – Data Presentation Slides

APPENDIX C – WNC Healthy Impact Survey Instrument

Date: _____

Interviewer: _____

Interviewer ID: _____

2017-0791-02

Professional Research Consultants, Inc.

WNC HEALTHY IMPACT
2018 Community Health Needs Assessment
Asheville, North Carolina

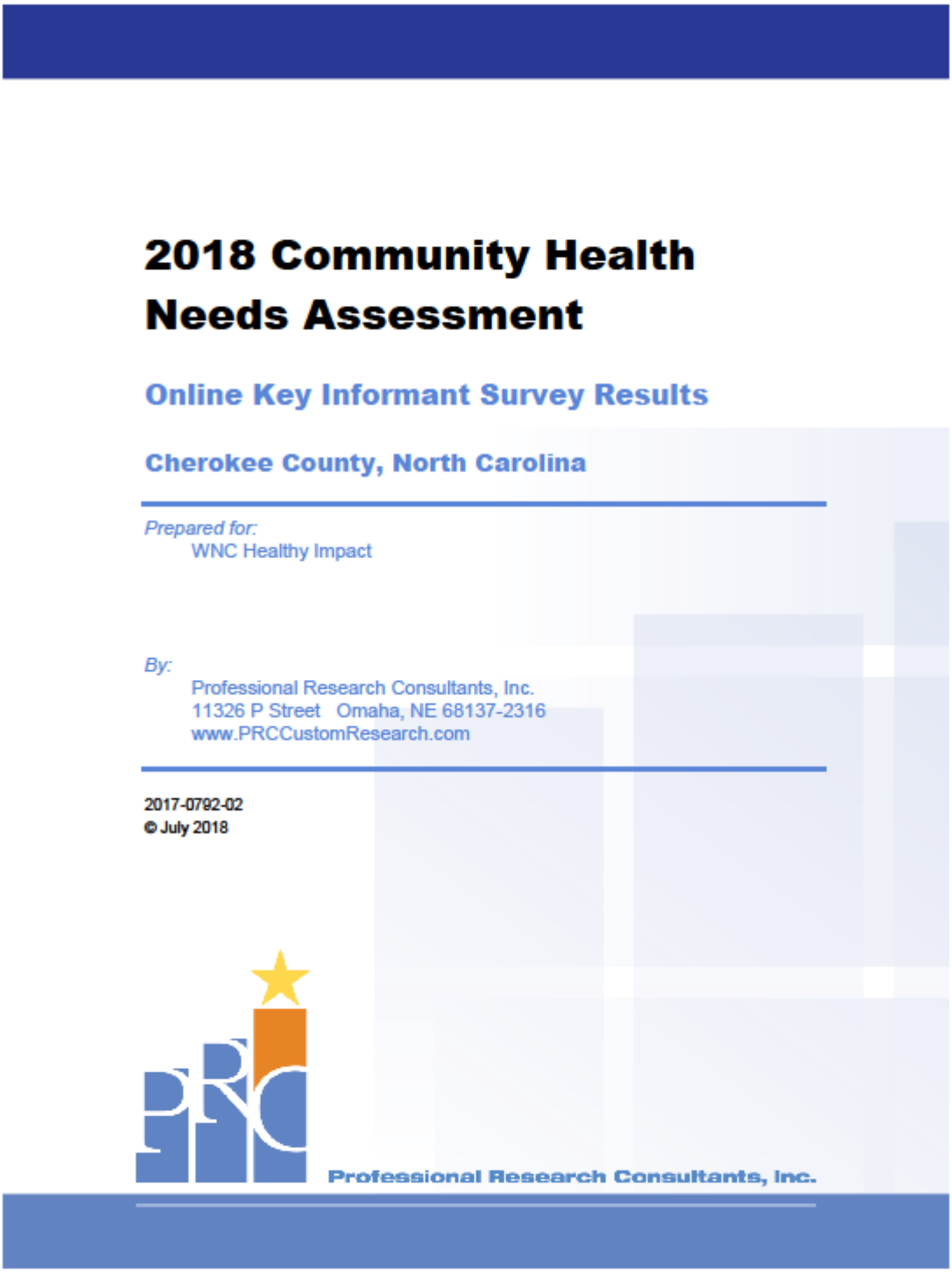
Hello, this is _____ with Professional Research Consultants. A collaboration of hospitals and health departments in Western North Carolina has asked us to conduct a survey to study ways to improve the health of your community.

INTRO. (INTERVIEWER: THIS SCREEN IS FOR REINTRODUCTIONS & CLARIFYING THE PURPOSE & SPONSOR OF THE CALL).

(Hello, this is _____ with Professional Research Consultants. A collaboration of hospitals and health departments in Western North Carolina has asked us to conduct 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 Jana Distefano of Professional Research Consultants at 877-247-9477 during regular business hours.

CONTINUE

APPENDIX D – Key-Informant Survey Findings



2018 Community Health Needs Assessment

Online Key Informant Survey Results

Cherokee County, North Carolina

Prepared for:
WNC Healthy Impact

By:
Professional Research Consultants, Inc.
11326 P Street Omaha, NE 68137-2316
www.PRCCustomResearch.com

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© July 2018

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APPENDIX E- 211 Resource List