

Mitchell County 2015 Community Health Assessment



WINC**HEALTHY**IMPACT

MITCHELL COUNTY COMMUNITY HEALTH ASSESSMENT

ACKNOWLEDGEMENTS

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MITCHELL COUNTY 2015 CHA EXECUTIVE SUMMARY

Purpose and Process

The purpose of this Community Health Assessment is to learn about the health status and quality of life concerns of Mitchell County residents, collaborate with citizens by soliciting input from the community, and to provide an overview of resources that exist for handling those concerns. This document is the result of collaboration between Toe River Health District, Blue Ridge Regional Hospital, and Mitchell Community Health Partnership. The Community Health Assessment employed both primary and secondary data to identify and examine the concerns and strengths of Mitchell County.

Overview

The 2015 Community Health Assessment, completed every four years, outlines the community's current health status. Based upon findings, steps have been developed to implement interventions, as well as, community resources to address these health issues. The Community Health Assessment team is comprised of many participants representing area agencies in Mitchell County, North Carolina. Many local organizations assisted the local health department with the creation of this document. Among those were community leaders, public health agencies, businesses, hospitals, medical community, school systems, and local faith-based organizations and churches. This team worked to identify, collect, analyze, and disseminate information on community assets, strengths, resources, and needs.

Data Summary

Community

The Toe River Health District (TRHD) is a three county health department serving Avery, Mitchell and Yancey Counties with a mission to improve the health of all residents through health promotion, disease prevention, education and awareness, access to and provision of care. TRHD plays a key role and has a proven track record in the implementation of innovative Policy, System, and Environmental Change (PSE) solutions to community health needs identified from community assessments.

Mitchell County is a rural county with a population 15,579 (95.3% white, 0.4% Black, 4.1% Hispanic). It is located in the Blue Ridge Mountains in Western North Carolina and faces a crisis in the burden of chronic disease. According to the North Carolina State Center for Health Statistics, the rates of heart disease, cancer and respiratory disease are higher for Mitchell County than for the State. Additionally, there is a high prevalence of the risk factors linked to these diseases. According to Western NC regional data 61% of adults are overweight or obese; 56% do not meet national recommendations for physical activity; 71% consume less than 5 servings of fruit and vegetables daily; and 22% of adults currently smoke, a rate higher than the state. These issues are also affecting the county's children. According to the NC Nutrition and Physical Activity Surveillance System, rates of childhood overweight/obesity for children ages 2 to 4 are significantly high (27.4% vs. 29.4% for the state). Additionally, Mitchell County has a rapidly growing older population; currently at 20.9%. By 2030, projections estimate that there will be more than 26%, which is almost 4,000 people 65+ that will be living in the area.

Mitchell County, like the United States, is undergoing significant societal changes that make it increasingly difficult for people to engage in healthy lifestyle behaviors. Residents are facing challenges related to limited access to fresh fruits and vegetables, limited opportunities for physical activity and less physical activity and physical education in schools. In addition, people living in Mitchell County face challenges unique to the rural mountain region. These challenges include: geographic isolation with limited roadways and transportation systems; limited economic development with few employers able to provide health insurance plans contributing

to high rates of uninsured (18.7%); low median household incomes (\$37,680); and high rates of people living in poverty (18.3%).

Health Outcomes

A health department-led comprehensive Community Health Assessment (CHA) in 2012 provided community insight into the health status of the county. Through the use of surveys, focus groups and interviews, community members, local government and business leaders, and health professionals came together to identify and prioritize health issues. Lack of adequate transportation, lack of education relating to healthy lifestyle behaviors, and a high number of senior residents with multiple chronic diseases were all identified as priority issues. Participating in the assessment process put the county in a position to take the next steps in developing policy, environment, and system changes that support healthy lifestyles and behaviors.

Currently in Mitchell County there is a coalition to bring together all the organizations and individuals that are committed to improving health in the county. This group consists of motivated individuals who are advocates on behalf of a broad range of community members and can represent appropriately the concerns of various populations within the county. The limited resources available in the county demonstrates a need for a coalition who will take responsibility and provide leadership for promoting and supporting policy, systems and environmental change that support healthy eating, and increase physical activity and prevent tobacco use throughout the county to combat most chronic disease conditions.

Populations at risk

As a result of geographic isolation and a lack of resources and employment opportunities in the area, Mitchell County is a Tier 2 county (raised from a Tier 1 to a Tier 2 designation for 2015 by the North Carolina Commerce Department). This means that the county is a somewhat economically distressed community indicating that its residents are at-risk for developing health issues. With that being said, it is important to focus our efforts on those who are most vulnerable, undeserved, and facing disparities to ensure health equity among our residents. Those at-risk populations in Mitchell County include low-income residents, the un- or under-insured, residents with limited educational attainment, and minorities.

Health Priorities

During monthly meetings, standards for the Community Health Assessment Process and Accreditation were discussed and reviewed for publication in the 2015 Community Health Assessment. Each member reviewed and approved of the Community Health Assessment Survey and Community Resource Directory included in the assessment. After the analysis was completed, of 200 random telephone surveys and 9 key informant interviews, qualitative and quantitative data findings were presented to the Community Health Assessment team. The team reviewed the data and developed the top ten major health issues based upon statistical data and community survey results.

Prioritizing Health Concerns

During the months of March through October 2015, a community-wide, 75 questionnaire was conducted to give residents an opportunity to express concerns and opinions about the quality of life in Mitchell County. This included questions about the quality of life, economy, education, environment, health, housing, leisure activities, safety, social issues, transportation, and emergency preparedness. Surveys were conducted by telephone by a trained interviewer, not through an automated touch-tone process, strategically across the county in an effort to reach a wide variety of the population. A total of **200 surveys** were included in the final analysis. Based on findings from the community survey combined with secondary health data, in November 2015, Mitchell Community Health Partnership members identified ten (10) chief health concerns for the county.

The top ten health concerns are as follows:

1. Chronic Disease
2. Cancer
3. Substance Abuse
4. Health Behaviors/Lifestyles
5. Access to Healthcare
6. Mental Health
7. Aging Problems/Care for the Elderly
8. Social Determinants of Health
9. Oral Health
10. Maternal and Infant Health

In February 2016, Mitchell Community Health Partnership, along with the CHA Team members participated in a prioritization activity to determine the three leading health concerns to be addressed during 2015-2019. The worksheet asked that each of the ten concerns be ranked according to three criteria: Magnitude of the Problem, Seriousness of the Consequences, and Feasibility of Correcting the Problem.

The results from the prioritization process are reviewed and discussed at the meeting. The final health concerns are named as the focus for the next four-year cycle, 2015-2019.

Results of these worksheets were calculated to come up with the top three priorities, which are as follows:

- 1. Substance Abuse Prevention and Increasing Availability/ Access of Mental Health Services**
- 2. Health Living Behaviors/Lifestyles and Chronic Disease Prevention**
- 3. Social Determinants of Health**

Next Steps

The 2015 CHA will be disseminated in a variety of ways. To begin, the document will be made available online at http://www.toeriverhealth.org/Comm_Health.asp. Hard copies will also be available at the Health Department, local library, and printed upon request.

The CHA Facilitator will present the CHA data during a Board of Health Meeting, a Mitchell Community Health Partnership steering committee meeting, a Mitchell County Health Department staff meeting, and upon request.

Next steps include the development of a community health improvement plan based on the findings from the CHA. The CHA Facilitator will convene community members and partners interested in moving forward on the selected health priorities. Action teams will emerge from the selected health priorities and the teams will begin brainstorming evidence-based strategies. While much work has already been done to improve the health of our community's residents, more work is left to do to ensure that Mitchell County is the healthiest place to live, learn, work, and play.

All entities and organizations provided great insight into this process, offering opinions on the health status of this community. It is through their partnership and collaboration that we were able to make this a product about the community, by the community, and for the community.

CHAPTER 1 – COMMUNITY HEALTH ASSESSMENT PROCESS

Purpose

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

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

Definition of Community

Community is defined as "county" for the purposes of the North Carolina Community Health Assessment Process. Mitchell County is included in Blue Ridge Regional Hospital's community for the purposes of community health improvement, and as such they were key partner in this local level assessment.

WNC Healthy Impact

WNC Healthy Impact is a partnership between hospitals and health departments in western North Carolina to improve community health. As part of a larger, and continuous, community health improvement process, these partners are collaborating to conduct community health (needs) assessments across western North Carolina www.WNCHealthyImpact.com. Our county and partner hospitals are involved in this regional/local vision and collaboration. Participating counties include: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey.

Data Collection

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

Core Dataset Collection

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

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



See [Appendix A](#) for details on the regional data collection methodology.

Health Resources Inventory

An inventory of available resources of our community was conducted through reviewing a subset of existing resources currently listed in the 2-1-1 database for our county as well as working with partners to fill in 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 an important 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 and key informant interviews)
- In the identification and prioritization of health issues

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

At-Risk & Vulnerable Populations

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

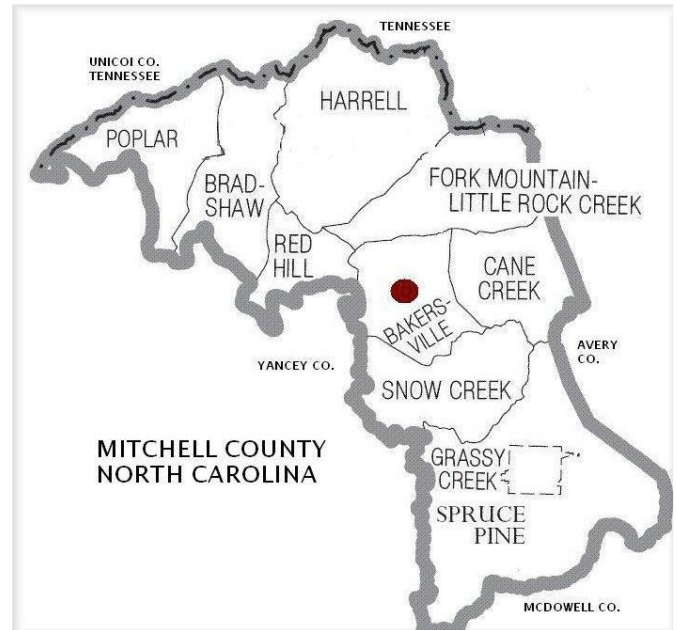
To assist in data analysis, reporting prioritization and health improvement planning, we came up with the following definitions and examples for underserved, at-risk, and vulnerable populations.

- The underserved are community members who do not access health care either because there is a lack of services or providers available or because of limitations of income, literacy, or understanding on how to access services. Mitchell County has high Health Professional Shortage Area (HPSA) score (Mental Health: 15; Primary Care: 17; and Dental Health: 16) (HRSA) proving that all residents in Mitchell County are underserved. More specific examples of underserved populations in Mitchell County include the un- or under-insured, residents living below poverty level, residents with limited educational attainment, etc.
- Those at-risk are community members of a particular group who are likely to, or have the potential to, get a specified health condition. Examples of at-risk populations in Mitchell County include residents who are low income, minorities, who are un- or under-insured, who smoke, who abuse substances, are obese/overweight, who are sedentary, do not eat the recommended amount of fruits and vegetables, etc.
- The vulnerable are community members that may be more susceptible than the general population to risk factors that lead to poor health outcomes. Examples of vulnerable populations in Mitchell County include residents living below poverty level, residents using WIC/FNS services, older adults etc.

CHAPTER 2 – MITCHELL COUNTY

Location and Geography

Mitchell County is located in Western North Carolina, approximately 50 miles northeast of Asheville, North Carolina and 25 miles southeast of Johnson City, Tennessee. It is located in the Blue Ridge Mountains. The County's total land is 220 miles. Bakersville is the county seat, with a population of approximately 400. The county's largest town, Spruce Pine, is located in the southern part of the county and has a population of approximately 2,000. The county's average year-round temperature is 52 degrees and it receives an average of 46.7 inches of rain annually. Elevation ranges from 1,700 to 6,313 feet above sea level with an average elevation of 3,000 feet. The mountain climate is particularly appropriate for any number of outdoor activities such as whitewater rafting, hiking, backpacking, camping, fishing, horseback riding, and canoeing, kayaking, mountain biking, and picnicking.



The county is home to the "Mineral City of the World", Spruce Pine, and Roan Mountain, which includes the world's largest natural rhododendron garden, and the longest stretch of grassy bald in the Appalachian range. Throughout the year such festivals as North Carolina Mineral and Gem Festival and North Carolina Rhododendron Festival bring many people to the area. As of 2010, the population was 15,579. Mitchell County was one of the three dry counties in North Carolina, along with Graham and Yancey, but in March 2009, after much controversy, the Town of Spruce Pine approved beer, wine, and ABC store sales.

History

Mitchell County was formed in 1861 from parts of Burke County, Caldwell County, McDowell County, Watauga County and Yancey County. It was named in honor of Elisha Mitchell, professor of mathematics, chemistry, geology and mineralogy at the University of North Carolina from 1818 until his death in 1857. Dr. Mitchell was the first scientist to argue that a nearby peak in the Black Mountains was the highest point east of the Mississippi River. He measured the mountain's height and climbed and explored it. In 1857 he fell to his death on a waterfall on the side of the mountain. The mountain was subsequently named Mount Mitchell in his honor.

The creation of Mitchell County was brought about by the question of secession during the build up to the Civil War. The Northern half of the region strongly supported the Union and wanted to part company with the Southern half, which favored secession. The opportunity that enabled this split came about when Jacob W. Bowman, a rising young politician from what is now Bakersville, was elected to represent Yancey County in the N.C. legislature. Eager to serve his constituents living north of Toe River, young Bowman was instrumental in the passage of an act that created the new county.

The county took a direct hit from "The Storm of the Century", also known as the "'93 Superstorm", or "The (Great) Blizzard of 1993". This storm event was similar in nature to a hurricane. The storm occurred between March 12–13, 1993, on the East Coast of North America. Parts of Cuba, Gulf Coast States, Eastern United States and Eastern Canada were greatly impacted.

The county suffered a tragic event on the evening of Friday, May 3, 2002 when a fire broke out at the Mitchell County jail in Bakersville, North Carolina. As a result of the fire 8 men lost their lives.

Population

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

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

According to data from the 2010 US Census, the total population of Mitchell County is 15,579. In Mitchell County, as region-wide and statewide, there is a higher percentage of females than males (51.2% vs. 48.8%).

Overall Population and Distribution, by Gender	Total Population (2010)	# Males	% Males	# Females	% Females
Mitchell County	15,579	7,600	48.8	7,979	51.2
Regional Total	759,727	368,826	48.5	390,901	51.5
State Total	9,535,483	4,645,492	48.7	4,889,991	51.3

In Mitchell County 20.9% of the population is in the 65-and-older age group, compared to 19.0% region-wide and 12.9% statewide. The median age in Mitchell County is 45.7, while the regional mean median age is 44.7 years and the state median age is 37.4 years.

Median Age and Population Distribution, by Age Group	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
Mitchell County	45.7	769	4.9	2,574	16.5	8,976	57.6	3,260	20.9
Regional Total	44.7	40,927	5.4	132,291	17.4	441,901	58.1	144,608	19.0
State Total	37.4	632,040	6.6	1,926,640	20.2	5,742,724	60.2	1,234,079	12.9

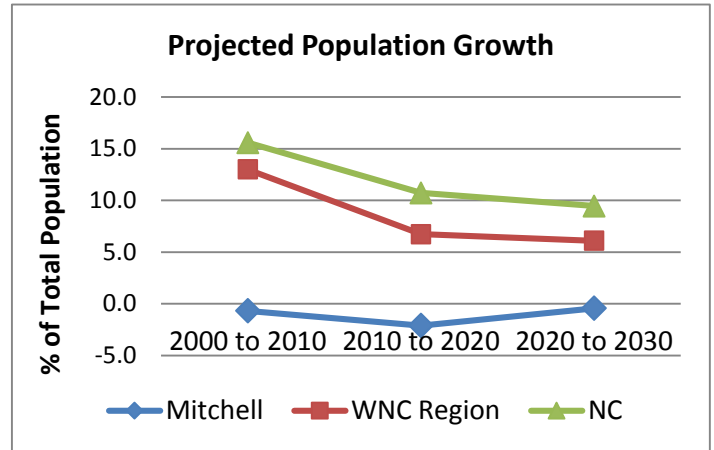
In terms of racial and ethnic diversity, Mitchell County is less diverse than either WNC or NC as a whole. In Mitchell County the population is 95.3% white/Caucasian and 4.7% non-white. Region-wide, the population is 89.3% white/Caucasian and 11.7% non-white. Statewide, the comparable figures are 68.5% white and 31.5% non-white. The proportion of the population that self-identifies as Hispanic or Latino of any race is 4.1% in Mitchell County, 5.4% region-wide, and 8.4% statewide.

Population Distribution, by Racial/Ethnic Groups	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)
Mitchell County	95.3	0.4	0.4	0.3	0.0	2.5	1.1	4.1
Regional Total	89.3	4.2	1.5	0.7	0.1	2.5	1.8	5.4
State Total	68.5	21.5	1.3	2.2	0.1	4.3	2.2	8.4

Population Growth Trend

Between the 2000 and 2010 US Censuses the population of Mitchell Count *decreased* by 0.7% while the population of WNC grew by 13%. The rate of population loss in the county is projected to actually accelerate over the next 10 years; losses are projected to continue in the decade following that. Mitchell is the only county among the 16 in WNC with a negative overall 30-year growth rate. Double-digit (or near double-digit) positive population growth figures are projected for WNC and for NC as a whole over the same period.

Decadal Population Growth Rate by Geography; % Total Population Growth	2000 to 2010	2010 to 2020	2020 to 2030	2000 to 2030
Mitchell County	-0.7	-1.3	-0.4	-2.3
Regional Total	13.0	11.6	9.6	38.2
State Total	15.6	11.3	9.6	44.5



The growth rate of a population is a function of emigration and death rates on the negative side, and immigration and birth rates on the positive side. As illustrated by the data below, the birth rate in Mitchell County, lower than the comparable mean WNC and NC rates, remained roughly static at around 10.2 births per 1,000 persons over the five aggregate periods between 2002-2006 and 2006-2010; and keeps dropping throughout the periods of 2007-2011 to 2009-2013. Region-wide the birth rate was stable at around 10.8 for several years before falling recently to 9.6. Statewide, the birth rate was stable for several years around 14.2, then fell to 12.6.

Birth Rate, Five 5-Year Aggregate Period by Geography	2002-2006	2003-2007	2004-2008	2005-2009	2006-2010	2007-2011	2008-2012	2009-2013
Mitchell County	10.2	10.1	10.3	10.2	10.1	9.8	9.6	9.2
Regional Arithmetic Mean	10.8	10.8	10.8	10.7	10.5	10.2	9.8	9.6
State Total	14.2	14.2	14.2	14.1	13.8	13.5	13.0	12.6

Older Adult Population Growth Trend

As noted previously, the age 65-and-older segment of the population represents a larger proportion of the overall population in Mitchell County and WNC than in the state as a whole. In terms of future health resource planning, it will be important to understand how this segment of the population, a group that utilizes health care services at a higher rate than other age groups, is going to change in the coming years. The table presents the decadal growth trend for the age 65-and-older population, further stratified into smaller age groups, for the decades from 2010 through 2030. The data illustrates how the population age 65-and-older in the county is going to increase over the coming two decades. The percent increase anticipated for each age group in Mitchell County between 2010 and 2030 is 8.5% for the 65-74 age group, 35.8% for the 75-84 age group, and 50.0% for the 85+ age group. In WNC as a whole, the 65-74 age group is projected to grow by 24.0%, the 75-84 age group by 52.5%, and the 85+ age group by 40.0% over the same period of time.

Population Age 65 and Older by Geography	2010 Census Data				2020 (Projected)				2030 (Projected)			
	Total % Age 65 and Older	% Age 65-74*	% Age 75-84	% Age 85+	% Age 65 and Older	% Age 65-74	% Age 75-84	% Age 85+	% Age 65 and Older	% Age 65-74	% Age 75-84	% Age 85+
Mitchell County	20.9	11.8	6.7	2.4	24.3	13.1	8.3	3.0	25.6	12.8	9.1	3.6
Regional Total	19.0	10.4	6.1	2.5	23.5	13.2	7.4	2.9	25.7	12.9	9.3	3.5
State Total	12.9	7.3	4.1	1.5	16.6	9.9	4.9	1.8	19.3	10.6	6.5	2.2

CHAPTER 3 – A HEALTHY MITCHELL COUNTY

Elements of a Healthy Community

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

- Encouraging Physical Activity
- Access to Medical and Dental Care
- Adequate Substance Abuse Treatment
- Affordable Health Care
- Employment Opportunities

"We have the quality of life that respects and preserves our history and our environment while giving those who call Mitchell County home a unique place to work at high tech global corporations or enjoy the entrepreneurial freedom of launching their own business. What we find is that lots of people come to visit....and then they come back and stay! Now a compliment like that, doesn't get much better than that"

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

In Mitchell County, a community health improvement coalition exists called Mitchell Community Health Partnership (MCHP); a team of citizens and agencies working to improve the health of the people of Mitchell County. Founded in February of 1998, upon receipt of a grant from the Duke Endowment Fund and in cooperation with the Bakersville Community Medical Center, Blue Ridge Regional Hospital and MAHEC, this partnership began and currently still exists. Its purpose is to assess rural health needs in the area, compile data, and organize a community group to improve the health of our citizens. With the formation of a county-wide steering committee, membership policies, and basic organization guidelines were developed, consisting of:

- Building and promoting collaborative partnerships
- Identifying critical needs in the community
- Guiding local planning efforts to improve health
- Supporting innovative health programs
- Advocating for health-promoting policies

Additionally, MCHP plays a large role in the CHA process. Members of the Steering Committee acts as the CHA Team by advising the process, providing input, and confirming the identified health priorities. Action Teams are formed around selected health priorities and charged with developing strategies to address each health priority.

Community Assets

We also asked key informants to share some of the assets or “gems” they thought were important in our community. They shared the following information and ideas:

- Beautiful land geographically, beautiful country
- Citizens who have lived their whole lives there
- Raising families and generations there
- History and connectedness within the population and communities
- Location/Outdoor spaces and opportunities for recreation (hiking, hunting, fishing, and other recreation)
- Willingness to help others
- Agencies come together to network and attempt to address health issues facing the community
- New resources available in the area (such as the dental clinic and community health center)
- Networking of the local churches and faith community
- Tourism opportunities

CHAPTER 4 – SOCIAL & ECONOMIC FACTORS

Income

Income provides economic resources that shape a variety of choices – choices about housing, education, childcare, food, medical care, and more. Income allows residents to not only purchase health insurance and medical care but also make choices that support healthy lifestyles. The simplest difference in health is between those in the highest and lowest income brackets, the relationship of income affecting health persists throughout all brackets. There are several income measures that can be used to compare the economic well-being of communities, among them median household income, and median family income.

Median Household and Family Income

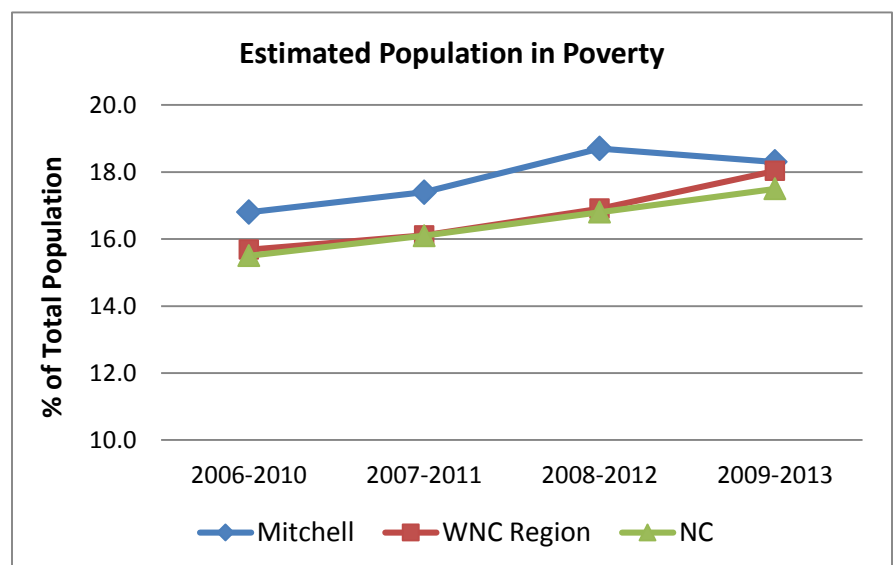
As calculated from the most recent estimate (2009-2013), the median *household* income in Mitchell County was \$37,680, compared to a mean WNC median household income of \$38,887, a difference of \$1,207 *less* in Mitchell County. The median household income in Mitchell County was lower than the comparable state average for both the periods cited (\$12,827 lower in 2006-2010 and \$8,654 in 2009-2013); the gap expanded by \$4,173 from 2006-2010 to 2009-2013.

As calculated from the most recent estimate (2009-2013), the median *family* income in Mitchell County was \$46,432, compared to a mean WNC median family income of \$48,551 a difference of \$2,119 *less* in Mitchell County. The median family income in Mitchell County in 2006-2010 was \$14,426 *less* than the comparable state average, and in 2009-2013 the gap narrowed \$3,930, to \$10,496 less in Mitchell County.

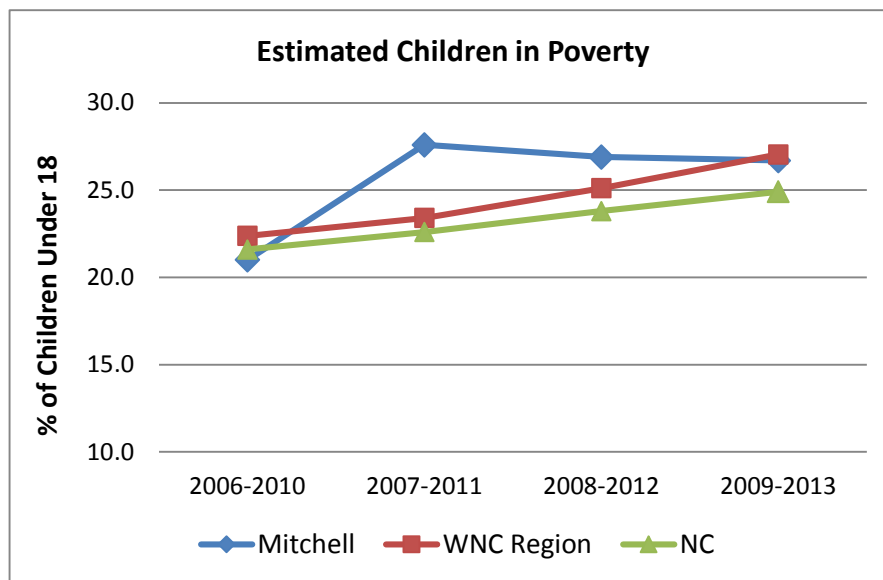
Median Household and Median Family Income by Geography	2006-2010				2009-2013			
	Median Household Income*		Median Family Income**		Median Household Income		Median Family Income	
	\$	\$ Difference from State	\$	\$ Difference from State	\$	\$ Difference from State	\$	\$ Difference from State
Mitchell County	32,743	-12,827	41,727	-14,426	37,680	-8,654	46,432	-10,496
Regional Arithmetic Mean	37,815	-7,756	47,608	-8,545	38,887	-7,447	48,551	-8,377
State Total	45,570	n/a	56,153	n/a	46,334	n/a	56,928	n/a

Population in Poverty

The 100%-level poverty rate in Mitchell County was 16.8% in the 2006-2010 period, but rose to 18.3% in the 2009-2013 period; this change represents an increase of 1.5% in the percent of persons living in poverty. In both periods cited, the poverty rate in Mitchell County was higher than the comparable rates in both WNC and NC. In Mitchell County, WNC region, and the state of NC, the total poverty rate continues to increase in each 5 year aggregate period from 2006-2010 to 2009-2013. In much of NC, children suffer disproportionately from poverty. It is



apparent that children suffer disproportionately from poverty in our county. The estimated poverty rate among children under age 18 was higher compared to the overall poverty rate in every year cited. In Mitchell County the poverty rate for young persons (26.7%) was higher than the overall rate (18.3%) in 2009-2013 5-year period. Our Hispanic children, children living in single-mother families, and children under five are even more likely to be at risk for being poor.



Employment

Employment provides income and benefits that can support healthy lifestyle choices. Conversely, unemployment and under-employment can limit these choices. With adults spending nearly half of their waking hours at work, it is ideal to work in a supportive workplace that provides benefits such as health insurance, paid sick leave, and even workplace wellness programs. Unfortunately, the “working poor” do not see many of these opportunities – they may not be able to afford quality child care and can lack paid leave to care for their families and themselves. Further, the unemployed face challenges such as low-income, lack of health insurance, and greater risk of increased stress, high blood pressure, heart disease, and depression.

As of 2013, the top five employment sectors in Mitchell County with the largest proportions of workers (and average weekly wages) were:

- Healthcare and Social Assistance: 17.6% of workforce (\$680)
- Education Services: 14.5% of workforce (\$584)
- Retail Trade: 13.1% of workforce (\$435)
- Administrative and Waste Services: 9.6% of workforce (\$347)
- Public Administration: 9.2% of workforce (\$556)

The county, WNC and NC lists are quite similar, with variations in WNC stemming from its relative lack of manufacturing jobs and the regionally greater significance of the tourism industry, represented by the Accommodations and Food Service sector. Mitchell County is quite different from the other jurisdictions in the high placement of employment in the Mining sector.

Unemployment

Throughout the period cited in the graph below (2007-2014) summarizes the annual unemployment rate in Mitchell County. From this data it appears that the annual average unemployment rate in Mitchell County was higher than comparable figures for both WNC and NC as a whole throughout the period from 2007-2014.

It is important to note that a person is defined as unemployed if they:

- Had no employment during the week that includes the 12th of the month but were available at work
- Had made specific efforts to find employment during the four weeks prior
- Were waiting to be recalled to a job from which they had been laid off
- Were waiting to report to a new job within 30 days

Geography	Annual Average							
	2007	2008	2009	2010	2011	2012	2013	2014
Mitchell County	7.2	8.8	12.2	12.0	11.8	11.8	11.5	7.3
Regional Arithmetic Mean	5.0	6.9	11.4	11.7	11.2	10.6	9.3	6.5
State Total	4.8	6.3	10.4	10.8	10.2	9.5	8.4	6.1

Education

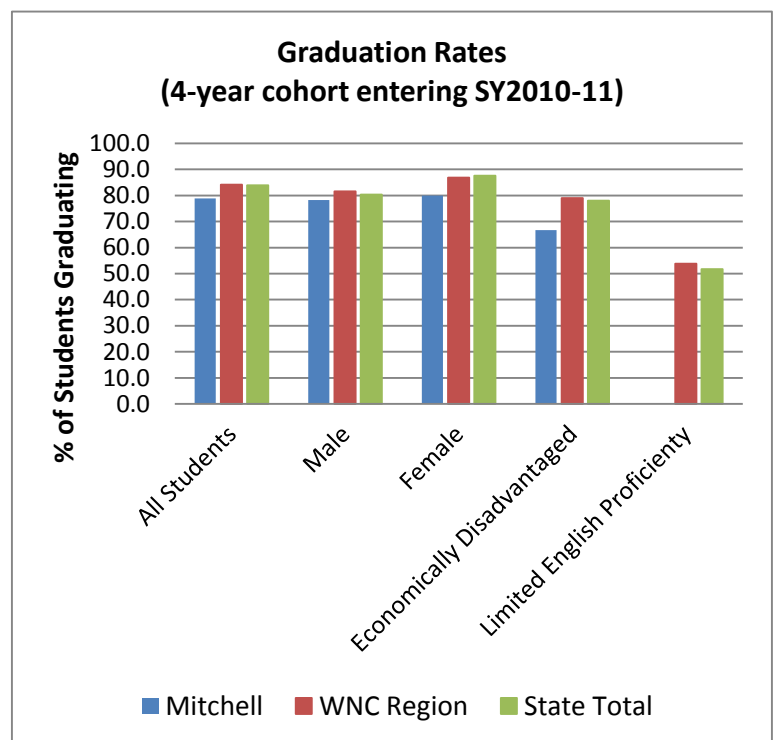
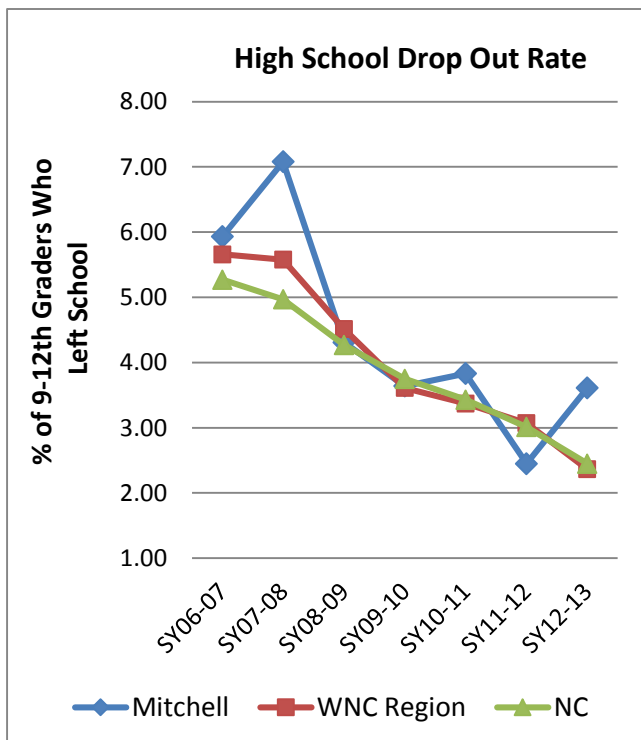
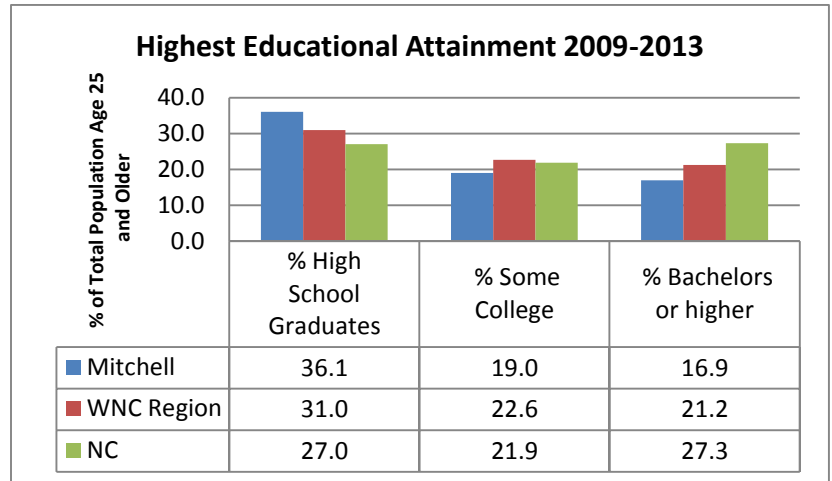
It is helpful to understand the level of education of the general population, and with what frequency current students stay in school and eventually graduate. Studies show that better educated individuals live longer, healthier lives than those with less education. Further, children of better educated individuals are more likely to thrive as well, even when factors like income are taken into account. More schooling is linked to many important factors that influence health – higher income, better employment options, increased social support, and increased support opportunities for healthier choices.

Higher levels of education can lead to a greater sense of control over one's life, which is linked to better health, healthier lifestyles decisions, and fewer chronic conditions. Perhaps the greatest evidence for continuing education is connected to lifespan – on average, college graduates live nine more years than high school dropouts. These benefits of education trickle down to children as well; children whose mothers graduate from college are twice as likely to live past their first birthday, have decreased risk of cognitive development, decreased risk of tobacco and drug use, and lower risk of many chronic conditions. (CDC, CDC Community Health Improvement Navigator, 2015)

Educational Attainment

The table below provides data on the proportion of the population age 25 and older with one of three levels of educational attainment: high school or equivalent, some college, and a bachelor's degree or higher. In addition to being compared with the WNC Region, Mitchell County has:

- The percentage of people in the population over age 25 having only a high school diploma or equivalent has been consistently higher than the region and state over the last four 5-year aggregated periods of time;
 - 2006-2010; Mitchell 37.4, WNC 32.2, NC 28.2
 - 2007-2011; Mitchell 38.9, WNC 32.0, NC 27.7
 - 2008-2012; Mitchell 36.6; WNC 31.5, NC 27.2
 - 2009-2013; Mitchell 36.1, WNC 31.0, NC 27.0
- The percentage of people in the population over age 25 having bachelor's degree or higher has been consistently lower than the region and state over the last four 5-year aggregated periods of time;
 - 2006-2010; Mitchell 14.4, WNC 20.2, NC 26.1
 - 2007-2011; Mitchell 13.7, WNC 20.3, NC 26.5
 - 2008-2012; Mitchell 16.7, WNC 20.8, NC 26.8
 - 2009-2013; Mitchell 16.9, WNC 21.2, NC 27.3
- For school years 2006-2007, 2007-2008, 2010-2011 and 2012-2013, the high school drop-out rate for Mitchell County public schools was higher than the comparable mean rate for the 17 school districts in WNC as well as the rate for all NC public schools. In Mitchell County, during the SY2010-2011 the graduation rates for all subpopulations were lower than the region and state percentages.



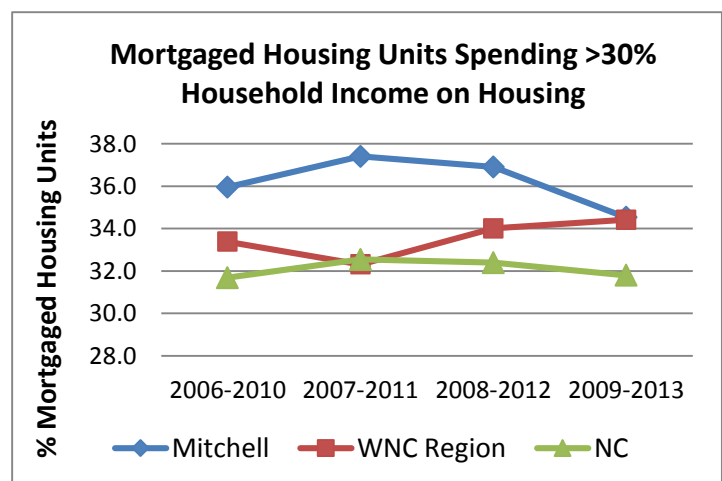
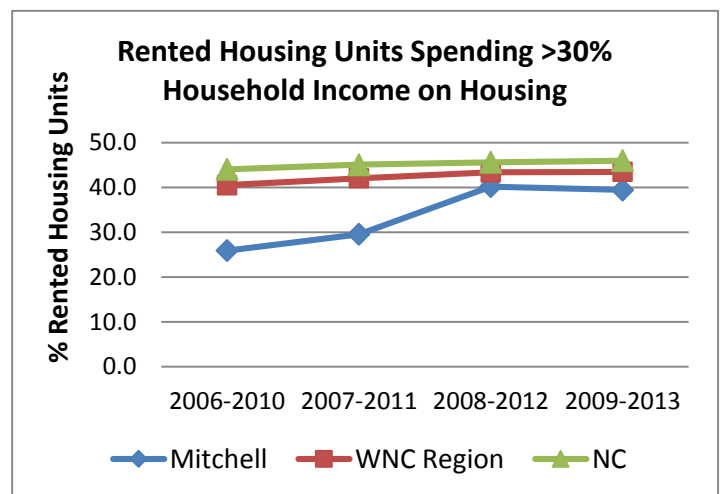
Housing

Housing options shape our community; the choices we make about housing and the opportunities to make these choices affect our health. Housing structures protect residents from weather while providing safe environments for families to live, learn, grow, and more. Unfortunately, houses and apartments can also be unhealthy and unsafe. Exposure to lead paint, improper insulation, the growth of mold and other indoor allergens all lead to unhealthy conditions.

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

In Mitchell County, the percentage of *rental* housing units costing more than 30% of household income was 25.9% in the 2006-2010 period and 39.4% in the 2009-2013 period, an increase of 13.5%. In WNC, the comparable percentage was 40.5% in the 2006-2010 period and 43.5% in the 2009-2013 period, an increase of 3%. These percentages correspond to state figures of 44.0% and 46.0%, respectively, with a state-level increase of only 2%. The percent of *mortgaged* housing units in Mitchell County costing more than 30% of household income was 36.0% in 2006-2010 and 34.5% in 2009-2013, a decrease of 1.5%. Comparable figures for mortgaged housing units in WNC stood at 33.4% in 2006-2010 and 34.4% in 2009-2013, an increase of 1%. These percentages compare to state figures of 31.7% and 31.8% in the same periods, and a state-level increase of not even 1%. From this data it appears that in WNC and NC as a whole a higher proportion of renters than mortgage holders spend 30% or more of household income on housing costs. The same is true in Mitchell County.

Housing is a substantial expense. In fact, a measure of economic burden in a community is the percent of housing units spending more than 30% of household income on housing. In Mitchell County, larger proportions of renters spend >30% of household income on housing than in WNC region and NC average; with lower proportions of mortgage holders in Mitchell County than the region and state.



Family & Social Support

People with greater social support, less isolation, and greater interpersonal trust live longer lives than those who are socially isolated. Therefore, neighborhoods richer in social capital provide residents with greater access to support and resources than those with less social capital. Social support stems from relationships – relationships with family members, friends, colleagues, neighbors, acquaintances. All of these relationships protect physical and mental health while facilitating healthy behaviors and choices. Conversely, those without social support are at increased risk for poor health outcomes such as increased vulnerability to the effects of stress, cardiovascular disease, overeating, in adults, smoking in adults, and obesity in children.

Social associations are a way to measure family and social support. Social associations are the number of membership associations (civic organizations, golf clubs, sports organizations, religious organizations, and more) per 10,000. In Mitchell County, the social association rate is 20.8 for 2015, almost double the rate in the state of NC.

Another measure of family and social support is the percentage of children in family households that live in a household headed by a single parent. Adults and children in single-parent households are at risk for adverse health outcomes such as mental health problems (substance abuse, depression, suicide) and unhealthy behaviors (smoking, excessive alcohol use). In Mitchell County, 34% of children live in single parent households, compared to 36% as the state rate for NC.

CHAPTER 5 – HEALTH DATA FINDINGS SUMMARY

Mortality

Life expectancy is the average number of additional years that someone at a given age would be expected to live if current mortality conditions remained constant throughout their lifetime. The table below presents a fairly recent summary of life expectancy for Mitchell County, WNC, and NC as a whole. The overall life expectancy in Mitchell County is 77.6 years. This is both slightly lower than that of WNC (77.7 years) and NC (78.2 years). For persons born in 2011-2013, life expectancy among comparator jurisdictions is longest among women than men. From this data it appears that females born in Mitchell County in the period cited could expect to live 4 more years longer than males born at the same time. Similarly, females born in WNC in the period cited in the table could expect to live 5 years longer on average than males born under the same parameters.

Life Expectancy at Birth for Person Born in 2011-2013					
County	Overall	Sex		Race	
		Male	Female	White	African-American
Mitchell	77.6	75.6	79.6	77.7	n/a
WNC (Regional) Arithmetic Mean	77.7	75.3	80.2	77.9	75.2
State Total	78.2	75.7	80.6	78.8	75.9

The table below compares the mean rank order of the 15 leading causes of death in Mitchell County and NC for the five-year aggregate period 2009-2013. (The causes of death are listed in descending rank order for Mitchell County.) From this data it appears that cancer, heart disease, chronic lower respiratory disease, unintentional injuries, Alzheimer's disease, cerebrovascular disease, and pneumonia and flu have higher county causes of death rates than the state as a whole. Conversely, diabetes, suicide, septicemia, homicide, AIDS, and chronic liver disease rank lower as causes of death locally than statewide. In another words, people in Mitchell County have lower mortality than the populations statewide for seven of the fifteen leading causes of death for which county rate are stable.

Rank	Leading Cause of Death 2009-2013	Mitchell		North Carolina	
		# Deaths	Death Rate	# Deaths	Death Rate
1	Diseases of Heart	261	218.2	90,717	170.0
2	Cancer	220	179.1	86,285	173.3
3	Chronic Lower Respiratory Diseases	97	76.0	23,346	46.1
4	Cerebrovascular Disease	57	45.5	21,816	43.7
5	All Other Unintentional Injuries	41	42.6	14,403	29.3
6	Alzheimer's disease	42	34.0	14,000	28.9
7	Pneumonia and Influenza	21	18.0	8,890	17.9
8	Unintentional Motor Vehicle Injuries	12	16.6	6,687	13.7
9	Nephritis, Nephrotic Syndrome, and Nephrosis	16	12.9	8,850	17.6
10	Septicemia	14	11.5	6,731	13.3
11	Diabetes Mellitus	11	10.7	11,220	21.7
12	Suicide	9	10.0	6,070	12.2
13	Chronic Liver Disease and Cirrhosis	4	5.0	5,128	9.5
14	Homicide	1	1.7	2,742	5.8
15	Acquired Immune Deficiency Syndrome	0	0.0	1,471	2.9

The leading causes of death in Mitchell County are very similar in rank order to the comparable list for NC. The difference is mostly a matter of rate. For example, the heart disease mortality rate in Mitchell County (218.2) is higher than the mean NC (170.0) rate, and the county mortality rate for CLRD (76.0) is almost twice higher than the comparable mean NC rate.

When compared by gender, the leading causes of death differ greatly among males and females in Mitchell County. It is important to note how poorly males in Mitchell County fare compared to females in terms of mortality due to the two of the seven gender-stratified leading causes of death for which there are stable rates for both males and females. Heart Disease (males 281.3 versus females 165.7) and Cancer (males 233.4 versus females 142.7) causes of death rates seem to be the most surprising. This is not a new observation, neither is it unique to Mitchell County. This is a long-standing and wide-spread problem that remains unsolved. Potential reasons as to why females fare better on these gender-stratified leading causes of death include utilization of preventative care, medical check-ups, and participation in screening events generally is higher among women; while participation in risky behaviors, such as smoking, substance abuse, poor diet, lack of exercise, etc. is generally high among men.

Morbidity

Morbidity as used in this report refers generally to the current presence of injury, sickness or disease (and sometimes the symptoms and/or disability resulting from those conditions) in the living population. The table below illustrates the percentages of leading causes of hospitalization for Mitchell County, WNC Region, and NC State as a whole.

The table lists the diagnostic categories accounting for the most cases of inpatient hospitalization for 2012. The source data is based on a patient's county of residence, so the regional totals presented in the table represent the sum of hospitalizations from each of the 16 WNC counties.

According to data, the diagnosis resulting in the highest number of cases of hospitalization in 2012 among Mitchell County residents was for respiratory diseases, including pneumonia/influenza and chronic obstructive pulmonary disease, which accounted for 356 hospitalizations. The next highest number of hospitalizations was for cardiovascular and circulatory diseases, including heart disease and cerebrovascular disease (301 cases), followed by digestive system diseases, including chronic liver disease and cirrhosis (222 cases).

Rank	Leading Cause of Hospitalization 2012	Mitchell	Region	NC
		% of Cases	% of Cases	% of Cases
1	Respiratory Disease	17.5	11.7	10.1
2	Heart Disease	14.8	16.0	16.5
3	Digestive System Diseases	10.9	10.0	9.5
4	Injuries and Poisoning	7.1	9.2	8.2
5	Mental Disorders and other Diagnoses	6.8	10.0	8.9
6	Musculoskeletal System Diseases	5.9	7.6	6.1
7	Infectious and Parasitic Diseases	5.4	4.2	5.3
8	Symptoms, Signs, and Ill-Defined Conditions	5.2	3.7	3.9
9	Genitourinary Diseases	4.9	4.7	4.7
10	Endocrine, Metabolic, and Nutritional Diseases	4.6	3.6	4.1

Health Status & Behaviors

According to American's Health Rankings, the state of NC ranked 35th overall out of 50 United States of America (where #1 is the best). Bringing this closer to home, the 2015 County Health Rankings ranked Mitchell County 57th overall among 100 NC counties. In terms of health outcomes, Mitchell County ranked:

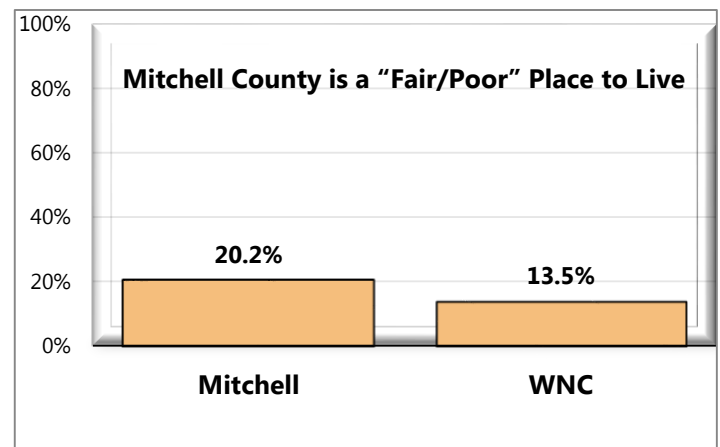
- 42nd In length of life (includes premature death)
- 71st In quality of life (includes poor or fair health, poor physical health days, poor mental health days, low birthweight)

In terms of health factors, Mitchell County ranked:

- 41st in health behaviors (including adult smoking, adult obesity, physical inactivity, access to exercise opportunities, alcohol-impaired driving deaths, and more)
- 71st in clinical care (including uninsured, primary care physicians, dentists, mental health providers, mammography screenings, and more)
- 64th in social and economic factors (includes high school graduation, unemployment, children in poverty, social associations, violent crime, and more)
- 53rd in physical environment (includes air pollution-particulate matter, drinking water violations, severe housing problems, and more)

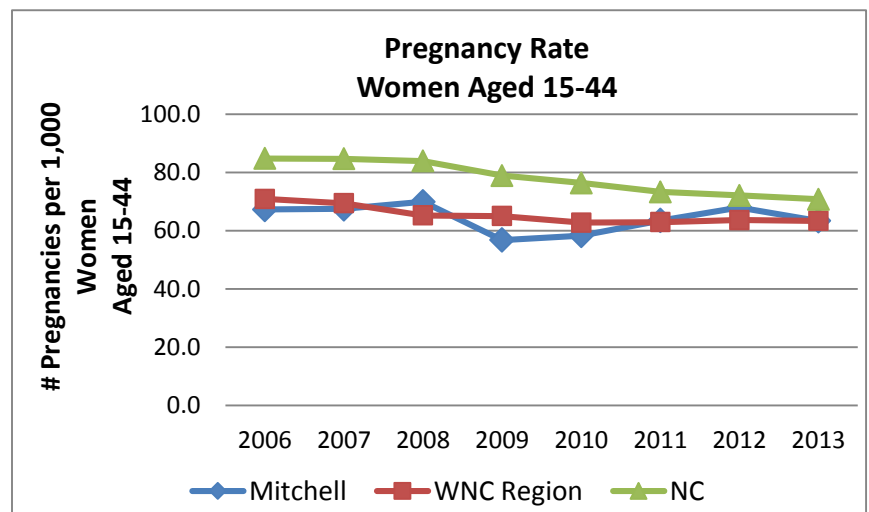
Since Mitchell County is ranked in the middle quartile of all counties in NC, there is much area to improve upon, especially in terms of health factors.

Much data was collected throughout the CHA process on self-reports health status. Only 20.2% of Mitchell County residents that were surveyed stated that this county is a fair/poor place to live. Additionally, only 21.8% of residents stated that they experience “fair” or “poor” overall health. Finally, of those who reported that they were limited in activity in some way due to physical, mental, or emotional problems, most listed difficulty walking, back/neck problems, arthritis, and “other” as the types of problems that limit activity.

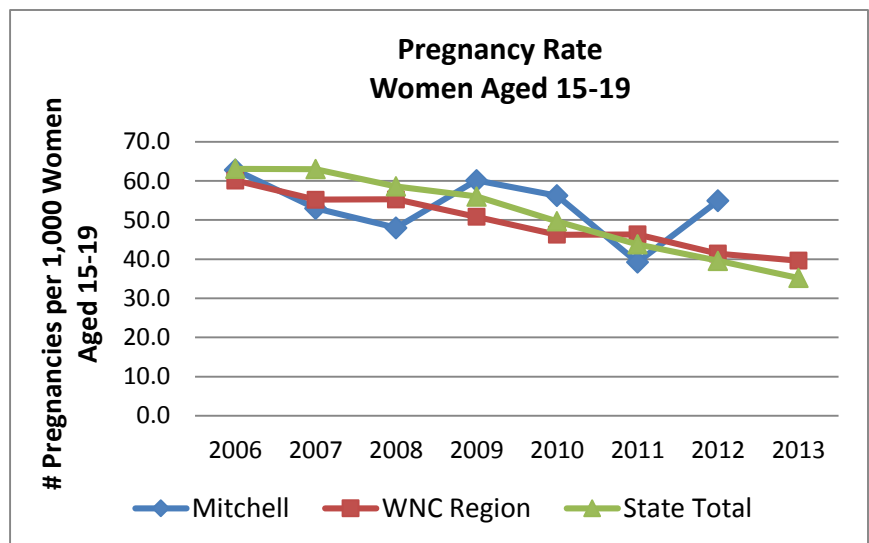


Maternal & Infant Health

The pregnancy rate for Mitchell County for women aged 15-44 years appears to have stayed consistently between the rates of 50 and 65 overall since 2006 to 2013; similar to the pattern of WNC. However, the NC rate has consistently dropped every year cited, being 84.8 in 2006 decreasing to 70.8 in 2013 (falling 14 percent in 7 years). The NC SCHS stratifies much of the pregnancy-related data it maintains into two age groups: ages 15-44 (all women of reproductive age) and ages 15-19 (“teens”).



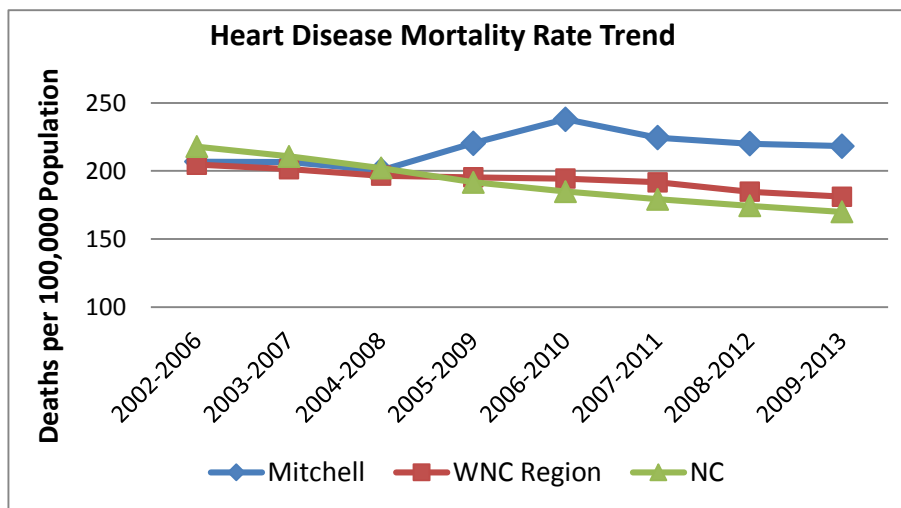
This graph illustrates that the pregnancy rate for teens (ages 15-19) in Mitchell County was quite variable, trending both below and above the mean WNC and NC rates over the period cited. This is not the case for WNC and NC, with their rates decreasing consistently from 2006 to 2013. The WNC rate has significantly dropped from 60.1 to 39.6, declining a total of 20.5 percent. Very similar to the NC rate, going from 63.1 in 2006 to 35.2 in 2013, a difference of 27.9. Among Mitchell County women, for both ages 15-44 and teens, the highest pregnancy rates appear to occur among Hispanics.



Chronic Disease

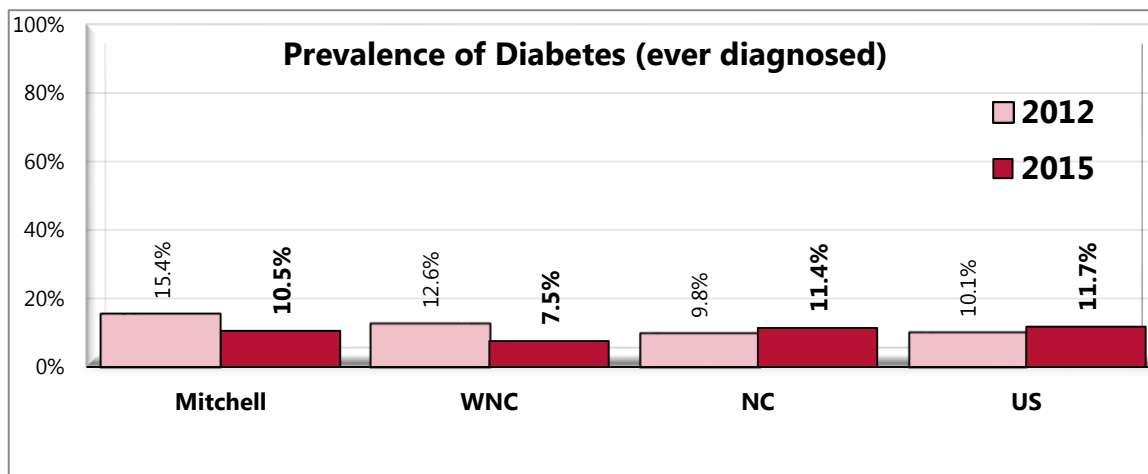
Chronic disease is a prominent health concern in Mitchell County, especially cardiovascular disease and cancer. The prevalence of heart disease is higher in Mitchell County (9.7%) than in WNC and the U.S. (6.5% and 6.1% respectively).

Heart disease is the leading cause of death in Mitchell County. The graph below shows that the mortality rate for heart disease has increased since 2008. The mortality rate has also been consistently higher in Mitchell County than the rates in both the Western North Carolina region and the state as a whole.



Source: North Carolina Center for Health Statistics (NC SCHS) Vital Statistics website:
<http://www.schs.state.nc.us/data/vital.cfm>Carolina

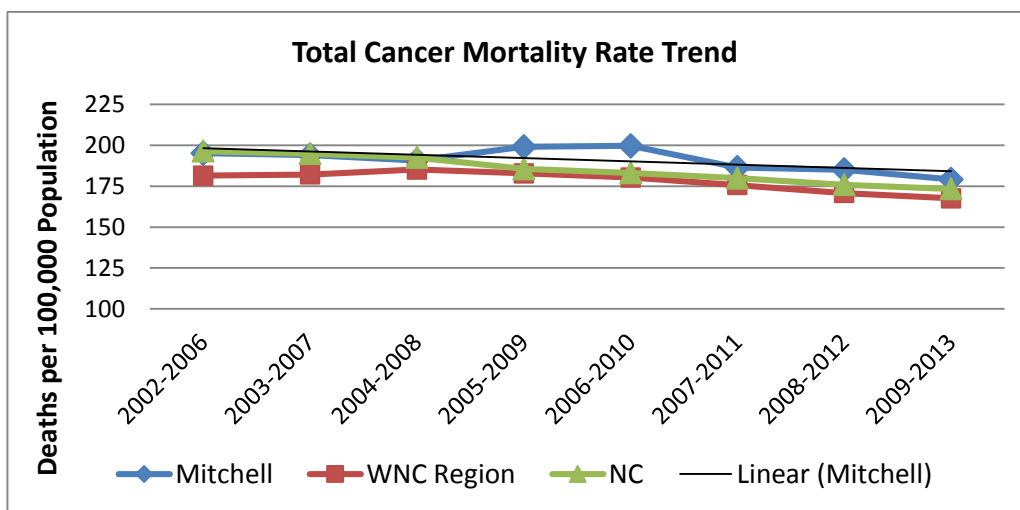
Diabetes and heart disease go hand-in-hand. The prevalence of diabetes has decreased in Mitchell County from 2012 to 2015 (15.4% to 10.5%), while it increased in NC and the U.S. The prevalence in Mitchell County is higher than Western North Carolina (10.5% vs. 7.5%), but it is lower than the state (10.5% vs. 11.4%).



Source: 2015 PRC Community Health Survey, Professional Research Consultant, Inc.

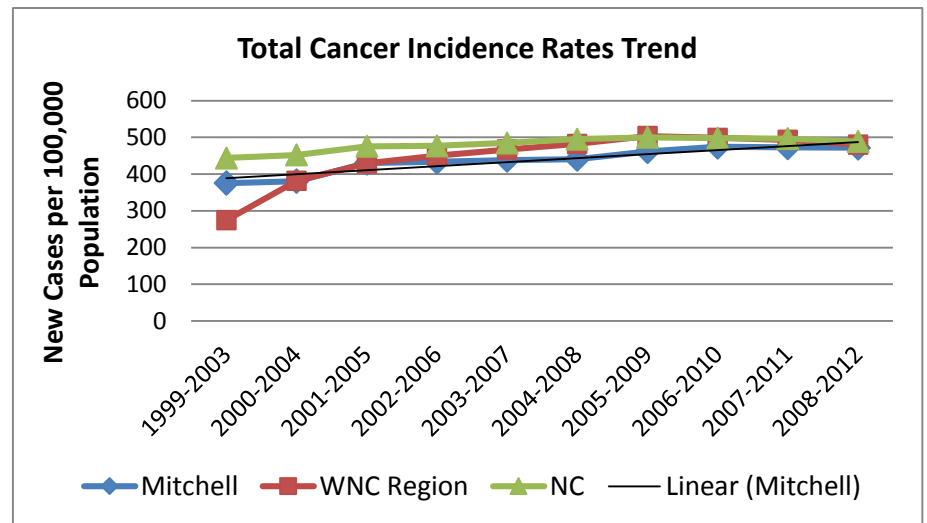
Cancer is another chronic issue that affects many people in Mitchell County. It is the second leading cause of death in the county.

The chart on the right displays cancer mortality rate trends in Mitchell County, WNC, and NC. Mitchell has seen a decrease in cancer mortality from 2010-2013, but the rate still remains higher than in Western North Carolina and North Carolina.



Source: North Carolina Center for Health Statistics (NC SCHS) Vital Statistics website:
<http://www.schs.state.nc.us/data/vital.cfmCarolina>

The incidence of cancer has increased in Mitchell County over the years. This could be due to increased cancer screenings in the county and the fact that we are better able to detect cancer with increased technology. The incidence has also increased in WNC and NC with Mitchell County incidence staying just under the incidence rates in WNC and the state of North Carolina.

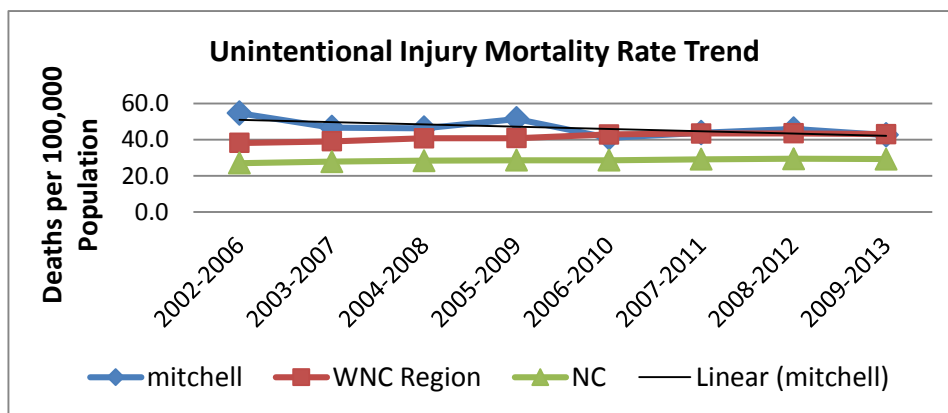


Source: North Carolina Center for Health Statistics (NC SCHS) Vital Statistics website:
<http://www.schs.state.nc.us/data/vital.cfm>Carolina

Injury and Violence

Unintentional injuries are the third leading cause of death for age group 00-19 years, the second leading cause of death for age group 20-39 years, and the third leading cause of death for age group 40-64 years in Mitchell County.

The mortality rate for unintentional injuries in Mitchell County has been variable over the years, with a slight overall decrease. The 2009-2013 mortality rates were 42.6 in Mitchell County, 43.1 in Western North Carolina, and 29.3 in North Carolina



Mental Health and Substance Abuse

Mental health and substance abuse are key issues in Mitchell County. Mental health status is improving.

Findings from the 2015 PRC community health survey showed that 9.8% of respondents stated that they have had >7 days of poor mental health in the past month, which is an improvement from 2012 (13%)

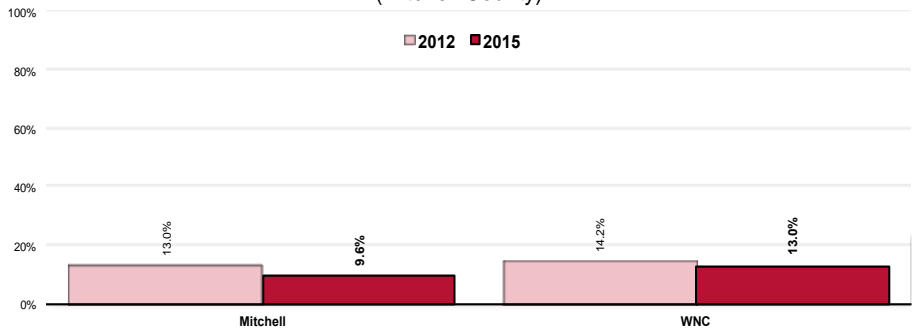
7.7% of Mitchell County residents surveyed said that they were unable to get mental health care or counseling in the past year (an increase from 5.7% in 2012).

Mitchell County has seen a dramatic decrease in the suicide mortality rate in the past couple of years. The 2013 rate for Mitchell County was 10 per 100,000 as compared to 12.2 for the state and 16.3 in Western North Carolina.

Substance abuse is also a major issue in Mitchell County. It is identified as one of the three priority health issues.

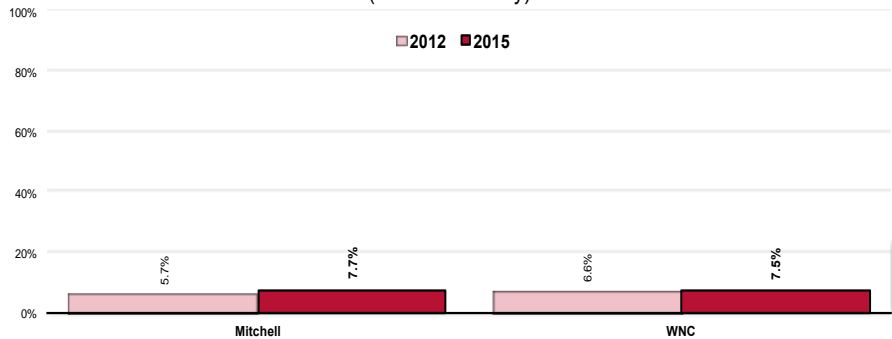
Recent interviews with the Burnsville Chief of Police, Bakersville Chief of Police, Spruce Pine Chief of Police, Sheriffs Gary Banks and Donald Street, and a focus group of six deputies from Mitchell and Yancey counties are experiencing increasing rates of drug-related crime that it is compounded by the fact that other crimes (especially burglary) are a result of addicts attempting to get money/things to sell for drugs. Local law enforcement agencies and those from neighboring counties have cautioned “heroin is on our doorstep,” based on the rise in heroin deaths in our community.

>7 Days of Poor Mental Health in the Past Month (Mitchell County)



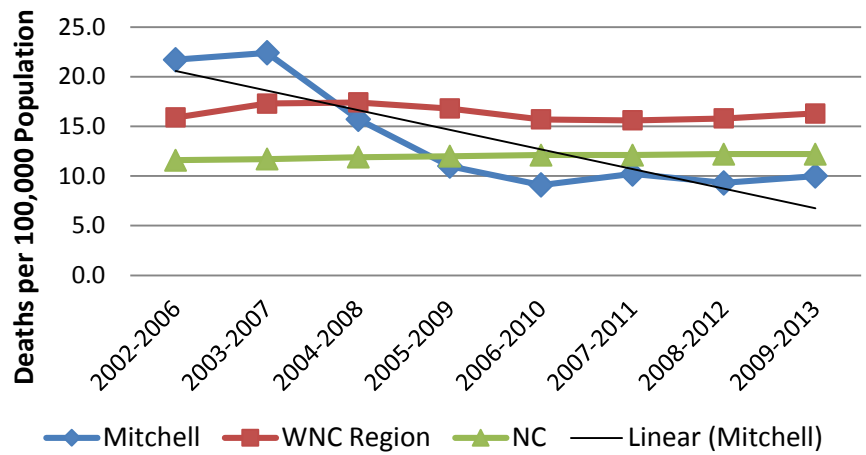
Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 83]

Unable to Get Needed Mental Health Care or Counseling in the Past Year (Mitchell County)



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 84]

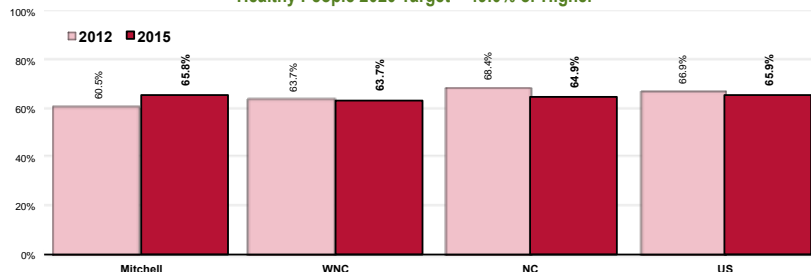
Suicide Mortality Rate Trend



Oral Health

65.8% of resident in Mitchell County have visited a dentist or dental clinic in the past year (an increase from 60.5% in 2012). This is higher than WNC and NC (63.7% and 64.9%). East Carolina University School of Medicine opened up a Community Service Learning Center in Spruce Pine, NC in 2015. The dental clinic provides various dental services to both children and adults.

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



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 21]
• PRC National Health Surveys, Professional Research Consultants, Inc.
• US Department of Health and Human Services. Healthy People 2020. December 2010. <http://www.healthypeople.gov> [Objective OH-7]
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); North Carolina data.

Clinical Care & Access

The passage and implementation of the Affordable Care Act strived to make insurance more accessible. With North Carolina failing to expand Medicaid, it has still made it difficult for some residents to obtain affordable access to health care. Access to health care increases access to preventive care, such as vaccinations and screenings. Preventative care is extremely important and contributes greatly to the overall health of a community. As shown in the table below, the percent of population without health insurance has decreased in Mitchell County since 2009 in the 0-18 years age group and the 18-64 years age group (other than a slight increase in 18-64 from 2012-2013). (U.S. Census Bureau, Small Area Health Insurance Estimates, 2009 [and other years as noted, 2009])

Percent of Population without Health Insurance, by Age Group										
County	2009		2010		2011		2012		2013	
	0-18	18-64	0-18	18-64	0-18	18-64	0-18	18-64	0-18	18-64
Mitchell County	9.1	24.8	8.4	23.3	7.6	23.5	7.1	21.5	7.3	22.4
WNC	9.9	24.2	9.7	26	9.1	25.2	9.3	25.4	8.6	25
NC	8.7	21.9	8.3	23.5	7.9	23	7.9	23.4	6.9	22.5

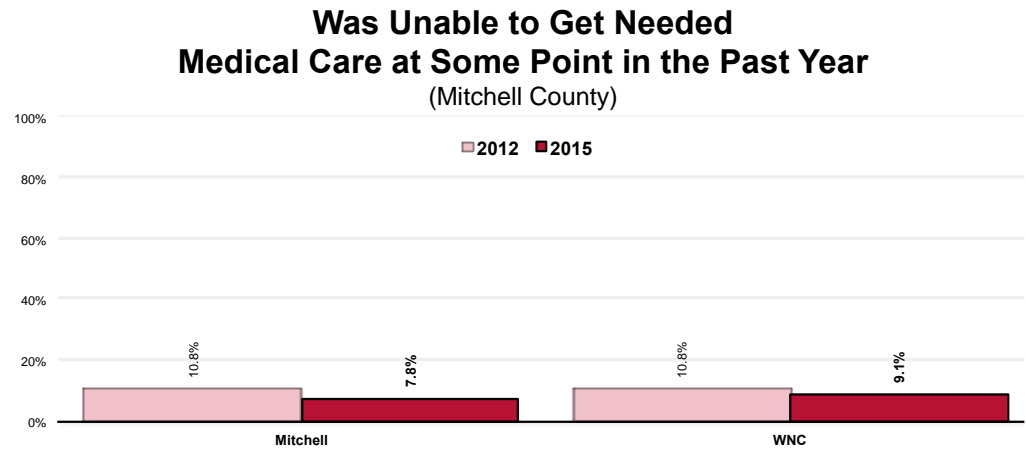
Health Professional Shortage Areas (HPSAs) are defined by HRSA as having shortages of primary care, dental care, or mental health providers. HPSA scores are given using several criteria such as population-to-clinician ratios. The three HPSA scores for Mitchell County are high. (Mental Health: 15; Primary Care: 17; and Dental Health: 16). This shows that the majority of Mitchell County residents are medically underserved.

Number of Active Health Professionals per 10,000 Population Ratios					
County	2012				
	Physicians	Primary Care Physicians	Dentists	Registered Nurses	Pharmacists
Mitchell	15.59	9.09	3.90	129.25	11.04
WNC (Regional) Arithmetic Mean	14.29	6.84	3.61	76.94	7.97
State Total	22.31	7.58	4.51	99.56	10.06

Source: Cecil G. Sheps Center for Health Services Research, North Carolina Health Professions Data System

The chart above shows that Mitchell County has a higher ratio of active health professionals than the Western North Carolina region. Mitchell County also has a higher ratio of primary care physicians, registered nurses, and pharmacists than the state. Even though the ratios are higher, Mitchell County still qualifies as a Health Professional Shortage Area. Many residents of Mitchell County have barriers preventing them from accessing care such as finances, being un- or underinsured, lack of transportation, and various other impediments.

Results from the PRC Community Health Survey show that 7.8% of Mitchell residents surveyed were unable to get needed medical care in the past year compared to 9.1% in the WNC region. This is an improvement from the 2012 survey when 10.8% of respondents said they were unable to get needed medical care.



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

At Risk Populations

At-risk populations in Mitchell County include minorities, un- and under-insured low-income residents, and those with unhealthy behaviors or activities.

At-risk population	Health condition/consequence
Minorities	Diabetes, substance abuse, cancer, heart disease
Un-and under-insured	Poor quality of healthcare, lower rates of preventative care, premature death, uncontrolled chronic disease, lower rates of early stage diagnosis
Low-income	Premature death, poor nutrition, inadequate preventative care, poor access to medical care, increased death from injuries
Residents who smoke	Cancer, COPD, stroke
Residents who abuse substances	Overdose, death
Residents who are obese/overweight	Diabetes, heart disease, hypertension, stroke, cancer
Residents who do not get enough physical activity	Obesity, overweight, heart disease, cancer
Residents with poor nutrition	Obesity, overweight
Elderly	Falls and other accidents

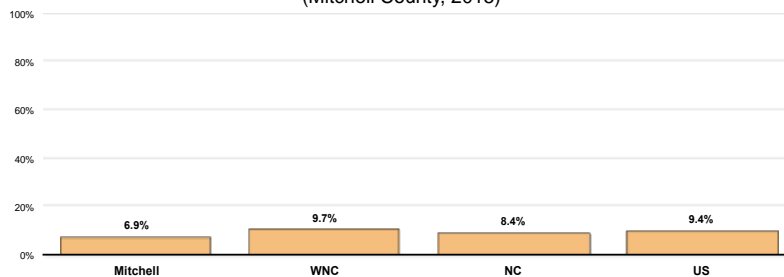
CHAPTER 6 – PHYSICAL ENVIRONMENT

Air Quality

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

Air pollution is a major environmental risk to health. Poor air quality can lead to many adverse health effects especially in those who are immunocompromised such as the elderly and young children. Poor air quality also heavily affects those with chronic health conditions such as asthma, which accounted for 20 cases of inpatient hospital visits and chronic obstructive pulmonary disorder, which accounted for 109 inpatient hospital visits in Mitchell County in 2012.

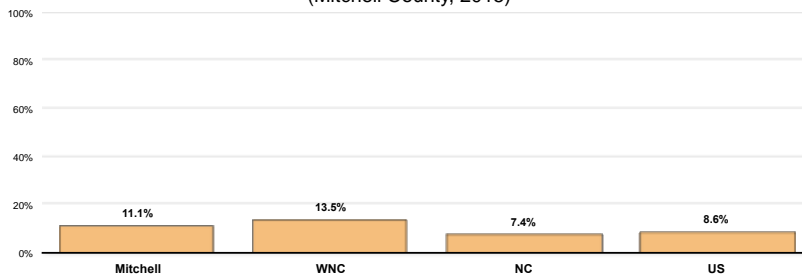
Current Prevalence of Asthma
(Mitchell County, 2015)



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

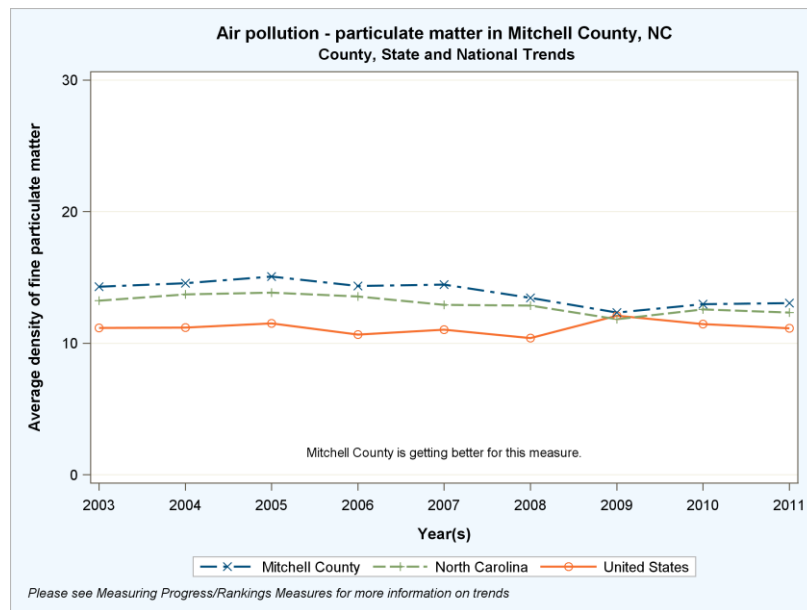
As displayed in the graphs to the left, the prevalence of asthma in Mitchell County in 2015 was 6.9%. This is lower than the prevalence in Western North Carolina and the state of North Carolina (9.7% and 8.4% respectively). The 2015 prevalence of Chronic Obstructive Pulmonary Disease (COPD) was 11.1% in Mitchell County. This is lower than the prevalence in Western North Carolina (13.5%), but higher than the prevalence in the state of North Carolina (7.4%). Issues related to air quality contribute to cases of both asthma and COPD and worsen the symptoms of existing cases.

Prevalence of Chronic Obstructive Pulmonary Disease (COPD)
(Mitchell County, 2015)



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

The average daily density of fine particulate matter in Mitchell County is 13.0 PM/2.5 compared to the overall average of 12.2 PM/2.5 in North Carolina. (County Health Rankings, 2015) The mean has remained fairly steady with a slight decrease in the past few years.



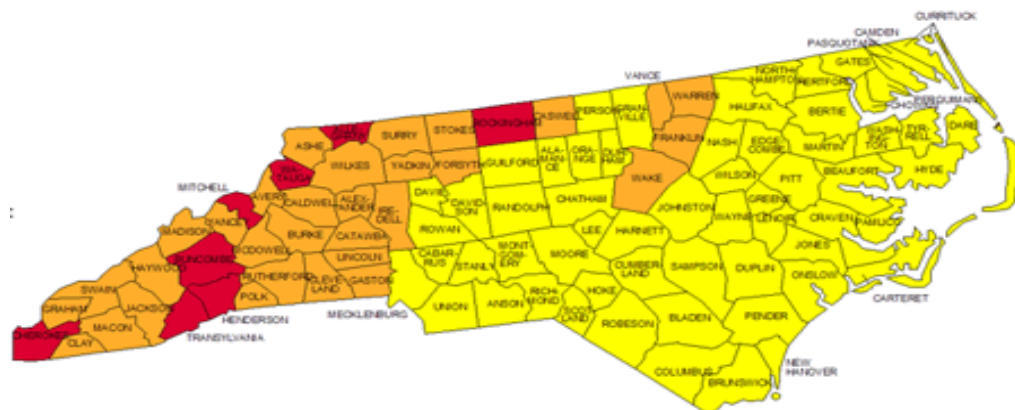
Toxic Chemical Releases

Over 4 billion pounds of toxic chemicals are released into the nation's environment each year. The US Toxic Releases Inventory (TRI) program, created in 1986 as part of the Emergency Planning and Community Right to Know Act, is the tool the EPA uses to track these releases. Approximately 20,000 industrial facilities are required to report estimates of their environmental releases and waste generation annually to the TRI program office. These reports do not cover all toxic chemicals, and they omit pollution from motor vehicles and small businesses (US Environmental Protection Agency, 2015)

The table below presents the 2012 TRI Summary for Mitchell County, which ranks 68th among the states 86 ranked counties. The TRI chemical released in the greatest quantity in Mitchell County was styrene, from BRP US, INC., in Spruce Pine. The second was lead, from US Gypsum Co. in Spruce Pine.

Total On- and Off-Site Disposal or Other Releases, In Pounds	County Rank (of 86 reporting) for Total Releases	Compounds Released in Greatest Quantity	Quantity Released, In Pounds	Releasing Facility	Facility Location
8,097	68	Styrene Lead	8,096 1	BRP US Inc US Gypsum Co.	Spruce Pine Spruce Pine

Radon is a colorless, odorless, radioactive gas that forms naturally from the decay of radioactive elements.(American Cancer Society, 2015) According to EPA estimates, radon exposure is the number one cause of lung cancer among non-smokers. If a smoker is exposed to radon, their chance of getting lung cancer increases (EPA, 2015). The average indoor radon level in Mitchell County is 2.9 pCi/L, which is double the national average, but lower than the Western North Carolina arithmetic mean (4.1 pCi/L). The EPA’s recommended action level for radon exposure is greater than 4 pCi/L.



Source: NC Radon Information
Key: Yellow- < 2pCi/L
Orange between 2 and 4 PCi/L
Red- >4 pCi/L

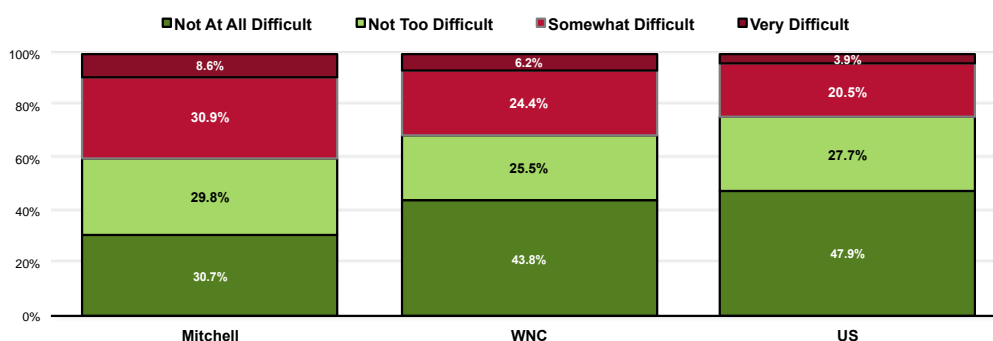
Water

Water is a fundamental human need and clean water is vital to human health. Access to clean water is crucial to not only our health, but our community and economy as well. In 2014, 5,739 (36.8%) of Mitchell County citizens were served by community water systems with no contaminate violations as compared to 54.9% of citizens in Western North Carolina. Many people in Mitchell County access their water from wells or springs.

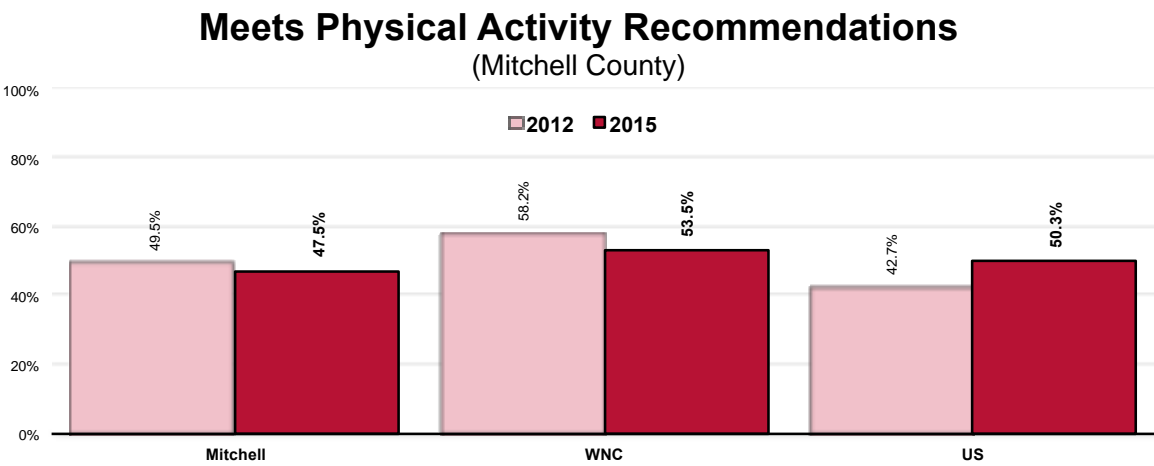
Access to Healthy Food & Places

Healthy diet and physical activity are necessary aspects of a person’s overall health and well-being. Many diseases such as heart disease and diabetes are linked to poor food choices and inadequate physical activity. It is difficult for citizens to stay healthy if they do not have the physical or financial means to access places with healthy food choices and recreational facilities. There are two grocery stores and two farmer’s markets that serve Mitchell County’s 15,579 people. In 2010, 5.7% of surveyed Mitchell County residents live in a food desert. They live below the poverty line, have no vehicles, or have low access to grocery stores. 30.9% of surveyed participants from the PRC community health survey in Mitchell County said that it was somewhat difficult to access fresh produce at an affordable price, while 8.6% said it was very difficult.

**Level of Difficulty Accessing
Fresh Produce at an Affordable Price**
(Mitchell County, 2015)



There is one recreational facility in Mitchell County. According to the results from the PRC Community Health Survey, 47.5% of surveyed Mitchell County residents meet physical activity recommendation compared 53.3% in the Western North Carolina region and 50.3% in the state.



Sources:

- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 133]
- PRC National Health Surveys, Professional Research Consultants, Inc.

CHAPTER 7- HEALTH RESOURCES

Health Resources

Process

To compile a Health Resource List, the CHA Work Team began by reviewing the Health Resource List developed during the 2013 CHA. Any outdated or incorrect information was edited and saved for future reference. The Team split the list into three categories:

- Health resources
- Supportive services
- Needed resources

Additionally, the CHA Facilitator met with the local community partners to compare our Health Resource List. Further additions and edits were made.

Finally, the CHA Facilitator compared all data gathered to the 2-1-1 dataset provided by WNC Healthy Impact. Further additions and edits were made and sent to the 2-1-1 coordinator so that the 2-1-1 online directory could be updated. In lieu of a printed directory, the CHA Work Team opted to focus on updating the 2-1-1 online directory for a number of reasons. The reasons are as follows:

- 2-1-1 is an easy to remember, three-digit telephone number that connects people with important community services to meet every day needs and the immediate needs of people in crisis.
- 2-1-1 is free, confidential, and available 24 hours a day.
- 2-1-1 can be accessed through the internet (www.nc211.org) or by calling 2-1-1 from any home, office or cell phone or the toll-free number of 1-888-892-1162.
- 2-1-1 can be updated in real-time, by sending updates to the 2-1-1 coordinator out of Asheville, NC.

Online/telephone directories such as 2-1-1 have an advantage over printed directories as they are accessible remotely, can be updated easily, and do not require printing costs.

Findings

In working with the 2012 Community Resource List and various community partners, the CHA Work Team updated the 2-1-1 Directory for Mitchell County. Resources available to our residents can be found by visiting www.nc211.org or by calling 2-1-1. During this updating process, much was found in terms of available health resources and supportive services.

To begin, Mitchell County has many health and supportive services in place for our children and older adults. One example would be our local Department of Social Services works closely with all ages and demographics across the community, identifying their needs—whether they be housing-, insurance-, medical-, or else-related—and assists the older adults in accessing these services.

Our community has access to many support groups (such as English as a Second Language, Weight Watchers, Abused Women Support Groups, etc.). Further, our community provides resources for those who are uninsured or under-insured (East Carolina University Dental Clinic, Bakersville Community Health Clinic (FQHC), Mission Hospital based Specialty Clinics held locally, and more). Finally, Mitchell County offers a plethora of county services to its residents (Health Department, Animal Shelter, Senior Center, Recreation Department, Department of Social Services, Emergency Management, and more).

Resource Gaps

Though many resources are available, there are gaps that need to be filled so that Mitchell County residents have adequate access to services. The following is a list of gaps identified through reviewing available resources, key stakeholder interviews, and listening sessions:

- **Affordable childcare:** High-quality, affordable childcare is a huge need in the community. Many parents have difficulty balancing work with childcare costs.
- **Affordable housing:** Few affordable housing options are available for residents, especially seniors.
- **Communication channels:** Living in a remote and isolated community, there needs to be more communication channels (newspapers, internet connectivity, radio stations, etc.).
- **Greenway system/sidewalks/fitness opportunities:** An extended, connected greenway would increase physical activity and active living opportunities for residents. Indoor and outdoor recreation facilities are in great need as well in order to increase physical activity among all ages and populations.
- **Healthy food options:** Healthy food options in the form of grocery stores, farm stands, etc. are needed to meet the needs of residents.
- **Medicaid expansion:** A large number of residents would benefit from Medicaid expansion.
- **Mental health services:** Services such as housing and treatment facilities would help those suffering from mental health issues. Helping our residents avoid incarceration or ED admittance is vital.
- **Access to health care (including specialty care):** Residents have difficulty accessing healthcare due to a lack of providers accepting new patients, financial constraints, and more. Further, many residents travel out of county for subspecialty care (neurology, endocrinology, etc.) Often, residents don't have the means to travel and go without care.
- **Food Security:** There are people in Mitchell County who do not have to imagine or try to understand what it feels like to be without access to good food: this is their reality.
- **Free and Accessible Youth Programs:** Little opportunity exist for our children and youth in the community to keep them busy and steered away from boredom outside of school; to push down every day struggles of life and avoid addictive and destructive behavior. Our children need the community to provide more safe places, enjoyable opportunities, and resourceful services.

CHAPTER 8 – IDENTIFICATION OF HEALTH PRIORITIES

Health Issue Identification

Process

To identify the significant health issues in our community, our key partners reviewed data and discussed the facts and circumstances in our community. We looked at the issues identified in the 2012 community health assessment and looked at what we have made progress on as well as what still needs to be improved. Residents shared their concerns and priorities regarding the county's health in surveys and community meeting and partakers of the CHA meeting voted on these health issues. The following criteria was used to identify significant health issues:

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

Identified Issues

The following health issues were surfaced through the above process:

- ***Chronic Disease:*** The rates of chronic diseases are elevated in Mitchell County. Heart disease, respiratory disease, Alzheimer's, and hypertension are all diseases that impact many residents in the county. There is also a high prevalence of risk factors that lead to chronic disease in Mitchell County.
- ***Cancer:*** Cancer is second leading cause of death in Mitchell County with a rate mortality rate of 179.1. All types of cancer affect residents of various ages throughout the county and incidence of cancer is increasing.
- ***Substance Abuse:*** Our community is experiencing high prescription and recreational drug use as well as alcohol use. This leads to unhealthy behaviors and lifestyle choices that could result in higher rates of chronic disease and mortality in our community.
- ***Health Behaviors/Lifestyles:*** Many unhealthy behaviors and lifestyle choices such as obesity, poor nutrition, physical inactivity and tobacco use are leading to diseases and increasing morbidity and mortality rates.
- ***Access to Healthcare:*** Many residents are un- or underinsured, which makes it difficult to get the healthcare they need, especially regular check-ups and preventative care. Many also lack the transportation needed to get medical care.
- ***Mental Health:*** Availability of mental health services is sparse in Mitchell County. Elevated rates of substance abuse in the community make it necessary for mental health services to be readily available and easy to access without stigma.
- ***Aging Problems/Care for the Elderly:*** With the birth rate decreasing, Mitchell County has an aging population. With an aging population, come many problems, such as lack of transportation to access food and healthcare as well as injury from accidents such as falls.

- ***Social Determinants of Health:*** Social aspects play a huge role in healthy citizens. Employment, poverty, education, income, and lack of resources are all issues in Mitchell County that need improvement in order to improve the health of its citizens.
- ***Oral Health:*** 65.8% of residents have visited a dentist in the past year. Although this is an improvement from years past, more improvement still needs to be made in increasing the number of residents getting regular oral health care visits.
- ***Maternal and Infant Health:*** It is important that expectant mothers exhibit good nutrition and a healthy lifestyle and that should continue for the mother and infant after birth. Our community needs to improve on providing support for expectant mothers and infants. The teen pregnancy rate in Mitchell County is an issue with the rate being higher than WNC and NC.

Priority Health Issue Identification

Process

To identify priority issues in our community, key partners met and reviewed data, health facts and circumstances, and had discussions on what our new health priorities should be. The partakers of the 2015 CHA Team voted on health issues to determine what health issues the focus should be placed on. During our group process, the following criteria were used to select priority health issues of focus for our community over the next three years:

- Criteria 1 –What was the **magnitude** of the problem?
 - In answering this question, community members were asked to consider the following:
 - Size of the problem (number of population affected)
 - Community concern
- Criteria 2—How **serious** are the consequences?
 - In answering this question, community members were asked to consider to following:
 - Groups of people affected (are all people affected? Specific groups?)
 - Urgency to solve the problem
- Criteria 3—How **feasible** will it be to correct the problem?
 - In answering this question, community members were asked to consider the following:
 - Availability of solutions/proven strategies
 - Availability of resources (money, community partners, staff, equipment)
 - Support system
 - Ethical
 - Political capacity/will

Members from the CHA team reviewed data from the top ten identified health issues during a community meeting. They ranked those health issues based on the above criteria (magnitude, seriousness, feasibility) and voted anonymously on which issues should be a top priority.

Identified Priorities

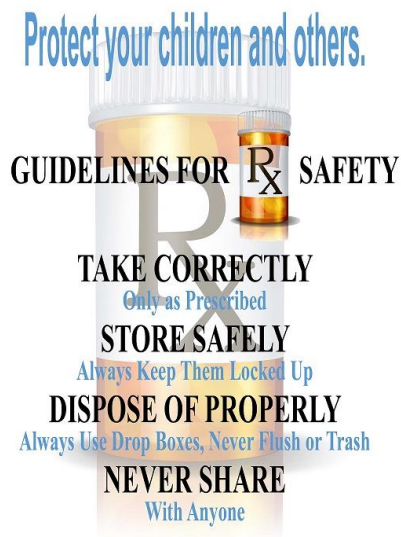
The following priority health issues are the final community-wide priorities for Mitchell County that were selected through the process described above:

- [Substance Abuse Prevention and Increasing Availability/Access of Mental Health Services](#)– Substance abuse has been an ongoing issue in Mitchell County for quite some time. Substance abuse prevention and increasing availability/access of mental health services was listed as a health priority in the 2013 CHA as well as the 2009 CHA. Although there has been great progress, the CHA committee believes that continuous and expanded efforts need to be made to lower the rates of illicit drug use, prescription drug abuse, and increase availability and access of mental health services.
- [Healthy Living Behaviors/Lifestyles and Chronic Disease Prevention](#) –Preventative health measures are extremely important for individual health and community health. Preventative health care measures stop some chronic diseases and reduce healthcare spending costs for the community. Primary prevention is the most effective type of prevention. Healthy living behaviors and lifestyles was a health priority of the

2013 CHA. Mitchell County has a high prevalence of heart disease, respiratory disease, cancer, and other chronic diseases.

- [Social Determinants of Health](#) – Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. (Healthy People 2020). Mitchell County's employment rates, poverty levels, education, income, and lack of resources are all social aspects that can affect the health and wellness of its citizens.

PRIORITY ISSUE #1: SUBSTANCE ABUSE PREVENTION AND INCREASING AVAILABILITY/ACCESS OF MENTAL HEALTH SERVICES



Substance abuse prevention and increasing availability/access to mental health services is an ongoing issue in Mitchell County. It was identified as a top health priority in both the 2009 and 2013 CHA. Substance abuse can include a number of substances, including alcohol, prescription drugs, and illicit drugs. Mitchell County has had annual Drug-Take back Days and has drug drop-boxes placed throughout the county. There is also a part-time Substance Abuse Coordinator for a two-county area (Mitchell and Yancey Counties). Improvement has been made on preventing substance abuse and increasing mental health services, but much more is to be done. This was chosen as a health priority due to the concern about abuse of illegal drugs among residents and misuse of prescription drugs among teens and adults as well as increased alcohol abuse, due to the approval of beer, wine, and ABC store sales in 2009.

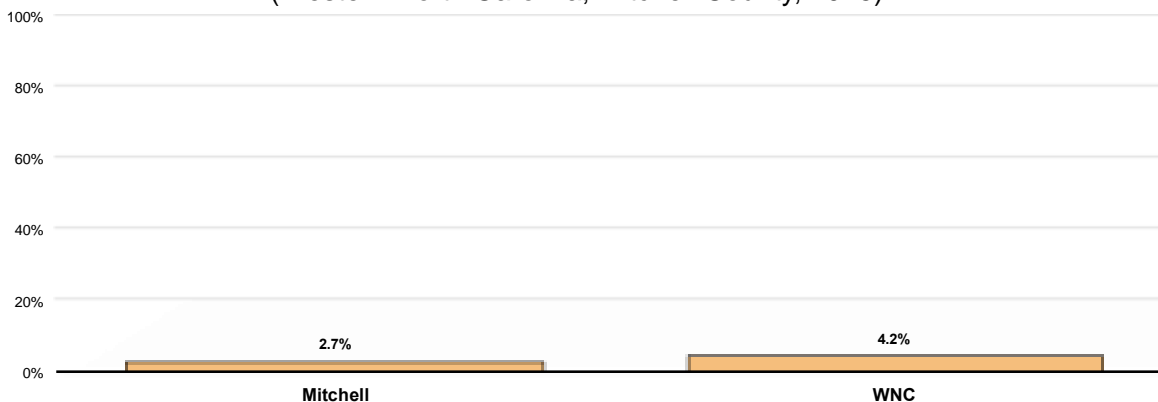
Data Highlights

Health Indicators

When asked if they have shared a prescription medication with someone else, 2.7% of surveyed Mitchell County residents said yes as compared to 4.2% of WNC residents (Professional Research Consultants, Inc, 2015).

Have Ever Shared a Prescription Medication With Someone Else

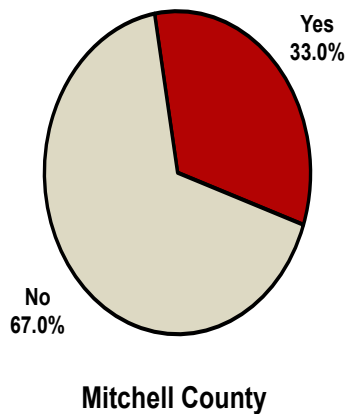
(Western North Carolina; Mitchell County, 2015)



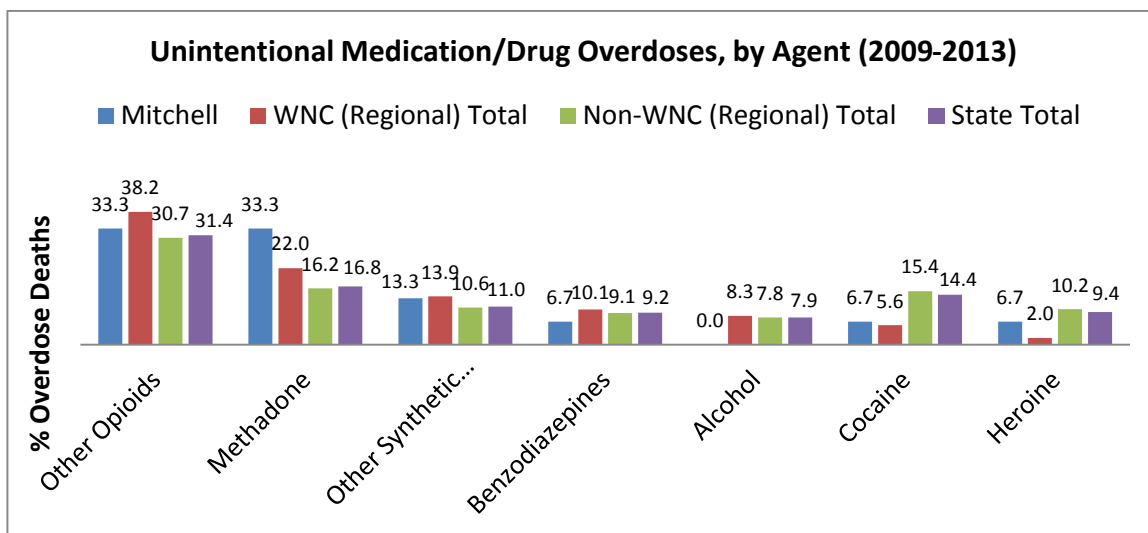
Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 59]

Only 33% of respondents said that they keep their medicine locked in a place where no one else can access it. This is problematic, since it is important to keep medications locked away so others cannot gain access to them and abuse them (Professional Research Consultants, Inc, 2015).

Medicine is Kept in a Locked Place So That No One Else Can Access It (Mitchell County, 2015)

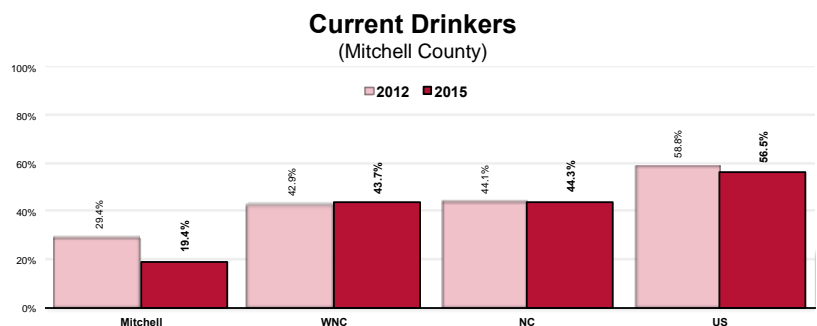


The rate of unintentional medication/drug overdoses is elevated in Mitchell County for many substances. The overdose rate for other opioids was 32% as compared to 38.2% in the WNC region and 31.4% in the state. The overdose rate for methadone was quite alarming at 33.3% as compared to 22% in the region and 16.8% in the state. The methadone overdose rate for Mitchell County is almost double the state rate. The overdose rate for other drugs such as other synthetics, benzodiazepine, alcohol, cocaine, and heroine are also worrisome for Mitchell County, but less than regional and state rates (Medication and Drug Poisoning 2009-2013).



Source: Medication and Drug Poisoning.

The number of current smokers in Mitchell County has increased from 2012 to 2015 (25% to 30.8%). It remains higher than the WNC and NC rate (19.3% and 20.3%). This is more than double the Healthy People 2020 target of 12% or lower. Smoking causes many detrimental health effects such as lung cancer and COPD. It also increases the risk of



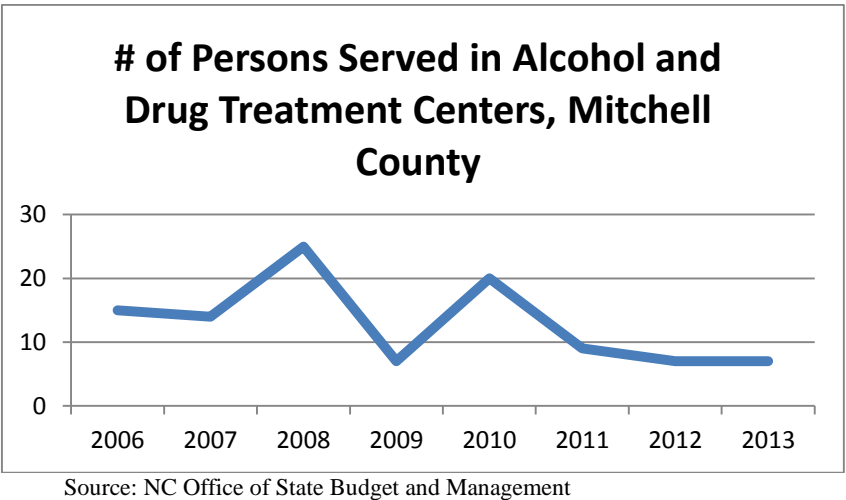
Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 146]
• Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia, United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); North Carolina data.
• PRC National Health Surveys, Professional Research Consultants, Inc.

Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 45]
• PRC National Health Surveys, Professional Research Consultants, Inc.
• Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia, United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); North Carolina data.
• US Department of Health and Human Services. Healthy People 2020. December 2010. <http://www.healthypeople.gov> [Objective TU-1.1]

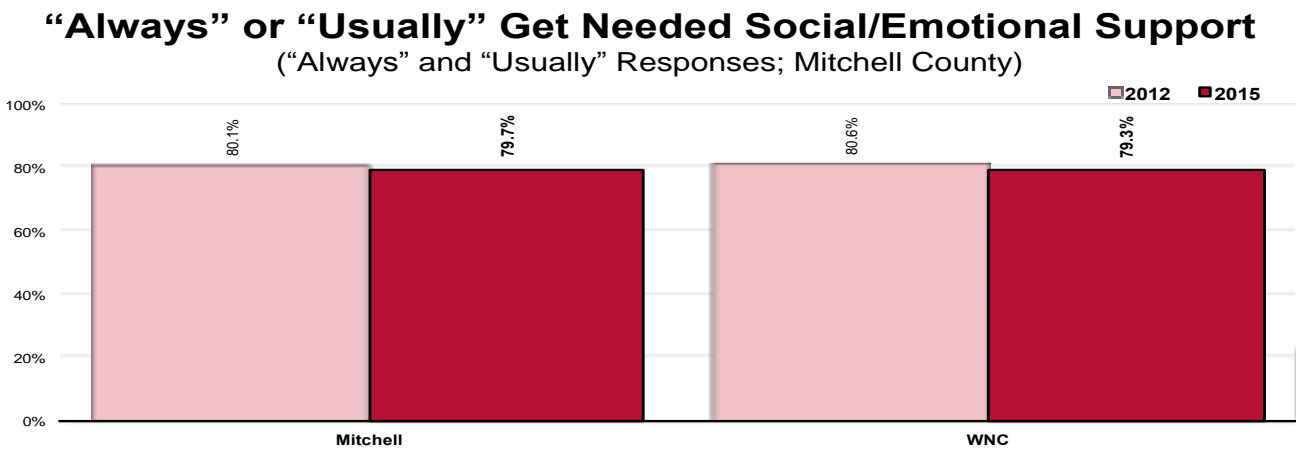
coronary heart disease and stroke. The rate of current drinkers in Mitchell County has decreased from 2012 to 2015 (29.4% to 19.4%). It is also lower than the rate of current drinkers in WNC and NC (Professional Research Consultants, Inc, 2015).

Understanding the Issue

The number of people served in alcohol and drug treatment centers in Mitchell County has been variable over the years. After the year 2010, there was a significant decrease and it has tapered off since.

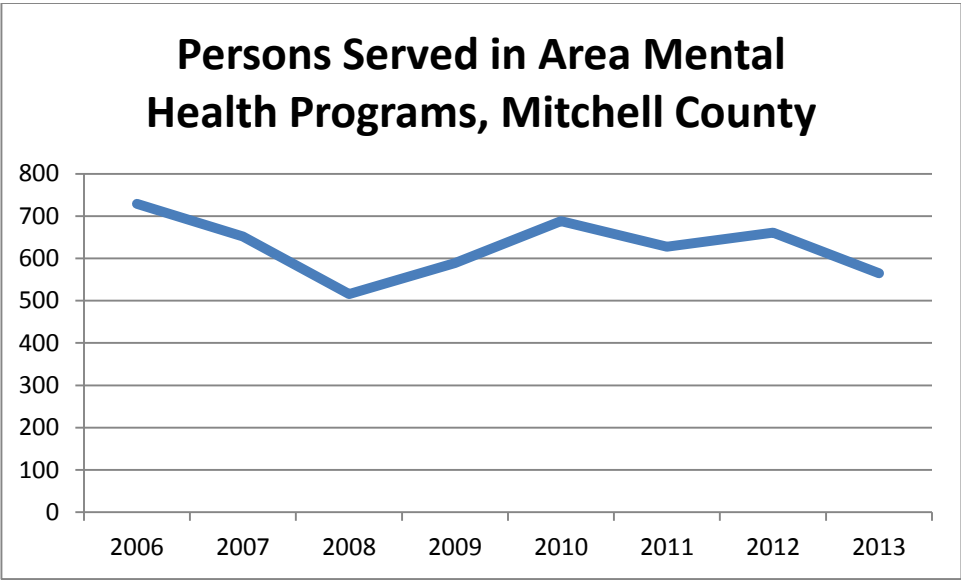


When asked about social/emotional support, Mitchell County residents responded that 79.7% of them always or usually get social and emotional support. This has decreased slightly since 2012 when 80.1% responded that they always or usually get social/emotional support (Professional Research Consultants, Inc, 2015)



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 82]
 Notes: • Asked of all respondents.

Other than a drop in 2008, the number of people served in area mental health programs in Mitchell County has remained fairly consistent with 565 residents being served in 2013 (North Carolina Office of State Budget and Management). It is important that residents have access to mental health and substance abuse facilities and feel comfortable going to them without feeling embarrassed or self-conscious.



Source: North Carolina Office of State Budget and Management

Specific Populations At-Risk

While all residents in Mitchell County can benefit from strategies that prevent substance abuse and improve access to mental health services young residents could benefit the most. Many young people think that prescription drugs are safer than illegal drugs because they are prescribed by a physician, dispensed by a pharmacist, and manufactured by pharmaceutical companies (SAMHSA 2015). According to results from the 2015 Youth Risk Behavior Survey conducted in Mitchell County schools, 128 of 294 (43.5%) respondents said they had drank alcohol and 20.6% said they had tried marijuana, and 4.78% said they had taken a prescription drug without a doctors permission. (YRBS 2015).

Health Resources available/needed

Some resources to address substance abuse and increased availability/access to mental health resources are already in place in our community. Yet there are opportunities to increase these resources to meet the needs of the population. A list of resources is as follows:

Organization:	Primary Focus or Function	Website or Contact Information
Project Lazarus	Believes that communities are ultimately responsible for their own health and that every drug overdose is preventable.	www.projectlazarus.org

Mitchell County Schools	Collaborates with families and community partners to provide a safe, caring, and engaging learning environment that prepares graduates to become responsible citizens in a diverse, global society.	www.mcsnc.org
Mitchell County Sheriff's Department	Protects citizens through crime	www.mitchellcounty.org/departments/sheriff.html
Bakersville Medical Clinic	Improve the health of every individual in the greater Mitchell County Community while providing this care in a culturally sensitive professional and compassionate manner with special emphasis on reaching the medically underserved population.	www.bakersvilleclinic.org
Blue Ridge Regional Hospital	Identify and respond to the health and wellness needs of the region, partnering with patients, families and friends through a comprehensive approach to healing that ministers the mind, body and spirit.	www.blueridgehospital.org
Graham Children's Health Services	Collaborating effort that involves, educates, and unites the community for the design and implementation of strategies that will improve the health of children now and in the future	http://healthyancey.org/graham-childrens/
Western Highlands Network	Ensuring the provision of high quality, consumer responsive, culturally sensitive, and cost-effective services to those who are living with mental illness, developmental disabilities, and substance abuse	www.westernhighlands.org
Mitchell County DSS	Provides assistance and services to all eligible citizens of Mitchell County in a timely, efficient manner.	www.mitchellcounty.org/departments/socialservices.html
Local Pharmacies/Pharmacist	Plays a key role in helping and assisting concerned citizens understand what can be done to create awareness and prevention in the community.	Mechelle Akers familyakers@hotmail.com
AMY Regional Library System	To help communities create and maintain a foundation for literacy, economic development and democracy	www.amyregionallibrary.org
Coalitions/Groups		
Mitchell-Yancey	Provide facilitation of community assessment, public	http://Healthyancey.org/

Substance Abuse Task Force	education and substance abuse treatment and prevention programs by coordinating various agencies, organizations and segments of our community	substance-abuse-task-force/
Mitchell Community Health Partnership	Functioning together to improve the health of people of Mitchell County by way of teamwork from citizens and agencies.	Ronald and Libby Mckinney ronmck@frontier.com

PRIORITY ISSUE #2: HEALTHY LIVING BEHAVIORS/LIFESTYLES AND CHRONIC DISEASE PREVENTION



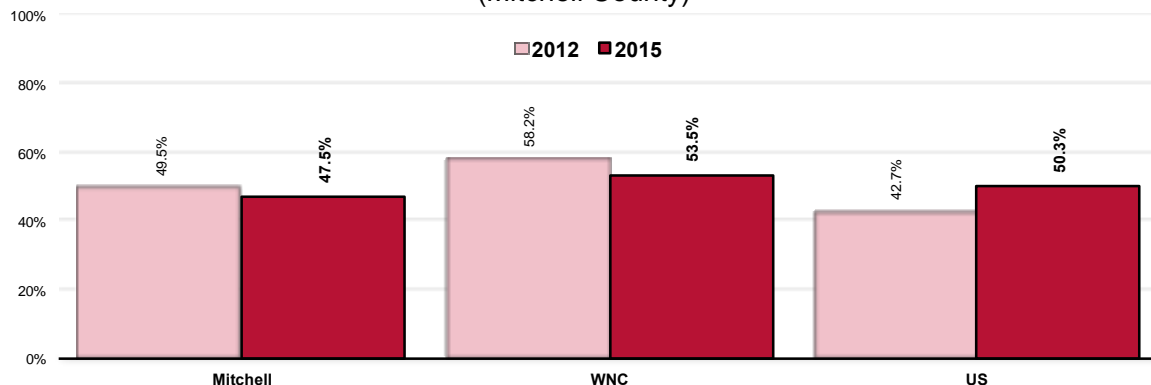
Healthy living behaviors/lifestyles and chronic disease prevention go hand in hand. Healthy living behaviors/lifestyles was also a health priority in the 2013 CHA. It is important to adapt healthy behaviors and lifestyles to prevent diseases from occurring. Primary prevention is the most effective form of prevention. Mitchell County has a high prevalence and incidence of many chronic diseases such as heart disease, stroke, diabetes, respiratory diseases and cancer. It is important to combat these diseases to promote the health and well-being of the citizens of our County.

Data Highlights

Health Indicators

According to the 2015 PRC Community Health Survey, 47.5% of Mitchell County residents meet physical activity recommendations. This percentage is lower than the WNC region and the state (53.3% and 50.3% respectively). This is also lower than the 2012 percentage of 49.5%. Physical activity is a very important component of overall health status. When you are not physically active, you increase your chances of heart disease, type II diabetes, high blood pressure, high blood cholesterol, and stroke (USDA ChooseMyPlate, 2015).

Meets Physical Activity Recommendations (Mitchell County)

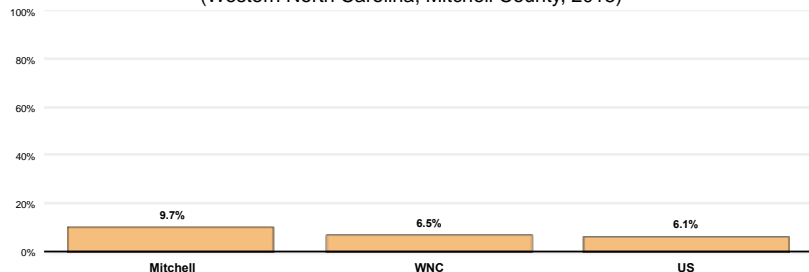


Sources:

- PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 133]
- PRC National Health Surveys, Professional Research Consultants, Inc.

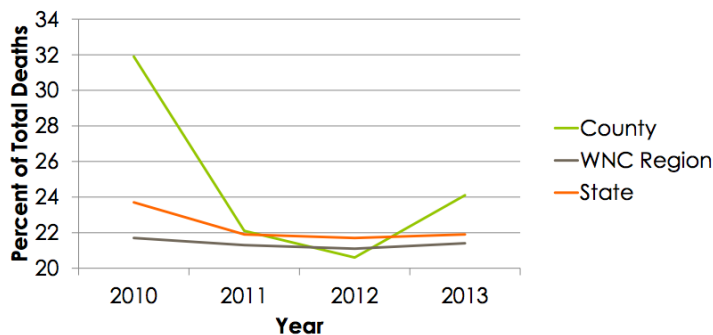
According to the 2015 PRC Community Health Survey, the prevalence of heart disease (9.7%) is greater in Mitchell County than in WNC (6.5%) and the US (6.1%). Heart disease is the leading cause of death in Mitchell County. The percent of total deaths from heart disease is much greater in Mitchell County than the WNC region and the State.

Prevalence of Heart Disease
(Western North Carolina; Mitchell County, 2015)



Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 24]
• 2013 PRC National Health Survey, Professional Research Consultants, Inc.

Heart Disease Leading Cause of Death in Mitchell County

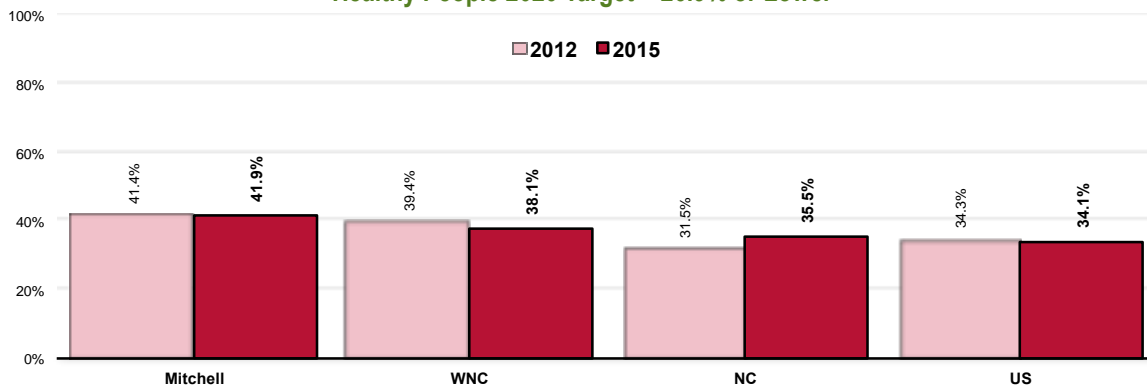


Source: SCHS State Center for Health Statistics, North Carolina 2010-2013

High blood pressure prevalence is also elevated in Mitchell County at 41.9% compared to 38.1% in WNC and 35.5% in NC. High blood pressure is a major risk factor for heart disease (Professional Research Consultants, Inc, 2015).

Prevalence of High Blood Pressure
(Mitchell County)

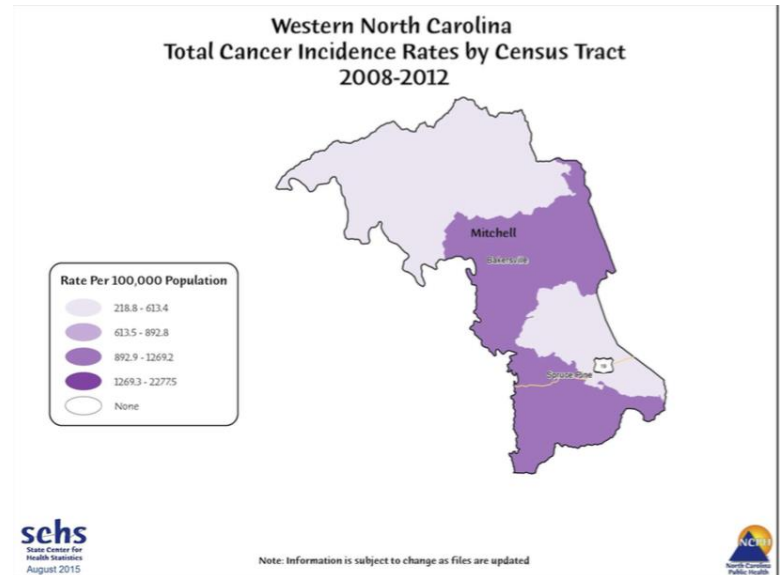
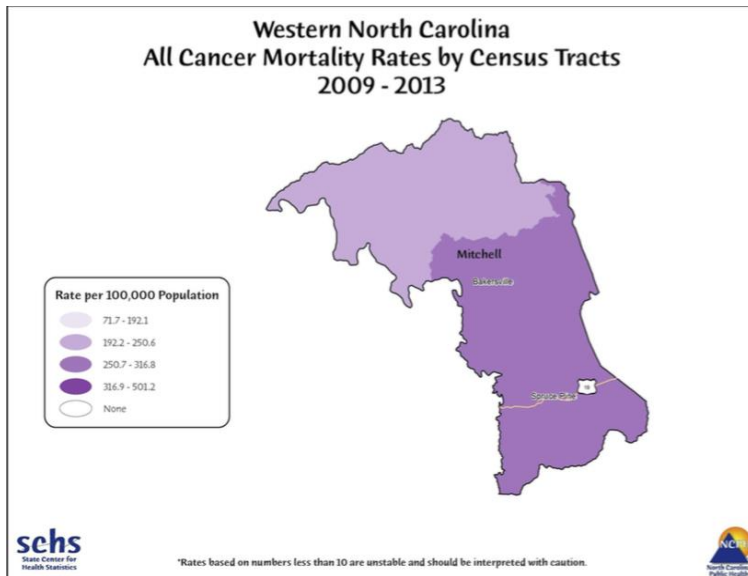
Healthy People 2020 Target = 26.9% or Lower



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 111]
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC): North Carolina data.
• PRC National Health Surveys, Professional Research Consultants, Inc.
• US Department of Health and Human Services. Healthy People 2020. December 2010. <http://www.healthypeople.gov> [Objective HDS-5.1]

Understanding the Issue

As shown in the figures below, cancer incidence and mortality rates differ throughout Mitchell County. The mortality rates are higher in the southern end of the county, including Bakersville and Spruce Pine. The cancer incidence rates in Mitchell County are higher near cities of a higher population, Bakersville and Spruce Pine. Though there is not cure for cancer, it is important to take measures to prevent it.



Specific Populations At-Risk

All residents in Mitchell County can benefit from strategies that focus on preventative health care measures. There are many risk behaviors such as inactivity, poor nutrition, and tobacco use that can cause a greater risk of chronic diseases. Other vulnerable populations may include low-income residents and the un- or under-insured. These residents have issues with accessing health care on a regular basis. They are the populations who may not get regular check-ups, screenings and vaccinations, all of which are crucial to preventing chronic diseases.

Health Resources available/needed

Many resources to improve healthy living behaviors/lifestyles and chronic disease prevention are already in place in our community. Yet there are opportunities to increase these resources to meet the needs of the population. A list of resources is as follows:

Organization	Primary Focus or Function	Website or Contact Information
Mitchell County Health Department	Dedicated to protect and improve health conditions of people and maintaining a healthy environment in Mitchell County; enabling them to be healthy by working through an organized community effort focusing on: health promotion, disease prevention, education and awareness, access to and provision of care, and quality and value of	www.toeriverhealth.org

	life.	
Mitchell County Schools	Collaborates with families and community partners to provide a safe, caring, and engaging learning environment that prepares graduates to become responsible citizens in a diverse, global society	www.mcsnc.org
Mitchell County Cooperative Extension	Partner with community to deliver education and technology that enrich the lives, land and economy of Mitchell County Residents	www.mitchell.ces.ncsu.edu
Town of Bakersville	Provide a place to live, work, and play in a healthy environment, having opportunities to access the best quality of life, improving the health of every individual in the community.	www.bakersville.com
Mitchell-Yancey Partnership for Children	Enhance the lives of children birth to five and their families, through collaborative efforts that provide expanded and continuing opportunities for optimal growth and development.	www.mypartnershipforchildren.org
Coalitions/Groups:		
Community Transformation Grant	Support tobacco-free communities, active living, and healthy eating while promoting clinical and community supports to reduce chronic disease.	Alphie Rodriguez ctcymac@gmail.com
Mitchell Community Health Partnership	Functioning together to improve the health of people of Mitchell County by way of teamwork from citizens and agencies.	Ronald and Libby Mckinney ronmck@frontier.com

PRIORITY ISSUE #3: SOCIAL DETERMINANTS OF HEALTH



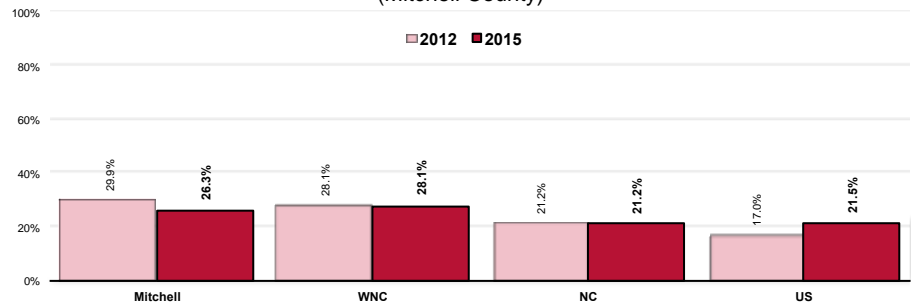
Health is not just physical; social aspects are involved as well. Access and assistance for low-income households was a priority on the 2013 CHA with a focus on lack of healthcare, insurance, and everyday items to survive. Employment rate, poverty level, amount of education and income, and lack of resources needed all play a role in the health status of citizens. Availability of resources to meet daily needs such as food and clean water are a necessity to not only surviving, but also having good health. It is also important for citizens to have education job opportunities in order to make livable wages to be able to afford healthcare, food, and transportation.

Data Highlights

Health Indicators

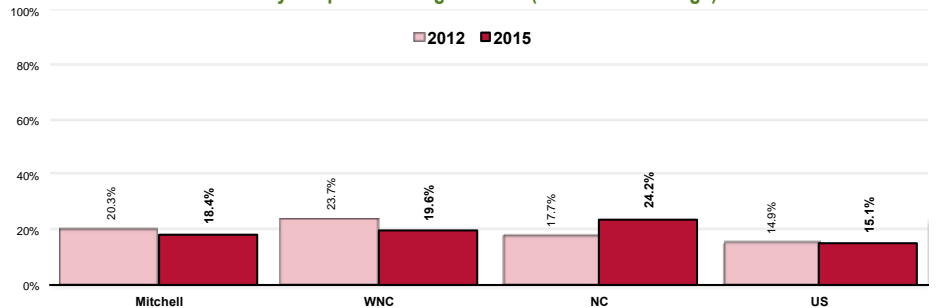
When asked if they were limited in activities in some way due to a physical, mental, or emotional problem, 26% Mitchell County residents responded that they were. This is less than WNC (28.1%) and greater than NC (21.2%). Many citizens in Mitchell County are un- or under-insured. In the 2015 PRC Community Health Survey, 18.4% of respondents in Mitchell County said that lack healthcare insurance coverage. This is less than WNC and NC, but still alarmingly high. The healthy people 2020 target is to have 0% of adults 18-64 lacking healthcare insurance coverage. It is difficult for residents to attain the medical care they need without health insurance (Professional Research Consultants, Inc, 2015).

Limited in Activities in Some Way Due to a Physical, Mental, or Emotional Problem (Mitchell County)



Lack of Healthcare Insurance Coverage (Among Adults Age 18-64; Mitchell County)

Healthy People 2020 Target = 0.0% (Universal Coverage)



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 165]
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC); North Carolina data.
• PRC National Health Surveys, Professional Research Consultants, Inc.
• US Department of Health and Human Services. Healthy People 2020. December 2010. <http://www.healthypeople.gov> [Objective AHS-1]

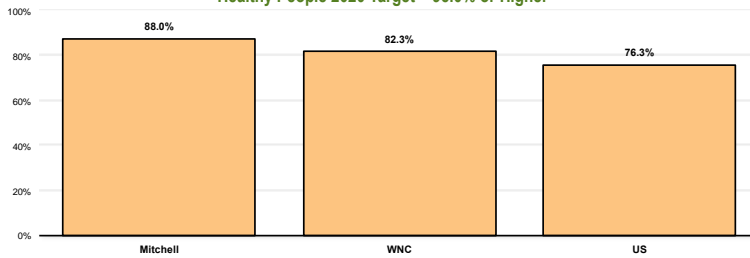
Understanding the Issue

Although many citizens of Mitchell County regular see a physician for regular, preventative visits, many do not as well. 88% of surveyed citizens in the county responded that they have a specific source of ongoing medical care. The Healthy People 2020 target is 95% or higher. Also, only 66.8% of Mitchell County citizens responded that they had visited a physician for a checkup in the past year. This is less than the percentage in both WNC (71.1%) and NC (73.2%). It is very important to maintain regular medical care to prevent chronic disease (Professional Research Consultants, Inc, 2015).

Have a Specific Source of Ongoing Medical Care

(Mitchell County, 2015)

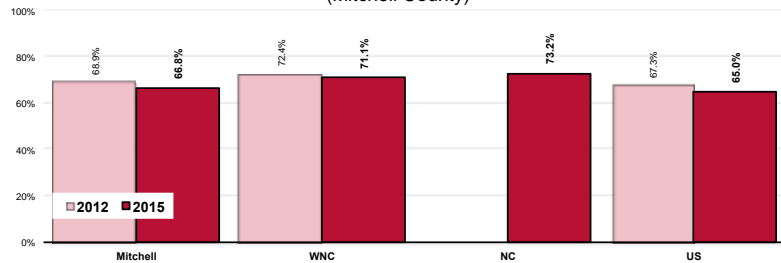
Healthy People 2020 Target = 95.0% or Higher



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

Have Visited a Physician for a Checkup in the Past Year

(Mitchell County)



Sources: • PRC Community Health Surveys, Professional Research Consultants, Inc. [Item 19]
• Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia. United States Department of Health and Human Services, Centers for Disease Control and Prevention (CDC). North Carolina data.
• PRC National Health Surveys, Professional Research Consultants, Inc.

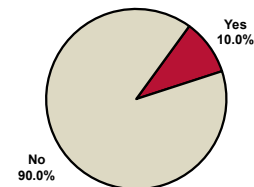
Food insecurity affects many citizens of Mitchell County, especially those with no transportation, low-income residents, and the elderly. 10% of those surveyed in the PRC Community Health survey said that members of the household cut the size of meals or skipped meals because there wasn't enough money for food last year. In the same survey, Mitchell County residents were questioned if they have worried in the past year about food running out before having money to buy more. 17.7% responded that this was sometimes true and 5.6% responded that it was often true (Professional Research Consultants, Inc. 2015). Good nutrition is essential to preventing many diseases such as diabetes, heart disease, and certain types of cancer. A focus needs to be placed on making sure health, affordable nutrition options are available to all residents.

Specific Populations At-Risk

Although social determinants of health, affects all residents, many subgroups are impacted in a more harmful way. Low-income and un- or under-insured residents often have a hard time with keeping up

Member of Household Cut the Size of Meals or Skipped Meals Because There Wasn't Enough Money for Food in the Past Year

(Mitchell County, 2015)

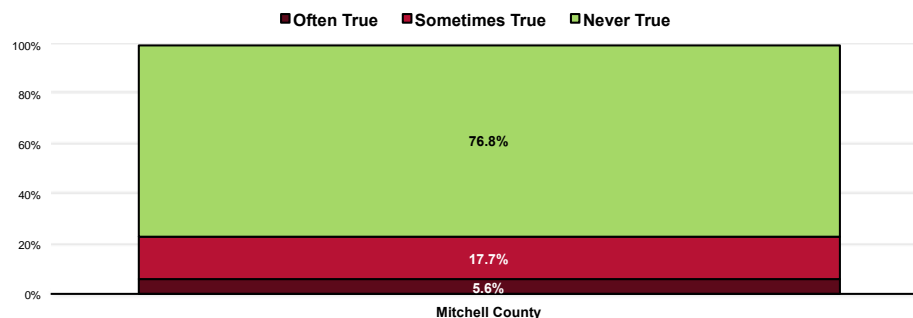


Mitchell County

Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 68]

Have Worried in the Past Year About Food Running Out Before Having Money to Buy More

(Mitchell County, 2015)



Mitchell County

Sources: • 2015 PRC Community Health Survey, Professional Research Consultants, Inc. [Item 69]

with regular visits to their physician or dentist. If they do not keep up with preventative screening and vaccines, it puts them at a higher risk for developing chronic diseases. Low-income and food insecure residents often have issues accessing places that provide healthy foods due to lack of funds or transportation issues.

Health Resources available/needed

Many involving social determinant of health are already in place in our community. Yet there are opportunities to increase these resources to meet the needs of the population. A list of resources is as follows:

Organizations	Primary Focus or Function	Website or Contact Information
Mitchell County DSS	Provides assistance and services to all eligible citizens of Mitchell County in a timely, efficient manner.	www.mitchellcounty.org/departments/socialservices.html
Mitchell County Health Department	Dedicated to protect and improve health conditions of people and maintaining a healthy environment in Mitchell County; enabling them to be healthy by working through an organized community effort focusing on: health promotion, disease prevention, education and awareness, access to and provision of care, and quality and value of life.	www.toeriverhealth.org
Mitchell County Department of Transportation	Strives to provide easier mobility choices and to improve the economic well-being and quality of life for the community. The department strives to excel in providing safe, reliable, affordable, courteous public transit services that address the needs of Mitchell County Residents.	www.mitchellcounty.org/departments/transportation.html
Men's Baptist Association (Faith Community)	Many churches sense a responsibility to reach out to the community at large outside their walls. Local churches integrate sharing faith and meeting social needs. Faith motivates and shapes their outreach, but the focus of their ministry is meeting social needs, not nurturing faith in others.	n/a
Mitchell Senior Center (Meals on Wheels)	Faithful to assisting the older adults in Mitchell County to maintain their own home as long as possible; offering a variety of programs and services designed especially for the older adult.	www.mitchellcounty.org/departments/seniorcenter
Bakersville Medical Clinic	Improve the health of every individual in the greater Mitchell County Community while providing this care in a culturally sensitive professional and compassionate manner with special emphasis on reaching the medically	www.bakersvilleclinic.org

	underserved population.	
MY Health-E-Schools	Allows school nurses to contact ill students with health care providers. School-based health centers have been shown to improve attendance and reduce barriers to learning. MY Health-e-Schools increases classroom attendance for students and decrease time spent away from work for the parent or caregiver of the student.	http://crhi.org/MY-Health-e-Schools/index.html
Shepard Staff	Provide temporary food and heating assistance to residents of Mitchell County who are in need.	www.mcshepardstaff.org
Tipton Hill Food Distribution (MANNA Food Bank)	Involving, educating, and uniting people in the work of ending hunger in Western North Carolina	www.mannafoodbank.org
Intermountain Children Services (HeadStart)	Partner with local Smart Start Partnerships, braiding Smart funds to increase and maintain high quality comprehensive services for at-risk preschool children and their families	www.headstartnc.org
Mitchell-Yancey Partnership for Children	Enhance the lives of children birth to five and their families, through collaborative efforts that provide expanded and continuing opportunities for optimal growth and development.	www.mypartnershipforchildren.org
AMY Regional Library System	To help communities create and maintain a foundation for literacy, economic development and democracy	www.amyregionallibrary.org
Coalitions/Groups		
Mitchell County Community Garden	Serves as a healthy, inexpensive activity for youth that can bring them closer to nature, and allow them to interact with each other in a socially meaningful and physically productive way. Hopes are that through the opportunities given through working with the garden, people will take what they have learned and continue on to strive for creating access to fresh produce in their own communities.	Jeffery Vance Jeffrey_vance@ncsu.edu

Green Valley Community Garden	Community based, Christian outreach ministry located on the county line between Mitchell and Avery Counties, serving Spruce Pine and Newland. The garden consists of a one-acre space and tended by community volunteers and a garden manager. The mission is to help hunger relief agencies and provide fresh fruits and veggies to our neighbors in need of food assistance. The garden also serves as an “outdoor classroom” for the community members and local school children to learn about and put into practice technique of sustainable agriculture.	n/a
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CHAPTER 9 - NEXT STEPS

Sharing Findings

The final Community Health Assessment will be shared specifically with the following stakeholders:

- Present to the Toe River Health District Board of Health
- Present to the Mitchell County Board of Commissioners
- Present to the Mitchell Community Health Partnership
- Distribution to Mitchell County School Administration
- Distribution to doctors and nurses at Blue Ridge Regional Hospital
- Distribution to Mitchell County Senior Center
- Post on local radio station website www.wtoe.com
- Conduct a Public Services Announcement with the local radio station
- Publish on the monthly Health Page and posted on the local newspapers websites: www.mitchellnewsjournal.com and www.blueridgechristainnews.com
- Make available on local agency websites and local libraries in Spruce Pine and Bakersville

Collaborative Action Planning

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

Next Steps

The next steps will be to formulate action plans regarding these three health concerns, starting with answering the questions to eliminate duplication of services and creating work that is not useful:

What is currently going on regarding these top three health concerns?

What would you like to see going on regarding the top three health concerns?

The health partnership will create subcommittees for each health concern and these committees will work on creating collaborative action planning and implementation efforts. Upcoming meetings will be scheduled and partners will be notified.

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APPENDICES

Appendix A – Data Collection Methods & Limitations

Appendix B – Secondary Data Profile

- 2ndary Data Summary

Appendix C – County Maps

Appendix D – Survey Findings

- WNC Healthy Impact Survey Instrument
- Community Health Survey Results

APPENDIX A - DATA COLLECTION METHODS & LIMITATIONS

Secondary Data from Regional Core

Secondary Data Methodology

In order to learn about the specific factors affecting the health and quality of life of residents of WNC, the WNC Healthy Impact data workgroup and consulting team identified and tapped numerous secondary data sources accessible in the public domain. For data on the demographic, economic and social characteristics of the region sources included: the US Census Bureau; Log Into North Carolina (LINC); NC Office of State Budget and Management; NC Department of Commerce; Employment Security Commission of NC; NC Department of Public Instruction; NC Department of Justice; NC Division of Medical Assistance; and the Cecil B. Sheps Center for Health Services Research. The WNC Healthy Impact consultant team made every effort to obtain the most current data available *at the time the report was prepared*. It was not possible to continually update the data past a certain date; in most cases that end-point was August 2015.

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

Because in any CHA it is instructive to relate local data to similar data in other jurisdictions, throughout this report representative county data is compared to like data describing the 16-county region and the state of NC as a whole. The WNC regional comparison is used as “peer” for the purposes of this assessment. Where appropriate and available, trend data has been used to show changes in indicators over time.

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

It is important to note that this report contains data retrieved **directly** from sources in the public domain. In some cases the data is very current; in other cases, while it may be the most current available, it may be several years old. Note also that the names of organizations, facilities, geographic places, etc. presented in the tables and graphs in this report are quoted exactly as they appear in the source data. In some cases these names may **not** be those in current or local usage; nevertheless they are used so readers may track a particular piece of information directly back to the source.

Data Definitions

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

Error

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

Age-adjusting

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

Rates

Thirdly, it is most useful to use *rates* of occurrence to compare data. A rate converts a raw count of events (deaths, births, disease or accident occurrences, etc.) in a target population to a ratio representing the number of same events in a standard population, which removes the variability associated with the size of the sample. Each rate has its own standard denominator that must be specified (e.g., 1,000 women, 100,000 persons, 10,000 people in a particular age group, etc.) for that rate.

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

Regional arithmetic mean

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

Describing difference and change

Fifthly, in describing differences in data of the same type from two populations or locations, or changes over time in the same kind of data from one population or location—both of which appear frequently in this report—it is useful to apply the concept of *percent* difference or change. While it is always possible to describe difference or change by the simple subtraction of a smaller number from a larger number, the result often is inadequate for describing and understanding the *scope* or *significance* of the difference or change. Converting the amount of difference or change to a percent takes into account the relative size of the numbers that are changing in a way that simple subtraction does not, and makes it easier to grasp the meaning of the change. For example, there may be a rate of for a type of event (e.g., death) that is one number one year and another number five years later. Suppose the earlier figure is 12.0 and the latter figure is 18.0. The simple mathematical difference between these rates is 6.0. Suppose also there is another set of rates that are 212.0 in one year and 218.0 five years later. The simple mathematical difference between these rates also is 6.0. But are these same simple numerical differences really of the same significance in both instances? In the first example, converting the 6 point difference to a percent yields a relative change factor of 50%; that is, the smaller number increased by half, a large fraction. In the second example, converting the 6 point difference to a percent yields a relative change factor of 2.8%; that is, the smaller number increased by a relatively small fraction. In these examples the application of percent makes it very clear that the difference in the first example is of far greater degree than the difference in the second example. This document uses percentage almost exclusively to describe and highlight degrees of difference and change, both positive (e.g., increase, larger than, etc.) and negative (e.g., decrease, smaller than, etc.)

Data limitations

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

Gaps in Available Information

Data is limited in finding information pertaining to youth health behaviors, where youth is defined as anyone under the age of 18. Supplementing this data and including more statistics on youth could greatly improve the CHA process and make sure all of the population is represented.

WNC Healthy Impact Survey (Primary Data)

Survey Methodology

Survey Instrument

To supplement the secondary core dataset, meet additional stakeholder data needs, and hear from community members about their concerns and priorities, a community survey, *2015 WNC Healthy Impact Survey* (a.k.a. 2015 PRC Community Health Survey), was developed and implemented in 16 counties across western North Carolina. The survey instrument was developed by WNC Healthy Impact's data workgroup, consulting team, and local partners, with assistance from Professional Research Consultants, Inc. (PRC). Many of the questions are derived from the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as other public health surveys; other questions were developed specifically for WNC Healthy Impact to address particular issues of interest to communities in western North Carolina. Each county was given the opportunity to include three additional questions of particular interest to their county, which were asked of their county's residents.

Professional Research Consultants, Inc.



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

Sample Approach & Design

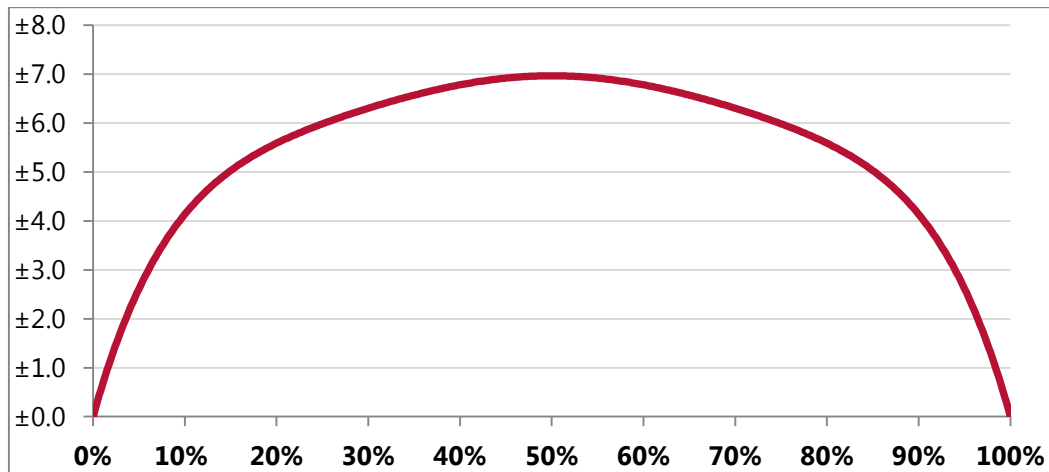
To ensure the best representation of the population surveyed, a telephone interview methodology (one that incorporates both landline and cell phone interviews) was employed. The primary advantages of telephone interviewing are timeliness, efficiency and random-selection capabilities.

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

Sampling Error

For our county-level findings, the maximum error rate at the 95% confidence level is $\pm 6.9\%$.

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



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

Examples:

- If 10% of the sample of 200 respondents answered a certain question with a "yes," it can be asserted that between 5.8% and 14.2% ($10\% \pm 4.2\%$) 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% ($50\% \pm 6.9\%$) of the total population would respond "yes" if asked this question.

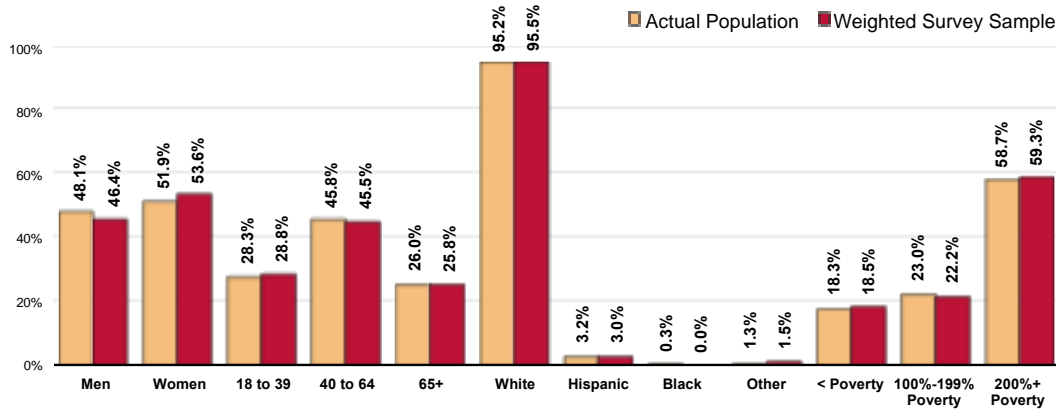
Sample Characteristics

To accurately represent the population studied, PRC worked to minimize bias through application of a proven telephone methodology and random-selection techniques. And, while this random sampling of the population produces a highly representative sample, it is a common and preferred practice to apply post-stratification weights to the raw data to improve this representativeness even further. Specifically, once the raw data are gathered, respondents are examined by key demographic characteristics (namely gender, age, race, ethnicity, and poverty status) and a statistical application package applies weighting variables that produce a sample which more closely matches the population for these characteristics. Thus, while the integrity of each individual's responses is maintained, one respondent's responses may contribute to the whole the same weight as, for example, 1.1 respondents. Another respondent, whose demographic characteristics may have been slightly oversampled, may contribute the same weight as 0.9 respondents. In order to determine WNC regional estimates, county responses were weighted in proportion to the actual population distribution so as to appropriately represent Western North Carolina as a whole.

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

Population & Sample Characteristics

(Mitchell County, 2015)



Sources: • 2015 Census Estimates/Projections, Geolytics, Inc.

• 2015 PRC Community Health Survey, Professional Research Consultants, Inc.

Notes: • Hispanics can be of any race. Other race categories are non-Hispanic categorizations (e.g., "White" reflects non-Hispanic White respondents).

Poverty descriptions and segmentation used in this report are based on administrative poverty thresholds determined by the US Department of Health & Human Services. These guidelines define poverty status by household income level and number of persons in the household (*e.g., the 2015 guidelines place the poverty threshold for a family of four at \$23,050 annual household income or lower*). In sample segmentation: "very low income" refers to community members living in a household with defined poverty status; "low income" refers to households with incomes just above the poverty level, earning up to twice the poverty threshold; and "mid/high income" refers to those households living on incomes which are twice or more the federal poverty level.

The sample design and the quality control procedures used in the data collection ensure that the sample is representative. Thus, the findings may be generalized to the total population of community members in the defined area with a high degree of confidence.

Benchmark Data

North Carolina Risk Factor Data

Statewide risk factor data are provided where available as an additional benchmark against which to compare local survey findings; these data are reported in the most recent *BRFSS (Behavioral Risk Factor Surveillance System) Prevalence and Trend Data* published by the Centers for Disease Control and Prevention and the US Department of Health & Human Services.

Nationwide Risk Factor Data

Nationwide risk factor data, which are also provided in comparison charts where available, are taken from the *2013 PRC National Health Survey*; the methodological approach for the national study is identical to that

employed in this assessment, and these data may be generalized to the US population with a high degree of confidence.

Healthy People 2020

Healthy People provides science-based, 10-year national for improving the health of all Americans. The Healthy initiative is grounded in the principle that setting national and monitoring progress can motivate action. For three Healthy People has established benchmarks and monitored over time in order to:

- Encourage collaborations across sectors.
- Guide individuals toward making informed health decisions.
- Measure the impact of prevention activities.



objectives
People
objectives
decades,
progress

Healthy People 2020 is the product of an extensive stakeholder feedback process that is unparalleled in government and health. It integrates input from public health and prevention experts, a wide range of federal, state and local government officials, a consortium of more than 2,000 organizations, and perhaps most importantly, the public. More than 8,000 comments were considered in drafting a comprehensive set of Healthy People 2020 objectives.

Survey Administration

With more than 700 full- and part-time interviewers who work exclusively with healthcare and health assessment projects, PRC uses a state-of-the-art, automated CATI interviewing system that assures consistency in the research process. Furthermore, PRC maintains the resources to conduct all aspects of this project in-house from its headquarters in Omaha, Nebraska, assuring the highest level of quality control.

Interviewing Protocols and Quality Assurance

PRC's methods and survey administration comply with current research methods and industry standards. To maximize the reliability of research results and to minimize bias, PRC follows a number of clearly defined quality control protocols. PRC uses a telephone methodology for its community interviews, in which the respondent completes the questionnaire with a trained interviewer, not through an automated touch-tone process.

Before going into the field in the latter half of February, PRC piloted 30 interviews across the region with the finalized survey instrument. After this phase, PRC corrected any process errors that were found, and discussed with the consulting team any substantive issues that needed to be resolved before full implementation.

PRC employs the latest CATI (computer-aided telephone interviewing) system technology in its interviewing facilities. The CATI system automatically generates the daily sample for data collection, retaining each telephone number until the Rules of Replacement are met. Replacement means that no further attempts are made to connect to a particular number, and that a replacement number is drawn from the sample. To retain the randomness of the sample, telephone numbers drawn for the sample are not discarded and replaced except under very specific conditions.

Interviewing for this study took place primarily during evening and weekend hours (Eastern Time: Monday-Friday 5pm-9pm; Saturday 10am-4pm; Sunday 2pm-9pm). Some daytime weekday attempts were also made

to accommodate those for whom these times might be more convenient. Up to five call attempts were made on different days and at different times to reach telephone numbers for which there is no answer. Systematic, unobtrusive electronic monitoring is conducted regularly by supervisors throughout the data collection phase of the project.

Cell Phones

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

Minimizing Potential Error

In any survey, there exists some degree of potential error. This may be characterized as sampling error (because the survey results are not based on a complete census of all potential respondents within the population) or non-sampling error (e.g., question wording, question sequencing, or through errors in data processing). Throughout the research effort, Professional Research Consultants makes every effort to minimize both sampling and non-sampling errors in order to assure the accuracy and generalizability of the results reported.

Noncoverage Error. One way to minimize any effects of underrepresentation of persons without telephones is through poststratification. In poststratification, the survey findings are weighted to key demographic characteristics, including gender, age, race/ethnicity and income (see above for more detailed description).

Sampling Error. Sampling error occurs because estimates are based on only a sample of the population rather than on the entire population. Generating a random sample that is representative and of adequate size can help minimize sampling error. Sampling error, in this instance, is further minimized through the strict application of administration protocols. Poststratification, as mentioned above, is another means of minimizing sampling error.

Measurement Error. Measurement error occurs when responses to questions are unduly influenced by one or more factors. These may include question wording or order, or the interviewer's tone of voice or objectivity. Using a tested survey instrument minimizes errors associated with the questionnaire. Thorough and specific interviews also reduce possible errors. The automated CATI system is designed to lessen the risk of human error in the coding and data entry of responses.

Information Gaps

While this assessment is quite comprehensive, it cannot measure all possible aspects of health in the community, nor can it adequately represent all possible populations of interest. It must be recognized that these information gaps might in some ways limit the ability to assess all of the community's health needs.

For example, certain population groups (such as the homeless, institutionalized persons, or those who only speak a language other than English or Spanish) are not represented in the survey data. Other population groups (for example, pregnant women, lesbian/gay/bisexual/transgender residents, undocumented residents,

and members of certain racial/ethnic or immigrant groups) might not be identifiable or might not be represented in numbers sufficient for independent analyses.

In terms of content, this assessment was designed to provide a comprehensive and broad picture of the health of the overall community. However, there are certainly a great number of medical conditions that are not specifically addressed.