

# HAYWOOD COUNTY COMMUNITY HEALTH ASSESSMENT

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## PREPARED BY

Haywood County Health and  
Human Services Agency

2020



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The Community Health Assessment is also available online at:

<https://www.healthyhaywood.com/about-us/community-health-assessments-and-county-health-reports>



### Collaboration

This document was developed by Haywood County Health and Human Services Agency and Healthy Haywood partner organizations as part of a local Community Health Assessment process. The agencies and individuals that we thank for their contributions and support in conducting this health assessment are listed in the partnerships section on pages 6-8.

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## COMMUNITY RESULTS STATEMENT

The ultimate goal for Haywood County is to build a healthy and resilient community.

## LEADERSHIP FOR THE COMMUNITY HEALTH ASSESSMENT PROCESS

Name	Agency	Title	Agency Website
Megan Hauser	Haywood County Health and Human Services Agency	Public Health Education Supervisor	<a href="https://www.haywoodcountync.gov/800/Health-Human-Services">https://www.haywoodcountync.gov/800/Health-Human-Services</a>
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## PARTNERSHIPS

The CHA process is supported by coalition and community members. Partners offered support through participation in a public prioritization meeting and completing the Online Key Informant Survey. Prioritization meeting participants are listed in the table on pages 6–8.

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Andrew McArthur	Community Member	Community Member	Not Applicable
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Amy Russell	Town of Clyde	Alderwoman	<a href="https://www.clydenc.us/">https://www.clydenc.us/</a>
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Chelle Nelson	Community Member	Community Member	Not applicable
Missy Fisher	Behavioral Health Group	Program Director	<a href="https://www.bhgrecovery.com/">https://www.bhgrecovery.com/</a>
Kelly Hicks	Haywood County Health and Human Services Agency	School Nurse Supervisor	<a href="https://www.haywoodcountync.gov/800/Health-Human-Services">https://www.haywoodcountync.gov/800/Health-Human-Services</a>
Derrick Hall	Vecinos, Inc.	Behavioral Health Director	<a href="https://vecinos.org/">https://vecinos.org/</a>
Mary Ann Widenhouse	National Alliance on Mental Illness/Vaya Health Consumer and Family Advisory Committee	Member	<a href="https://www.namihaywood.com/">https://www.namihaywood.com/</a> <a href="https://www.vayahealth.com/">https://www.vayahealth.com/</a>
Shirley Grammett	Community Member	Community Member	Not applicable
Byron Grammett	Community Member	Community Member	Not applicable



Nicole Hinebaugh	Haywood Christian Ministry	Director of Food Security Programming	<a href="https://hcmnc.org/team">https://hcmnc.org/team</a>
Sally Dixon	NC Cooperative Extension	County Extension Director	<a href="https://haywood.ces.ncsu.edu/">https://haywood.ces.ncsu.edu/</a>
Kasey Valentine	Haywood Pediatrics	Lactation Consultant	<a href="https://www.haywoodpediatrics.com/">https://www.haywoodpediatrics.com/</a>

## REGIONAL SUPPORT

Our county participates in [WNC Healthy Impact](#). This partnership brings together hospitals, public health agencies, and key regional partners in western North Carolina to improve community health. We work together locally and regionally to assess health needs, develop plans, take action, and evaluate our progress. This regional effort is coordinated by WNC Health Network, a non-profit that exists to support people and organizations to improve community health and well-being across western North Carolina. Learn more at [www.WNCHN.org](http://www.WNCHN.org).

## THEORETICAL FRAMEWORK/MODEL

WNC Health Network supports local hospitals and public health agencies working on complex community health issues. Community Health Assessment and Improvement processes include the use of Results-Based Accountability™ (RBA). RBA is a practical approach that focuses on achieving real improvements for people, agencies, and communities. The framework relies on both primary (story and number data) and secondary data to provide a comprehensive understanding of community health.

## COLLABORATIVE PROCESS SUMMARY

Haywood County's collaborative process is supported regionally by WNC Healthy Impact. Phase 1 officially began in January 2024 with collecting health data. See Chapter 1, Community Health Assessment Process, for details.

The county's public health education staff Internally reviewed data, focusing on data shared during the 2021 CHA prioritization and those tracked through the Community Health Improvement Plan. Data from these categories were brought before coalition partners and

community members at a priority setting meeting. Meeting participants were asked to rate data based on the relevance, potential impact, and feasibility of addressing each issue.

## KEY FINDINGS

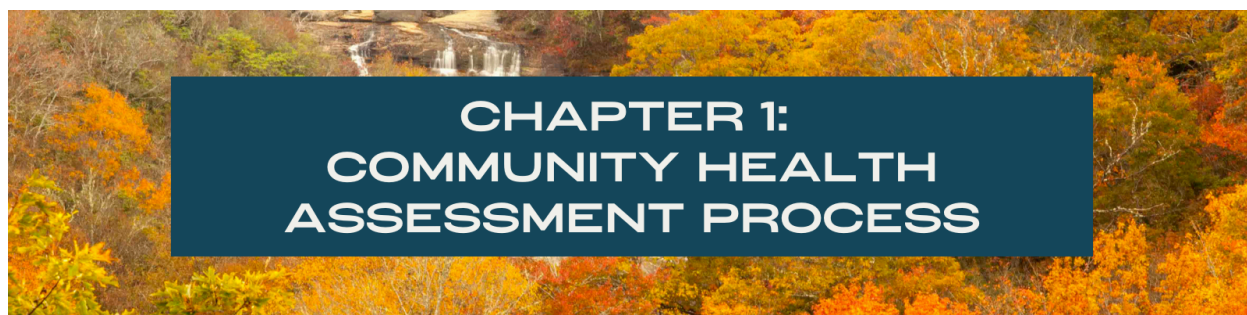
- Data was collected before Hurricane Helene.
- Mental health and substance use findings worsened since 2021.
- While more individuals reported having health insurance, an increasing number of people had trouble getting medical care (the second figure more than doubled).

## HEALTH PRIORITIES

1. Substance Use and Mental Health
2. Chronic Disease
3. Social Determinants of Health

## NEXT STEPS

- Action teams will meet to discuss Community Health Improvement Plan (CHIP) strategies, prioritizing evidence-based strategies. We will select strategies and create performance measures to track progress.
- We will publish the Community Health Improvement Plan (CHIP) in a Scorecard for public access. The 2021 CHIP is located here:  
<https://app.resultsscorecard.com/Scorecard/Embed/27650>
- To access the full data set, contact [megan.hauser@haywoodcountync.gov](mailto:megan.hauser@haywoodcountync.gov) or 828-452-6675.



## WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

Name, Credentials	Affiliation
<b>Megan Hauser, MA, MCHES®</b>	<b>Haywood County Health and Human Services Agency</b>

## PURPOSE

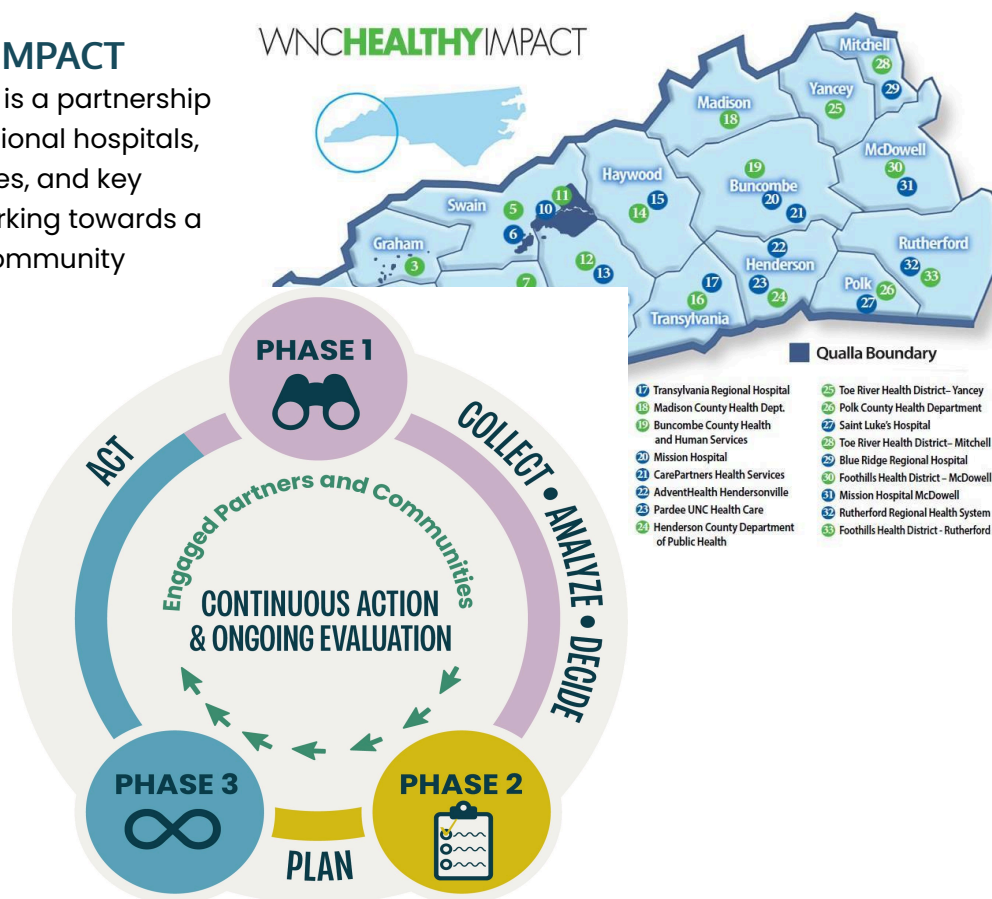
Community health assessment (CHA) is an important part of improving and promoting the health of county residents. A CHA results in a public report which describes the health indicators, status of the community, recent changes, and necessary changes to reach a community's desired health-related results.

### Phases of the Community Health Improvement Process: Definition of Community

Community is defined as "county" for the purposes of the North Carolina Community Health Assessment Process. Haywood County is included in Haywood Regional Medical Center's community for the purposes of community health improvement, and as such they were key partners in this local level assessment.

## WNC HEALTHY IMPACT

WNC Healthy Impact is a partnership among local and regional hospitals, public health agencies, and key regional partners working towards a vision of improved community



health. The vision is achieved by developing collaborative plans, taking action, and evaluating progress and impact. More information is at [www.wnchn.org/wnchealthyimpact](http://www.wnchn.org/wnchealthyimpact).

## DATA COLLECTION

The set of data reviewed for our community health assessment process is comprehensive, though not all of it is presented in this document. Within this community health assessment,

we share a general overview of health and influencing factors, then focus more on priority health issues identified through a collaborative process. Our assessment also highlights some of our community strengths and resources available to help address our most pressing health issues.

### **WNC Healthy Impact Dataset Collection**

Much of the data in this CHA comes from the WNC Healthy Impact dataset. To ensure a comprehensive understanding, the dataset includes both secondary (existing) and primary (newly collected) data.

Reviewing secondary data is an essential first step in a community health assessment process because it provides a solid foundation and context. By analyzing existing data, we are able to identify gaps in knowledge and better understand current trends. This ensures that primary data collection is more targeted and relevant, addressing specific needs within the community.

The following dataset elements and collection are supported by WNC Healthy Impact Steering Committee, WNC Healthy Impact Data Workgroup, WNC Regional Data Team, Mountain Data Equity and Engagement (DEEP), a survey vendor, and additional partner data needs and input:

- A comprehensive set of publicly available secondary data indicators with our county compared to the 16-county WNC Healthy Impact region
- Set of maps using Census and American Community Survey (ACS) data
- WNC Healthy Impact Community Health Survey (cell phone, landline and internet-based survey) of a random sample of adults in the county
- Online Key Informant Survey

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

### **Additional Community-Level Data**

We reviewed additional data related to Hurricane Helene. This section, 'The Impact of Hurricane Helene on Western North Carolina,' begins on page 42.

### **Health Resources Inventory**

We conducted an inventory of available community resources by reviewing a subset of existing resources. We also worked with partners and community members through the priority-setting process to include additional information. See **Chapter 7** for more details related to this process.

Health education staff reviewed several existing community resource guides. Information for this section also came from Online Key Informant Survey input, Community Health Assessment prioritization meeting participant input, and primary (newly collected) and secondary (existing) data.



## COMMUNITY INPUT & ENGAGEMENT

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

- We invited the community to attend a public prioritization meeting. Participants included community partners and members of the general public. Following a review of primary and secondary data, participants selected new health priorities.
- We collected primary data through a representative sample survey and key informant surveys.

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

## AT-RISK & VULNERABLE POPULATIONS

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

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

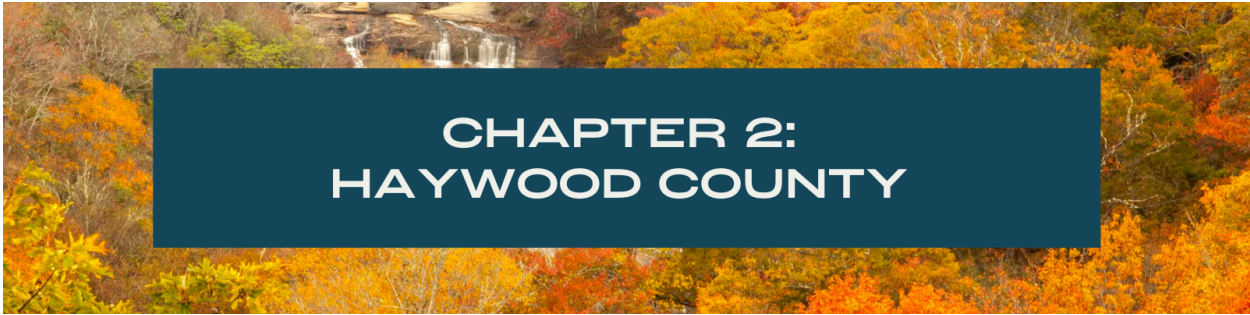
- People living in poverty
- Survivors of natural disaster
- Those living with mental health and substance use challenges

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

- **Underserved populations** relate to those who do not access health care either because there is a lack of services or providers available or because of limitations such as income, literacy/language barriers or understanding on how to access services, cultural competency of clinicians, trust, transportation, or other barriers.
- **At-risk populations** are the members of a particular group who are likely to, or have the potential to, get a specified health condition. This could be from engaging in behavior (e.g. smoking while pregnant) that could cause a specified health condition,

having an indicator or precursor (e.g. high blood pressure) that could lead to a specified health condition or having a high ACE score (traumatic experiences), which is correlated with increased risk of specified health conditions.

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



## CHAPTER 2: HAYWOOD COUNTY

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

Name, Credentials	Affiliation
<b>Megan Hauser, MA, MCHES®</b>	<b>Haywood County Health and Human Services Agency</b>

### LOCATION, GEOGRAPHY, AND HISTORY OF HAYWOOD COUNTY

Haywood County was founded in 1808. Located in southwestern North Carolina, the community covers 546 square miles. It includes parts of the Great Smoky Mountains, the Blue Ridge Parkway, and is near the Nantahala Mountains (Haywood County Government, 2025). These areas offer many fitness options to residents and visitors. At the same time, the county's rural nature can make it hard to access activity and transportation opportunities. Nearly 13% of adult residents reported that in the past 12 months, a lack of transportation prevented them from going someplace they wanted or needed to go in Haywood County (single year point)(WNC Health Network, 2024). The mountainous terrain also affects broadband internet access. Almost 20% of households have no internet subscription, possibly limiting healthcare and education access (U.S. Census Bureau, 2024)(2018–2022 estimate).

### POPULATION

The county has an estimated population of 63,048 residents.

- 51.3% (female), 48.7% (male)(US Census Bureau, 2024)
- Median age– 47.7 (US Census Bureau, 2024)
- The population is projected to grow by more than 38% from 2000 through 2050 (US Census Bureau, 2021) (NC Office of State Budget Management, 2024).
- Population by race/ethnicity– 95% White; 1.5% Black; 0.9% American Indian and Alaska Native; 0.8% Asian, Native Hawaiian or Pacific Islander, 1.8% two or more races; 5.1% Hispanic or Latino. White residents who are not Hispanic or Latino are nearly 91% of the population (US Census Bureau, 2024).
- Population Change:

- o Figure 1 demonstrates the percent population change for ages 65 and older. By 2030, this is estimated to be 28.6% (North Carolina Office of State Budget and Management, 2024).
- o Figure 2 demonstrates the percent population change for those under 18. By 2030, this is estimated to be 16.6% (North Carolina Office of State Budget and Management, 2024).

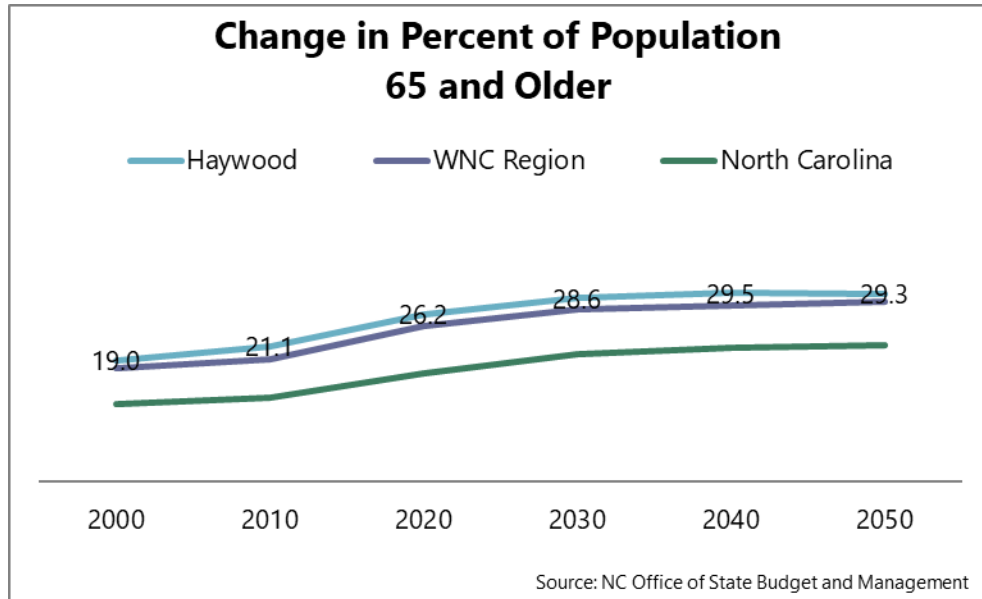


Figure 1: Percent Population Change (APA In-Text Citation for Source)

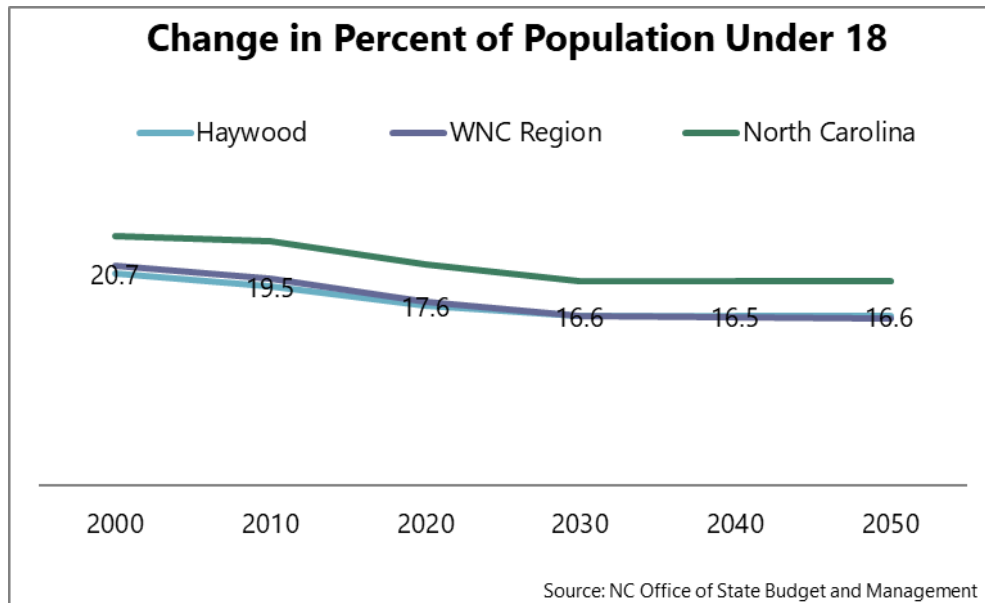
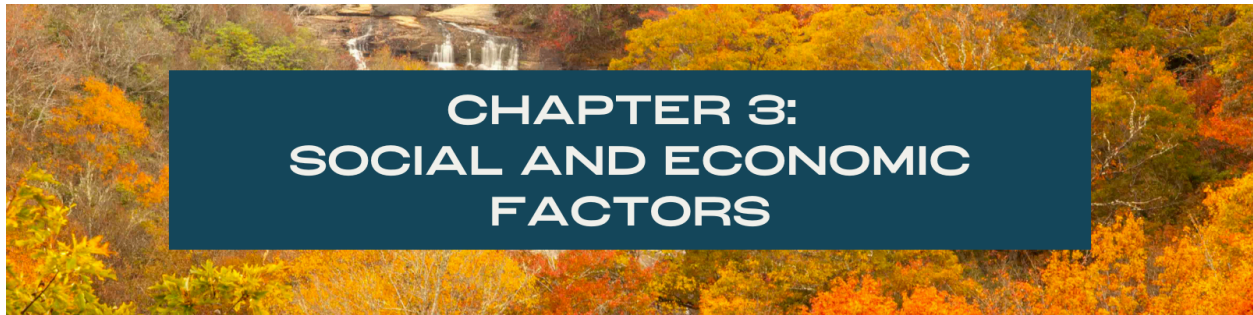


Figure 2: Percent Population Change Under 18 (APA In-Text Citation for Source)

- Birth Rate- 10.6% (2018-2022 aggregate) (NC State Center for Health Statistics 2024) (increase)



- Geographic Mobility- 6.5% moved within the same county (2018-2022 estimate) (US Census Bureau)
- Family Composition- 26.481 households (2018-2022 estimate) (US Census Bureau 2024)
- Military Veterans- 5082 (2018-2022 estimate) (US Census Bureau, 2024)
- Limited English Households (2018-2022 estimate)- Nearly 4% of the county's residents are non-English speaking, with 9.2% speaking limited English (US Census Bureau, 2024).
- Voting Trend- The county had over 90,000 registered voters as of July 2024 and over 58% voted in the 2022 general election (NC State Board of Elections, 2023)
- Homelessness- In 2024, 144 people in the county were experiencing homelessness (46 were unsheltered)(NC Coalition to End Homelessness, 2024)
- Educational Attainment- 91.6% high school graduate or higher; 29.4% of those 25 and older hold a Bachelor's Degree (US Census Bureau, 2024)



## CHAPTER 3: SOCIAL AND ECONOMIC FACTORS

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

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<b>Megan Hauser, MA, MCHES</b>	<b>Haywood County Health and Human Services Agency</b>

As described by [Healthy People 2030](#), economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social community and context are five important domains of social determinants of health. Social determinants of health (SDOH) are the conditions in the environments where 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 (Office of Disease Prevention and Health Promotion, 2020).

### INCOME & POVERTY

“The relationship between income and health is well established. Households with incomes below the federal poverty level have high levels of illness and premature mortality. Individuals with lower incomes lack economic resources, resulting in social disadvantage, poor education, poor working conditions, housing insecurity, and residence in unsafe neighborhoods ” (CDC, 2023).

- Median household income (\$59,596), median family income (\$78,553), per capita (\$34,609)- This is a 2018-2022 estimate (US Census Bureau, 2024)
- Poverty rate trend- The poverty rate has a steady trend, as seen in figure 1 (US Census Bureau, 2024).
- Poverty rate by age and race- 12.1% of the county’s population lives below the Federal Poverty Level. This figure increases to 18.6% for those under 18. Black or African American (18%) and Hispanic (21.5%) individuals are more likely to be in poverty than white individuals (11.6%) (2018-2022 estimates) (US Census Bureau, 2024).
- Food and nutrition services participation

- o Over 8400 individuals participate in the Supplemental Nutrition Assistance program ('food stamps'), with more than 25% being children ages 5-17 (decline)(UNC-CH Jordan Institute for Families, 2024).
  - o The local school system began offering free breakfast and lunch to all students during the 2023-24 school year (Haywood County Schools, 2023).
- Emergency savings funds- 28.8% of respondents do not have cash on hand to cover a \$400 emergency expense. This data is displayed in figure 2 (single year point)(WNC Health Network, 2024).
- Figure 1 demonstrates the poverty rate trend. In 2022, this figure was 12.1 per 100,000 residents in Haywood County (US Census Bureau, 2024).

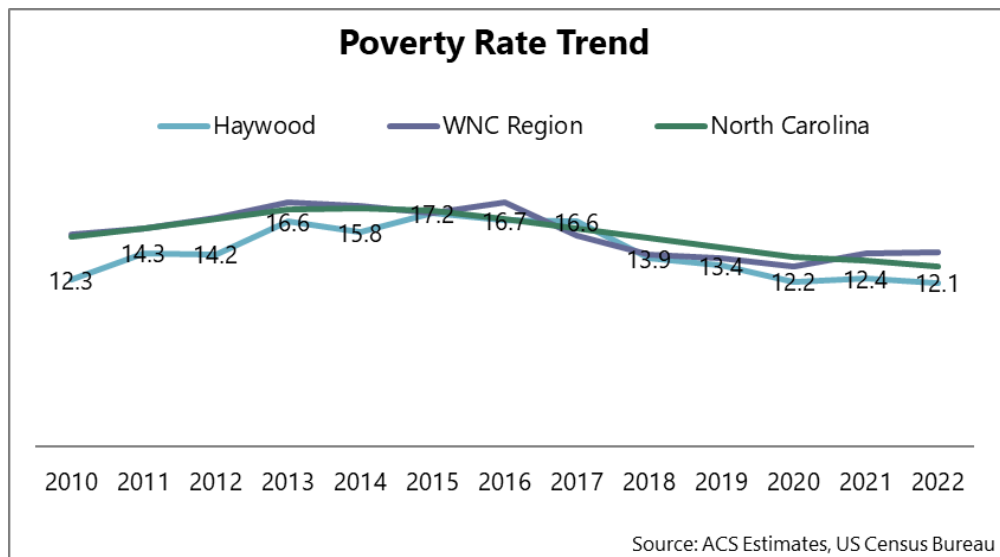


Figure 1: Poverty Rate Trend (US Census Bureau, 2024)

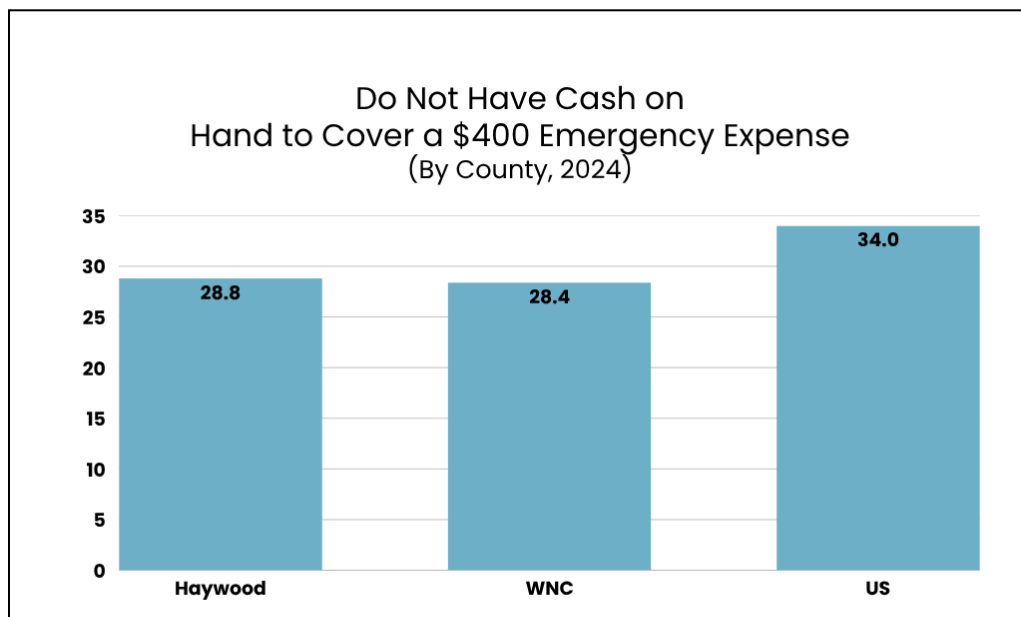


Figure 2: Do not have Cash on Hand to Cover a \$400 Emergency Expense (WNC Health Network, 2024)

## EMPLOYMENT

“Employment provides income and, often, benefits that can support healthy lifestyle choices. Unemployment and underemployment limit these choices, and negatively affect both quality of life and health overall. The economic condition of a community and an individual’s level of educational attainment both play important roles in shaping employment opportunities” (County Health Rankings, 2024).

- Sector employment information and weekly wages
  - The county’s top three employment sectors are retail trade, accommodation and food services, and health care and social assistance. The average weekly wage across all sectors is \$1,032 (NC Department of Commerce, 2024).
- Unemployment rate (June 2024)- The county’s unemployment rate is 3.5% (unadjusted monthly average)(NC Department of Commerce, 2024)

## EDUCATION

“Better educated individuals live longer, healthier lives than those with less education, and their children are more likely to thrive. This is true even when factors like income are taken into account. More schooling is linked to higher incomes, better employment options, and increased social support that, together, support opportunities for healthier choices ” (County Health Rankings, 2024).

- Educational attainment
  - 27% have a high school diploma or equivalent
  - 28.7% have completed some college (no degree) and 28.7% have a bachelor’s degree or higher.(US Census Bureau, 2024)
- School enrollments- In the final month of the 2022–2023 school year, over 6600 students were enrolled in the Haywood County School district (NC Department of Public Instruction, 2024).
- Drop-out and Graduation rates
  - 2022–2023- drop-out rate 2.17 per 100 students for the 2023–2024 school year (NC Department of Public Instruction, 2024).
  - Graduation rate for the 2022–2023 school year- 91.7% (NC Department of Public Instruction, 2024).
  - Other educational indicators (disciplinary actions, educational achievement, math & reading proficiency levels, preschool enrollment/waitlists and facilities with five-star ratings)
    - Suspension- 10.85 suspensions per 100 students for the 2022–2023 school year (NC Department of Public Instruction, 2024).
    - Math proficiency-65.2% of students are proficient or above (NC Department of Public Instruction, 2024).
    - Reading proficiency- 55.9% of students are proficient or above (NC Department of Public Instruction, 2024).

## DISCRIMINATION

“Discrimination is a socially structured action that is unfair or unjustified and harms individuals and groups. Discrimination can be attributed to social interactions that occur to protect more powerful and privileged groups at the detriment of other groups. Stressful experiences related to discrimination can negatively impact health. Discrimination, especially racial discrimination, has also been known to cause symptoms of trauma” (Office of Disease Prevention and Health Promotion, 2022).

- Threatened or harassed- 20% of people disagree that the community is a welcoming place for people of all races and ethnicities (single year).
- Treated unfairly when getting medical care or at school- 7.5% (medical care, single year), 4.2% (school, single year).
- Perceived reasons for discrimination: sexual orientation (3%), age (6%), gender (5.4%), disability (7.8%), race/ethnicity (14.6%), height/weight (8.4%), ancestry (7.4%), income (7.3%), appearance (12.7%), accent (7.5%), other/don't know (19.9%) (single year). (WNC Health Network, 2024)

## Racism

“Racism is an underlying or root cause of health inequities and leads to unfair outcomes between racial and ethnic groups. Different geographic areas and various racial and ethnic groups experience challenges or advantages that lead to stark differences in life expectancy, infant mortality, poverty, and more” (County Health Rankings, 2024).

- Population by race/ ethnicity
  - American Indian and Alaska Native- 0.9%
  - Asian- 0.8%
  - Black- 1.5%
  - Native Hawaiian and Other Pacific Islander- 0.1%
  - White- 95%
  - Two or More Races- 1.8%
  - Hispanic or Latino- 5.1%
  - White, not Hispanic or Latino- 90.7%(US Census Bureau, 2024)
- Community welcoming place to all races/ ethnicities- 20% disagree (increase) (WNC Health Network, 2024)
- Stress/physical changes connected to unfair treatment- 23.9% agreed. This information is displayed in figure 3 (single year) (WNC Health Network, 2024)

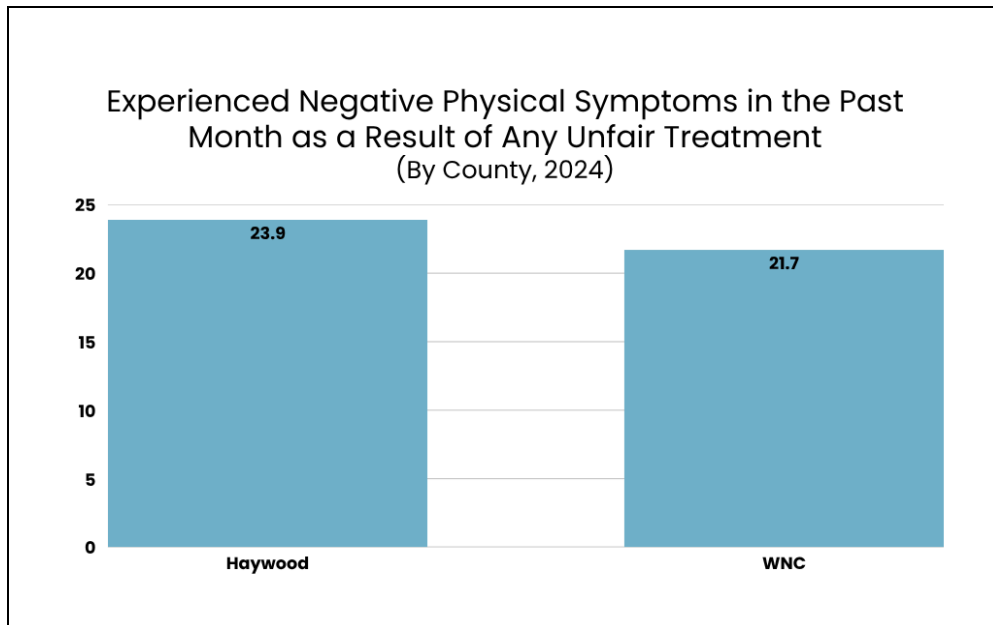


Figure 3: Negative Physical Symptoms as a Result of Unfair Treatment Poverty Rate Trend (WNC Health Network, 2024)

## COMMUNITY SAFETY

"Injuries through accidents or violence are the third leading cause of death in the United States, and the leading cause for those between the ages of one and 44. Accidents and violence affect health and quality of life in the short and long-term, for those both directly and indirectly affected, and living in unsafe neighborhoods can impact health in a multitude of ways" (County Health Rankings, 2024).

- Crime rates (2022)- During 2022, there were 216 violent offenses per 100,000 residents (NC Department of Justice, 2023).
- Sexual assault and domestic violence (2022-2023)- The advocacy agency received 236 hotline calls related to sexual assault and 473 calls related to domestic violence (NC Department of Administration, 2024).
- Juvenile justice (2023)- In 2023, 146 complaints were made, a similar count to the previous year (NC Department of Public Safety, 2024).
- Child abuse (2022-2023)- Eight percent of child abuse reports were substantiated, an increase from the previous year (UNC-CH Jordan Institute for Families Management Assistance for Child Welfare, Work First and Food & Nutrition Services in North Carolina, 2024).
- School violence- During the 2022-2023 year, there were 9.33 reportable violent acts per 1,000 students. Reportable offenses include possession of alcoholic beverages and controlled substances (NC Department of Public Instruction, 2024).

## HOUSING

"Housing instability encompasses a number of challenges, such as having trouble paying rent, overcrowding, moving frequently, or spending the bulk of household income on housing.

These experiences may negatively affect physical health and make it harder to access health care.” (Office of Disease Prevention and Health Promotion, 2022).

- Cost burdened housing units
  - Nearly 27% of homeowners and over 44% of renters spend more than 30% of household income on housing (2018–2022 estimate) (U.S. Census Bureau, 2024).
- Median gross rent, median monthly owner costs (2018–2022 estimate) (US Census Bureau, 2024)
  - Median gross rent- \$954
  - Median monthly owner costs- \$1337
- Temporary housing, housing emergencies
  - 14% reported having to live with a friend/relative in the past three years due to a housing emergency (increase).
  - 7.8 reported living on the street, in a car, or in a temporary shelter in the past three years (increase).(WNC Health Network, 2024)
- Financial stress caused by housing
  - 42.6% reported they were always, usually, or sometimes worried about paying rent or mortgage in the past year (increase)(WNC Health Network, 2024).
- Housing adequacy, utility adequacy
  - 13.1% reported having a time in the past year when their home was without electricity, water, or heating (increase).
  - 17.2% reported unhealthy or unsafe housing conditions in the past year. This information is displayed in figure 4 (single year).(WNC Health Network, 2024)

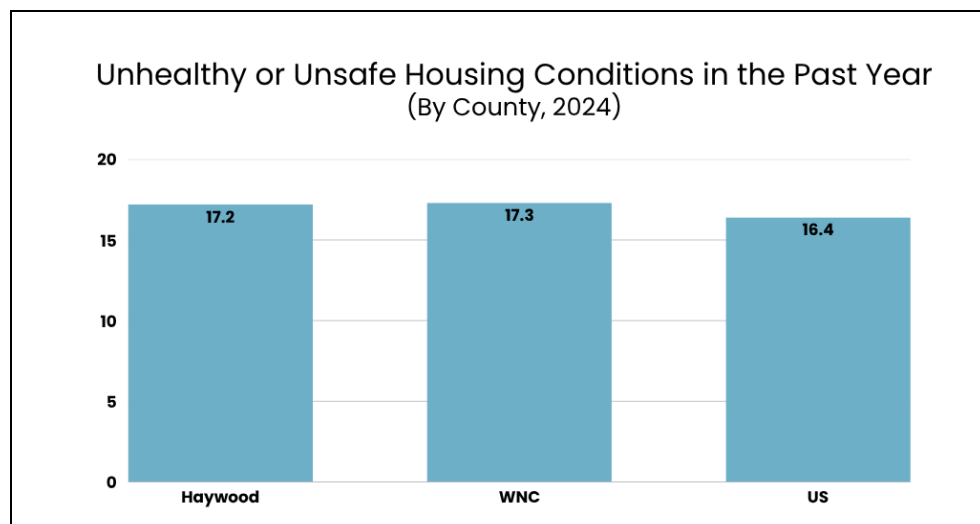


Figure 4: Unhealthy or Unsafe Housing Conditions (WNC Health Network, 2024)



## TRANSPORTATION

“Transportation decisions affect everyone, by influencing where they live, how they can get to work and school, whether they can easily access health and other essential services, how they socialize with family members and friends, and ultimately if they can thrive in a physical environment that supports healthy outcomes” (Atherton et al., 2021)

- Household vehicle access, license barriers
  - Over 7200 households have no vehicle available, with renter-occupied units being disproportionately affected (2018-2022 estimate)(U.S. Census Bureau, 2024).
- Lengthy commute times- Of more than 27,000 workers, 30.5% worked in another county and 1.8% worked in another state (2018-2022 estimate)(US Census Bureau, 2024).
- Public transit access safe and/or accessible infrastructure- Haywood County has a public transit system that operates with appointments and a fixed urban route. In 2024, 12.9% of survey respondents reported that “in the past 12 months, a lack of transportation has prevented me from going someplace I wanted or needed to go in Haywood County” (single-year point)(WNC Health Network, 2024).

## FOOD SECURITY

“Food insecurity is defined as a lack of consistent access to enough food for an active, healthy lifestyle” (USDA, 2023). It is caused most notably by poverty as well as other overlapping issues like affordable housing, social isolation, location and chronic health issues.

- Food Security
  - 73.8% would know where to go to access emergency food services if needed (single year point)
  - 30% either ran out of food at least once in the past year and/or worried about running out of food in the past year (increase). This is displayed in figure 5. (WNC Health Network, 2024)

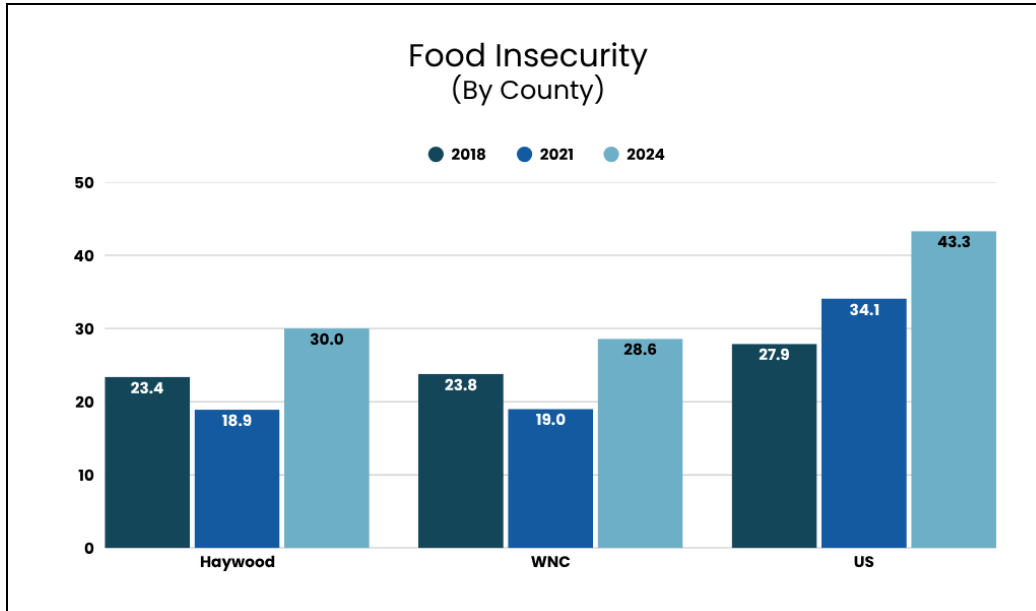


Figure 5: Food Insecurity (WNC Health Network, 2024)

## FAMILY & SOCIAL SUPPORT

"People with greater social support, less isolation, and greater interpersonal trust live longer and healthier lives than those who are socially isolated. Neighborhoods richer in social capital provide residents with greater access to support and resources than those with less social capital" (County Health Rankings, 2024).

- Always or usually get needed social/emotional support- 61.5% (decrease)
- Have someone to rely on for help or support if needed (e.g. Food, Transportation, Childcare, etc.)- 62.7% (decrease)
- Loneliness- 56.9% feel lonely often, some of the time, or occasionally (single year point)

(WNC Health Network, 2024)



## CHAPTER 4: HEALTH DATA FINDINGS SUMMARY

As you review the data in this chapter, it is important to remember that all information presented was collected before Hurricane Helene. While the data provides valuable insight into the health and well-being of our community and serves as a baseline before the storm, it does not capture the full extent of Helene’s impact on issues such as mental health and substance use.

Hurricane Helene has affected many aspects of community health and daily life in Haywood County. As we work towards recovery, it is essential to consider how these changes may influence current and future health trends beyond what is reflected in this report.

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

Name, Credentials	Affiliation
<b>Megan Hauser, MA, MCHES</b>	<b>Haywood County Health and Human Services Agency</b>

### MORTALITY

- Life expectancy (2020–2022 aggregate)–The life expectancy for all residents is 74.7 (NC State Center for Health Statistics, 2024).
- Key information about causes of death, disparities, and changes:
  - 2019–2022– Suicide is the second leading cause of death for the 0–19 and 20–39 age groups. The county’s suicide death rate is higher than the state rate. The top causes of death are noted in figure 1 (NC State Center for Health Statistics, 2024).

Rank	Cause of Death	Haywood	
		# Deaths	Death Rate
	All Causes (some not listed)	4,677	916.5
1	Diseases of Heart	902	166.0
2	Cancer	857	157.3
3	All Other Unintentional Injuries	267	68.5
4	Chronic Lower Respiratory Diseases	285	49.8
5	COVID-19	259	48.0
6	Cerebrovascular Disease	195	36.7
7	Alzheimer's disease	160	28.1
8	Diabetes Mellitus	120	24.6
9	Pneumonia and Influenza	135	24.3
10	Suicide	65	20.6
11	Chronic Liver Disease and Cirrhosis	77	18.3
12	Septicemia	85	17.4
13	Nephritis, Nephrotic Syndrome, and Nephrosis	90	16.3
14	Unintentional Motor Vehicle Injuries	52	15.6
15	Homicide	12	4.9
16	Acquired Immune Deficiency Syndrome	1	0.3

Figure 1: Top Causes of Death for Haywood County (NC State Center for Health Statistics, 2024)

## HEALTH STATUS & BEHAVIORS (INCLUDE MORBIDITY AND HEALTH BEHAVIOR DATA)

- Overall Health Status- 14.9% of residents reported experiencing fair or poor overall health (WNC Health Network, 2024).
- Pregnancy and Maternal/Infant Health
  - 2022- 587 pregnancies among ages 15-44 (decrease)
  - Infant mortality (2018-2022 aggregate)- 7.2 per 1,000 live births (increase)
  - Prenatal care- In 2022, 87.5% of pregnancies received care during the first trimester, a decline from 2021 (decrease).  
(NC State Center for Health Statistics, 2024)
- Secondary and Survey Data: Chronic Disease
  - Adult heart disease prevalence- 8.1% (decrease) (WNC Health Network, 2024)
  - Adult diabetes prevalence- 14.6% (decrease) (WNC Health Network, 2024)
  - Cancer deaths (2018-2022 aggregate)- 157.3 cases per 100,000 residents (decrease)(NC State Center for Health Statistics, 2024)
  - Cancer incidence (2018-2022 aggregate)- The total number of cases for female breast, prostate, lung/bronchus, colon/rectum, melanoma, and cervix/uterine cancers is 505.6 per 100,000 residents (decrease)(NC State Center for Health Statistics, 2024).
- Injury & Violence
  - More than 56% of respondents from the Online Key Informant Survey viewed unintentional falls as a major or moderate problem. Over 58% viewed injury and violence as a major or moderate problem (WNC Health Network, 2024).
  - Unintentional motor vehicle deaths (2018-2022 aggregate)- 15.6 deaths per 100,000 individuals (decrease)(NC State Center for Health Statistics, 2024)
  - Traffic injuries (2023)- 658 reportable injuries (increase)(NC Department of Transportation, 2024)
- Secondary and Survey Data: Substance Use
  - Over 17% reported past-month binge drinking (increase).
  - Over 18.1% reported past-year opioid use, with or without a prescription (increase).
  - Over 58% reported that their life has been negatively affected by substance use, whether self or someone else's (increase).  
(WNC Health Network, 2024)
- Mental Health
  - 25.2% reported more than seven days of poor mental health in the past month (increase).
  - 70.9% reported being able to stay hopeful in difficult times (decrease).
  - 20.6% reported experiencing fair or poor mental health (single year point).
  - 21.8% reported that the typical day is extremely or very stressful (increase).  
(WNC Health Network, 2024).
  - 15.6% reported considering suicide in the past year (increase). This information is displayed in figure 2.

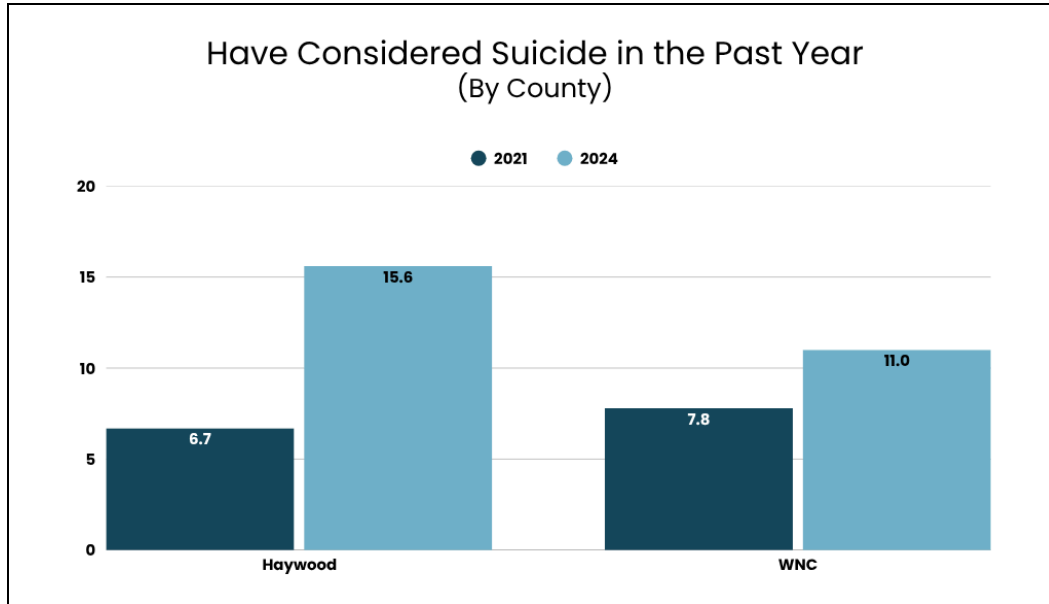


Figure 2: Have Considered Suicide in the Past Year (WNC Health Network, 2024)

## CLINICAL CARE & ACCESS (INCLUDE HEALTH RESOURCES DATA)

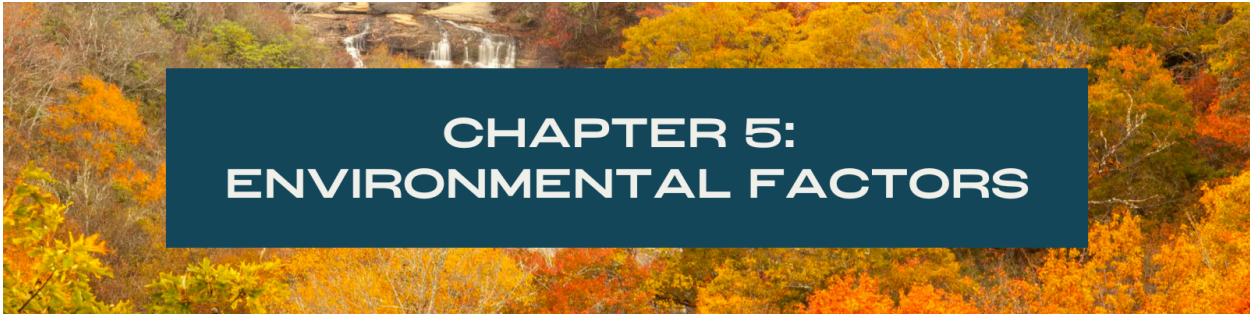
- Health Professionals (2022)- There are 6.6 primary care physicians per 10,000 residents (decrease)(Cecil G. Sheps Center for Health Services Research, 2024).
- Aging of the Health Workforce (2022)- A combined 29.3% of physicians, primary care physicians, and nurse practitioners in the county are over 65 (decrease for all)(Cecil G. Sheps Center for Health Services Research, 2024).
- Licensed Facilities- The county has 14 aging, adult care and family care homes (NC Department of Health and Human Services, Division of Health Services Regulation, 2024).
- Uninsured Population- 18.3% lack health care insurance coverage (decrease)(WNC Health Network, 2024)
- Healthcare Access
  - 20.1% were unable to get needed medical care in the past year (decrease).
  - 20.9% reported that cost prevented getting a prescription in the past year (single year point).  
(WNC Health Network, 2024)
- Medicaid- In June 2024, over 18,000 county residents were eligible for Medicaid (increase)(NC Department of Health and Human Services, 2024).
- Mental Health Services- Haywood County has two treatment providers with walk-in crisis services.
- Mental Healthcare Access
  - 39.8% are currently receiving mental health treatment (increase).
  - 22.8% unable to get mental health services when needed (increase).  
(WNC Health Network, 2024)
- Mental Healthcare Access; Open-ended

- o For those unable to access services, the most common reasons given were cost, time, and availability (WNC Health Network, 2024).
  - o 61% would know where to go or refer someone else for substance use or mental health counseling (single year point)(WNC Health Network, 2024)
- Rx Access- Nearly 21% were unable to get a prescription in the past year due to cost (single year point)(WNC Health Network, 2024)

## HEALTH INEQUITIES

- Primary and chronic disease needs by uninsured, low-income, and racial/ ethnic groups
  - o Hispanic residents are more likely than White residents to lack health care insurance coverage (42.3% vs. 17%)(WNC Health Network 2024).
  - o Hispanic residents are more likely than White residents to report having unhealthy or unsafe housing conditions in the past year (36% vs. 16%)(WNC Health Network, 2024).





# CHAPTER 5: ENVIRONMENTAL FACTORS

## WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

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<b>Jack Talton, MPH</b>	<b>Haywood County Health and Human Services Agency</b>

## AIR & WATER QUALITY

“Clean air and safe water are prerequisites for health. Poor air or water quality can be particularly detrimental to vulnerable populations such as the very young, the elderly, and those with chronic health conditions.” (County Health Rankings, 2024).

- Air Quality Index (AQI) Summary (2023)– The county had 204 days of good air quality, 69 moderate, and five that were unhealthy for sensitive groups (US Environmental Protection Agency, 2024).
- Toxic Release Inventory (TRI) Summary (2022)– The total for toxic waste disposal was over 2 million pounds (US EPA TRI Explorer, 2024).
- Community Water Systems (proportion of population served by CWSs)(August 2024)– Nearly 79% of county residents are served by Community Water Systems (US Environmental Protection Agency, 2024) (US Census Bureau, 2024).

## ENVIRONMENTAL JUSTICE

Environmental Justice (EJ) is a broad term that refers to community-based organizing with the goal of creating and maintaining a healthy, safe environment for all life with special attention paid to how environmental hazards are distributed across communities. EJ was born in 1982 in Warren County, NC, when Black residents were told their neighborhood would become the site of a landfill for PCB, which is known to be hazardous to human health. This community banded together to fight the decision to locate the hazardous waste in a

predominately Black community, and recognized that the vast majority of the burden of toxic waste in the US is carried by communities of color (Wells, 2018). The Environmental Justice movement has brought to the forefront the importance of monitoring how environmental contamination impacts the health of communities in disparate ways.

Western North Carolina (WNC) is naturally resilient compared to many other parts of the state. The altitude makes the region less vulnerable to heat waves than the Piedmont area, and floods in WNC are less threatening than those experienced in coastal counties. Since the tuberculosis outbreak of the late 1700's, the air quality has drawn people to the mountains in hopes that it would provide a healing benefit (Cadmus, 2024). However, communities still need to be prepared for many health risks present in our environments. Wildfires, water quality, flooding, drought, and heat waves are all threats to human health. Smoke from fires damages air quality and leads to respiratory issues among other health issues, poor water quality can cause life-threatening diseases such as cancer and bacterial infection, flooding can increase exposure to water-borne illnesses, and drought increases the frequency and intensity of flooding. Changes in our climate will continue to make summers hotter and will increase communitywide susceptibility to heat related illness, especially in under-treed communities experiencing heat islands (Donellan, 2023).

In Haywood County, vulnerable populations and areas were disproportionately affected by Hurricane Helene, particularly low-income communities, elderly residents, and individuals with disabilities. Rural neighborhoods near the Pigeon river and other flood-prone zones faced significant flooding, exacerbating existing vulnerabilities. Hurricane Helene's impact was unprecedented and moved far beyond the existing flood boundaries (FEMA Resilience Analysis and Planning Tool).



## CHAPTER 6: CLIMATE & HEALTH

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

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<b>Megan Hauser, MA, MCHES</b>	<b>Haywood County Health and Human Services Agency</b>
<b>Jack Talton, MPH</b>	<b>Haywood County Health and Human Services Agency</b>

As you review the data in this chapter, it is important to remember that all information presented was collected before Hurricane Helene. While the data provides valuable insight into the health and well-being of our community and serves as a baseline before the storm, it does not capture the full extent of Helene’s impact on climate and health.

Hurricane Helene has affected many aspects of community health and daily life in Haywood County.. As we work towards recovery, it is essential to consider how these changes may influence current and future health trends beyond what is reflected in this report.

Changes in our climate are increasingly affecting the health of communities across Western North Carolina (WNC). Rising temperatures, shifts in precipitation patterns, and more frequent extreme weather events are contributing to significant public health challenges. Vulnerable populations, such as children, pregnant individuals, outdoor workers, and those with chronic health conditions, are especially at risk.

- Climate & Health Risks– Over 70% of adult residents believe that climate is very or somewhat connected to health risks (single-year point)(WNC Health Network, 2024).

## TEMPERATURE AND EXTREME HEAT

Over the past century, the average annual temperature in Western North Carolina has steadily risen, with most years in the past two decades being warmer than the historical average (Figure 1).

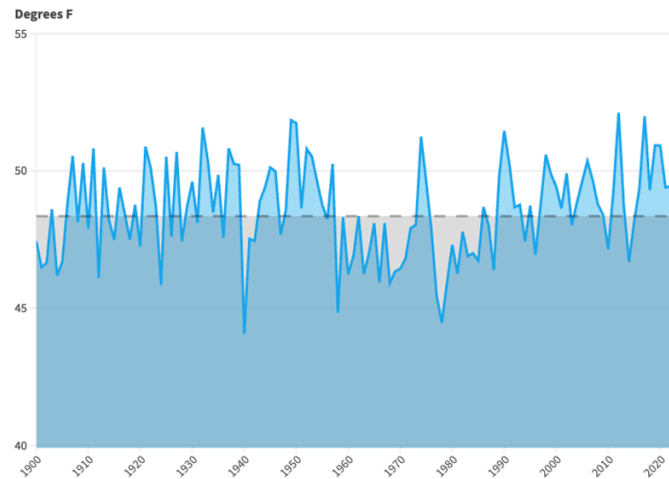


Figure 1. Observed average annual temperature for Western North Carolina from 1901 to 2024 and the temperature of record, 48 °F (dashed grey line).

Source: National Centers for Environmental Information Climate at a Glance. Data: COOP, ASOS, CRN

Extreme heat events, such as heatwaves, have become more frequent. For instance, 2010 and 2016 saw 35 and 32 days of heatwaves (Figure 2), respectively. These periods of prolonged heat have been linked to increased morbidity and mortality, particularly on days with poor air quality (CDC, 2023).

Extreme heat not only poses direct risks such as heatstroke but also exacerbates existing health conditions like heart disease and respiratory illnesses (CDC, 2023). As the frequency of extreme heat events continues to rise, addressing these climate-related health risks becomes increasingly urgent.

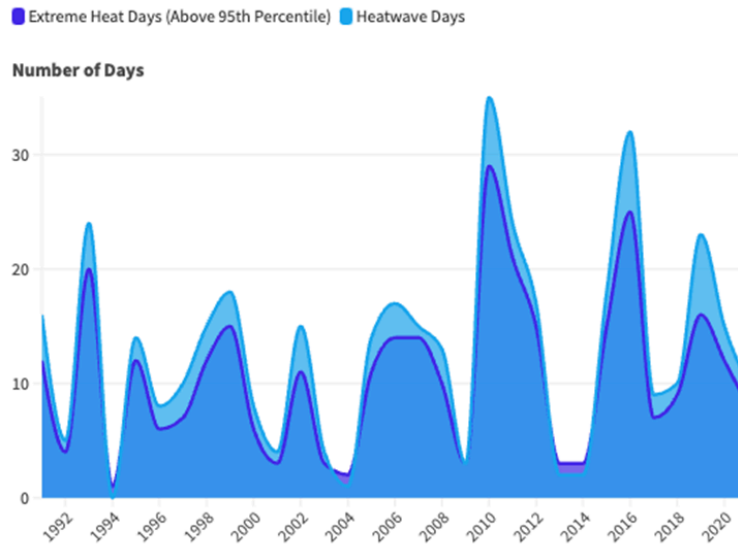


Figure 2. Annual number of Heatwave and Extreme Heat Days in the 18-counties of WNC, 1991 to 2023. **Heatwave** was defined as 3 or more consecutive days, during which the temperature reached the 90th percentile for those days. **Extreme Heat days** are defined as individual days when the temperature exceeds the 95th percentile. Source: PRISM Climate Group. Data: PRISM.

## PRECIPITATION AND FLOODING

Western North Carolina's climate is characterized by its wet and humid conditions, with precipitation levels remaining relatively constant across seasons (NCICS, 2024). However, extreme precipitation events, such as heavy rainfall leading to flash floods, have become more variable. Several years since 2000 have experienced multiple days of extreme precipitation, significantly increasing the risk of flooding, property damage, and potential injuries or fatalities (Figure 3).

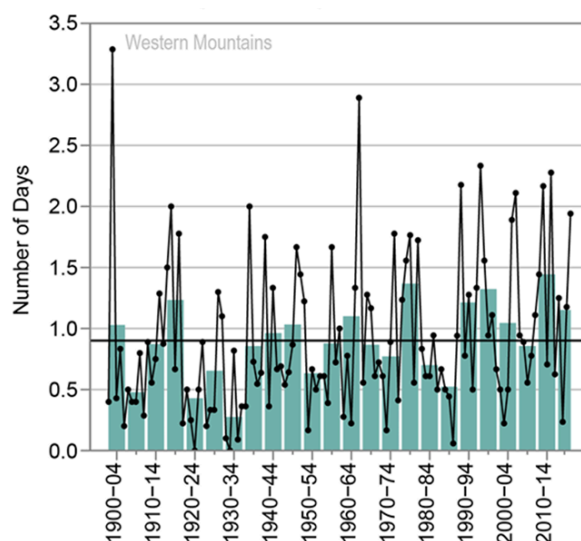


Figure 3. Observed annual number of extreme precipitation events for the Western Mountains of North Carolina. **Extreme precipitation** is defined as 3 inches or more of precipitation within a 24-hour span. Sources: NCICS, NOAA NCEI, and the State Climate Office of North Carolina.

Flood risk in this region is high (Figure 4), and the region's unique topography further amplifies this vulnerability. Communities located near rivers, streams, and low-lying areas are particularly at risk. Preparing for and mitigating the impacts of floods is a crucial aspect of safeguarding community health.

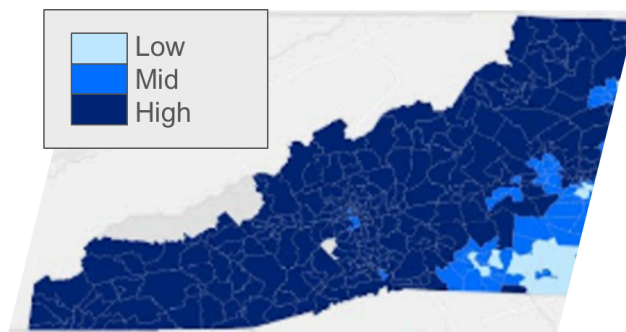


Figure 4. Flood Risk in North Carolina at the ZCTA level. Sources: First Street Foundation. Data: FIRMS, USGS DEMs, NOAA, NHD. We acknowledge Sarah Ulrich for her mapping expertise.

## DROUGHT AND WILDFIRES

Despite Western North Carolina's typically humid climate, the region has also faced periods of exceptional drought. Notably from 2007 to 2009 (Figure 5), streamflows dropped to record lows, and drought in 2016 triggered a significant wildfire season in the region.

Wildfires pose health risks through direct exposure to flames and smoke, which can exacerbate respiratory and cardiovascular conditions, and even cause premature death (CDC, 2023). The 2016 wildfire season burned over 60,000 acres in North Carolina (NCICS, 2024), highlighting the need for continued attention to fire prevention and response.

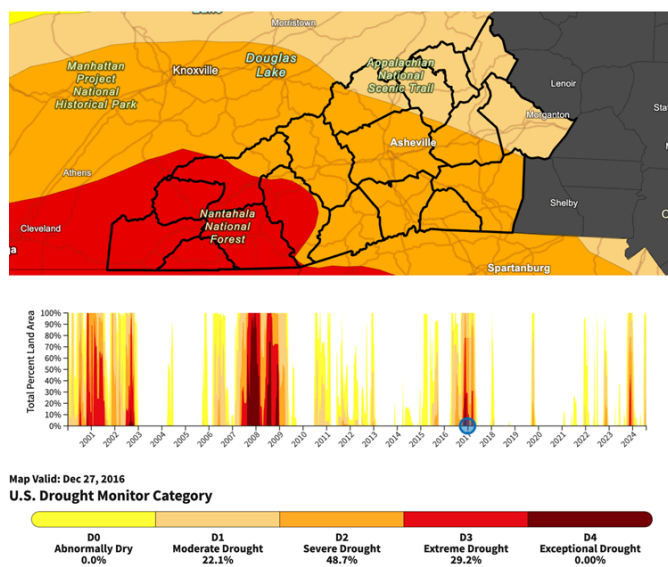


Figure 5. Historic Drought Conditions from 2000 to 2024 and map highlighting the drought conditions during the 2016 drought season. Sources: NOAA, USDA, and National Drought Mitigation Center. Data: USDM, NOAA, NIDIS, USDA, NDMC.



## The Impact of Hurricane Helene on Western North Carolina



**Photo courtesy of Haywood County Emergency Services**

Hurricane Helene brought unexpected and lasting challenges to communities across Western North Carolina. Hurricane Helene, the third-deadliest hurricane of the modern era, caused over 200 deaths, with nearly half of them in North Carolina (National Centers for Environmental Information, 2024). Early estimates suggest the economic losses from Helene could exceed \$50 billion (North Carolina Office of State Budget and Management, 2024). A total of 25 counties in North Carolina were included in the federal disaster declaration following Hurricane Helene, 14 counties located within the WNC Healthy Impact Region (Buncombe, Clay, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Transylvania and Yancey.) The Eastern Band of Cherokee Indians (EBCI) was also included in the disaster declaration (North Carolina Department of Public Safety, 2024).

While this Community Health Assessment (CHA) is based on data collected before the hurricane, it is important to recognize how this disaster has affected and will continue to affect many aspects of health in the region. Natural disasters like hurricanes do not just cause immediate physical harm—they also impact long-term health, the environment, and the economy (North Carolina Office of State Budget and Management, 2024).

Storms disrupt access to healthcare, damage homes and infrastructure, and cause financial hardship for many families (Kaiser Family Foundation, 2024). Some communities faced greater challenges than others. People with lower incomes, older adults, individuals with



disabilities, and those without stable housing were affected the most (U.S. Census Bureau, 2024). Many families lost wages due to business closures, and some small businesses struggled to recover. The stress of these losses can lead to mental health challenges, including anxiety and depression (North Carolina Department of Public Safety, 2024).

Environmental factors also changed due to the hurricane. Floodwaters can spread disease and pollutants, affecting drinking water and air quality (North Carolina State Climate Office, 2024). Mold in homes and buildings can make respiratory conditions worse. In some areas, roads and bridges were washed out, making it harder for people to reach doctors, pharmacies, and grocery stores (U.S. Census Bureau, 2024).

Morbidity and mortality rates have been significantly impacted by the storm, with some individuals dying from injuries sustained during the hurricane. Others have faced ongoing medical issues due to limited healthcare access, prolonged stress, and the challenging recovery environment (North Carolina Department of Insurance, 2024). Communities in WNC continue to work toward recovery, but the devastating effects of Hurricane Helene will be felt for years to come.

Each county in Western North Carolina has been affected in different ways.



Photo courtesy of Haywood County Emergency Services

## LOCAL DATA ACCESSED OR IDENTIFIED BY WNC HEALTHY IMPACT PARTNERS

- **Shelter Data: Public Health or Via Nonprofit Organizations**
  - Number of days shelter was open- 41
  - Number of individuals housed- 238

(Haywood County Health and Human Services Agency, 2025)
- **Death Data:** Five deaths were recorded in Haywood County (NC Department of Health and Human Services, 2024).
- **FEMA & Emergency Management Data:** FEMA DSNAP & Local FEMA/Emergency Management Meetings
  - Statewide, over 164,000 individuals were approved for Disaster Supplemental Nutrition Assistance Program or D-SNAP benefits (NC Department of Health and Human Services, 2024).
- **Supplies/Donations Data:** The local community received many donations, including hygiene and household items and bottled water.

## REGIONAL/STATE/FEDERAL DATA

### Recovery, Housing, Roads and Bridges and Debris Management

- Debris removed: 115,332 cubic yards, enough to fill 40 Olympic-sized pools (June 17, 2025 update)
- FEMA applications- 9822 (May 15, 2025 update)
- FEMA Disaster Recovery Center- 4783 served (March 31, 2025 update; this facility closed on March 31 and transitioned to the Helene Recovery Center)
- FEMA distributions- \$25.3 million (May 15, 2025 update)

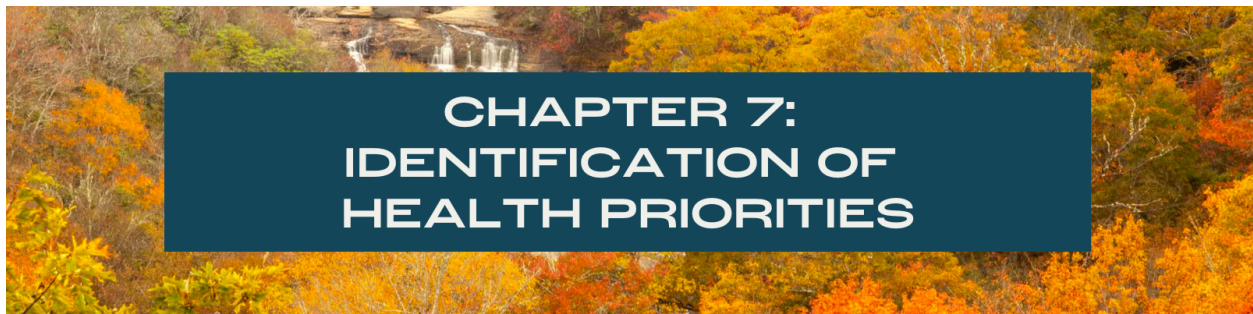
- Transitional sheltering- Approximately six months after the flood, 17 households were still receiving transitional sheltering in hotels (March 31, 2025 update  
(Ready Haywood, 2025)
- **Damage and Needs Assessment (DNA)**
  - Impact to the Eastern Band of Cherokee Indians- 1500 tribal members were impacted in Haywood County (Office of State Budget Management, 2024).

## LOCAL IMPACT AND EXPERIENCES

Hurricane Helene has affected many aspects of community health and daily life in Haywood County. As we work towards recovery, it is essential to consider how these changes may influence current and future health trends beyond what is reflected in this report.

- **Economics/Business/Tourism/Farmers/Artisans:**
  - Ingles experienced major damage at their local distribution site, affecting food access (Carolina Public Press, 2024).
  - Manna FoodBank experienced a total operational loss, impacting food security providers in the county (MANNA FoodBank, 2025).
  - Farms were devastated by flooding and this impacted opportunities for migrant farmworkers.
- **Mental Health Effects:**
  - The community faced increased mental health challenges.
- **Vulnerable Population Effects:**
  - Ongoing need for long-term assistance, including heating, food pantry, rental, and utility bill support.
- **Environmental Effects:**
  - Widespread pollution and debris, particularly in water supplies and wells.
  - Destroyed septic systems and feet of mud in properties.
  - Homes and businesses were swept away.
  - Contaminated well water samples, river cleanup, and river bank repairs.
  - Geomapping is needed for rebuilding river banks to prevent future damage.
  - Water samples from Haywood County residents increased from 43 in September 2024 to 216 in October 2024 (Haywood County Health and Human Services Agency, 2025).
- **Community Response:**
  - Positive collaboration was observed across sectors. A strong response was seen from faith-based and community organizations, including hot meal and supply distribution.

- **Loss of Transportation:**
  - The area saw significant disruption in transportation.
  - Residents experienced damage to bridges, cars, and roads. Some traffic lights were out due to lack of power.
- **Communication Barriers:**
  - Distrust and misinformation, with barriers in accessing reliable information.
  - Loss of phone and internet services- As of September 28, 2024, over 87% of cell sites were out in the county (Federal Communications Commission, 2024).
- **Financial Assistance:**
  - Difficulty qualifying for and receiving financial aid.
  - Housing crisis compounded by limited resources.
- **Distrust of Government Agencies:**
  - Misinformation and distrust of FEMA and other government agencies.
- **Education:**
  - Haywood County Schools were unable to hold in-person classes for 12 days (Haywood County Schools, 2024).
  - Displacement of children and moving to new schools.
- **Social and Psychological Effects:**
  - People focused on recovery, experiencing burnout, and lack of self-care.
  - Difficulty prioritizing social interactions or resilience programs.
  - A shift to basic needs at the expense of mental health awareness.
- **Migration:**
  - Post-storm migration as people leave the area due to long recovery timelines and limited resources (data source not yet available).



## CHAPTER 7: IDENTIFICATION OF HEALTH PRIORITIES

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

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<b>Jack Talton, MPH</b>	<b>Haywood County Health and Human Services Agency</b>

### IDENTIFICATION OF COMMUNITY HEALTH ISSUES

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

#### Data Review and Initial Shortlist

Beginning in August 2024, our team spent time understanding the data and uncovering what issues were affecting the most people in our community. We also interviewed community leaders to find out what they're most concerned about. Our key partners, listed in the Executive Summary, reviewed this data collectively, discussing the unique facts and circumstances impacting our community.

Using the WNC Healthy Impact Data Workbook and its prioritization tools, we applied several criteria to identify significant health issues:

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

#### Community Engagement and Prioritization

Once the county's health education team made sense of the data, we presented key health

issues to a wide range of partners and community members. The participants used the information we presented to score each issue, and then vote for their top areas of concern. They considered the severity of the issue, the relevancy of the issue, and the feasibility in improving the issue.

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

### **Identified Indicators**

During the above process, the health education team internally identified the following health indicators (indicators chosen were presented during the 2021 prioritization meeting and/or are part of the current Community Health Improvement Plan):

- Diabetes: Adults who reported a Diabetes diagnosis.
- Heart Disease: Adults who reported heart disease diagnosis, including heart attack, angina, or coronary artery disease.
- High Blood Pressure: Adults who reported a high blood pressure diagnosis.
- High Blood Cholesterol: Adults who reported a high blood cholesterol diagnosis.
- Poverty: The percentage of Haywood County residents who live below the Federal Poverty Level.
- Healthcare Coverage: Adults under age 65 who reported lacking health care insurance coverage, including all types of insurance.
- Unable to Access Care: Adults who reported being unable to access needed medical care in the past year.
- Poor Mental Health: Adults who reported having more than seven days of poor mental health in the past month.
- Suicidal Ideation: Adults who reported considering suicide in the past year.
- Social/Emotional Support: Adults who reported that they always or usually get needed social or emotional support.
- Mental Health Care Access- Adults who reported being unable to access mental health services when needed in the past year.
- Suicide Rate per 100,000 (state and county)- The rate of deaths caused by self-harm.
- Leisure-Time Physical Activity- Adults who reported not getting leisure-time physical activity in the past month.
- Fruit and Vegetable Intake- Adults who reported consuming five one-cup servings of fruits and/or vegetables in the past week, excluding potatoes.
- Healthy Food Access- The number of grocery stores per 1,000 residents.
- Food Insecurity- Adults who reported running out of food and/or worrying about running out of food in the past year.
- Sugar-Sweetened Beverage Consumption- Adults and high school students who reported consuming one or more sugar-sweetened beverages per day.

- Adult Overweight/Obesity- Adults with an overweight or obese Body Mass Index based on self-reported height and weight.
- Adult Healthy Weight- Adults with a healthy Body Mass Index based on self-reported height and weight.
- Childhood Obesity- 2-4 year olds (enrolled in the Women, Infants and Children program) and high school students who meet obesity criteria.
- Household Vehicle Access- Percent of owner- and renter-occupied units with vehicle access.
- Household Computer Access- Percent of households with computer access, including a smartphone.
- Community Support- Adults who disagree that the community is welcoming to people of all races and ethnicities.
- Threatened/Harassed- Adults who reported often or sometimes experiencing this in the past year.
- Housing (utility access)- Adults who reported a time in the past year when their home was without electricity, water, or heating.
- Housing (temporary housing)- Adults who reported living on a street, in a car, or in a temporary shelter in the past three years.
- Substance Use Impact- Adults who reported that their life was negatively affected by either theirs or another person's substance use.
- Past-Year Opioid Use- Adults who reported opioid use in the past year, with or without a prescription.
- Tobacco Use (cig, e-cig, smokeless)
  - Adults who reported smoking cigarettes every day or some days.
  - Adults who reported using vaping products every day or on some days.
  - Adults who reported currently using chewing tobacco, dip, snuff, or Snus.
- Binge Drinking- Women who reported 4+ or men who reported 5+ alcoholic drinks on one occasion in the past month.
- Excessive Drinking- The definition varies by data source, but these are adults who reported binge or heavy drinking.
- Unintentional Overdose- Defined as a rate per 10,000 residents.
- Drug Poisoning Death Rate- Defined as a rate per 100,000 residents.

## PRIORITY HEALTH ISSUE IDENTIFICATION

### Process

The issues identified above were further reviewed using a set of criteria to finalize the health priorities for our community for the next three years. The criteria used were:

- Relevance: How important is this issue? (*Size of the problem; Severity of problem; Focus on equity; Aligned with HNC 2030; Urgency to solve problem; Linked to other important issues*)
- Impact: What will we get out of addressing this issue? (*Availability of solutions/proven strategies; Builds on or enhances current work; Significant consequences of not addressing issue now*)



- Feasibility: Can we adequately address this issue? (*Availability of resources – staff, community partners, time, money, equipment – to address the issue; Political capacity/will; Community/social acceptability; Appropriate socio-culturally; Can identify easy, short-term wins*)

Participants used a modified Hanlon method to rate the priorities using the criteria listed above. A dot-voting technique was used to narrow to the top three priority health issues.

### **Identified Priorities**

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

- Substance Use and Mental Health– Following a review of relevant primary and secondary data, prioritization meeting participants voted to address this as the top priority. The priorities of substance use and mental health were a natural fit to combine as a priority.
- Chronic Disease – Following a review of relevant primary and secondary data, prioritization meeting participants voted to address this as the second priority.
- Social Determinants of Health– Following a review of relevant primary and secondary data, prioritization meeting participants voted to address this as the third priority.

Participants used the Local Rating and Prioritization Worksheet to make selections. This tool was developed in August 2015 by WNC Healthy Impact, Prioritization Workgroup; adapted from Rating/Ranking Key Health Issues (Health Resources in Action) and the Hanlon Method for Prioritizing Health Problems (NACCHO). Reviewed and edited by WNC Health Network, August 2018 and revised in Sept 2021.

The following Priority Data Summary Handouts include community input received at the CHA Prioritization Meeting.

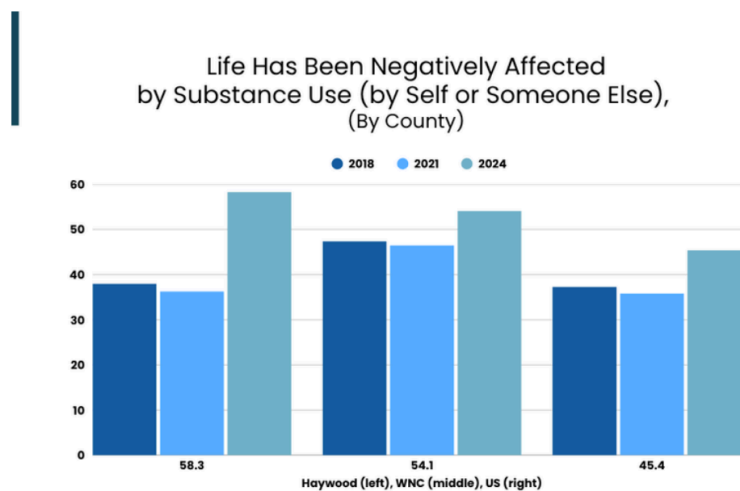
# SUBSTANCE USE AND MENTAL HEALTH



## Community Health Assessment–Priority Setting Data Summary

A large list of primary (newly collected) and secondary (existing) data was reviewed internally by Haywood County public health staff with support from WNC Health Network partners. This allowed the team to arrive at a ‘short list.’

## THE NUMBERS



## WHAT THIS MEANS FOR HAYWOOD COUNTY

- Binge drinking- 17.2% (increase)
- Drug poisoning death rate- 60 per 100,000 residents (increase)
- Don't know where to go or where to refer someone for substance use/mental health treatment- 40% (single-year point)
- More than seven days of poor mental health in the past month- 25.2% (increase)
- Sources: NC State Center for Health Statistics and WNC Health Network, 2024

Tool adapted by WNC Health Network from Buncombe County CHIP data team



# SUBSTANCE USE AND MENTAL HEALTH

## WHAT'S HELPING?

- Medication-Assisted Treatment and Medicaid expansion
- Anti-stigma campaign
- Local involvement of Vaya Health
- Variety of community organizations
- Multiple community resources available
- Access to online mental health resources
- 988 awareness

## WHAT'S HURTING?

- Mental health challenges
- Decreased access to basic needs
- Poverty
- Adverse Childhood Experiences/Trauma/Pain/Flood aftermath
- Generational domestic violence patterns
- Long wait and costs for counseling
- Stigma, negative attitudes, shame
- Lack of long-term rehab facilities and child/youth programs

## WHO'S MOST IMPACTED?

- People facing poverty, homelessness, chronic illnesses without treatment, increased mental illnesses, with limited funds and transportation, lack of knowledge/resources.
- High anxiety/depression rates in school age children/youth substance use
- Incarcerated individuals
- Health care workers
- Law enforcement

## WHAT ELSE DO WE KNOW?

- We need to share more resource information with the general public.
- Substance Use Disorder and Mental Health [challenges] are often co-occurring
- Peer support is critical
- Underage people easily access substances like tobacco, vapes, and CBD.

## HOW ARE WE SUPPORTING?

- Inpatient and outpatient treatment providers
- Peer support programs
- Crisis support, such as Behavioral Health Urgent Care
- Naloxone and lock boxes
- National Alliance on Mental Illness and Alcoholics Anonymous programs in the detention center
- 988 Suicide and Crisis Lifeline Awareness Campaign

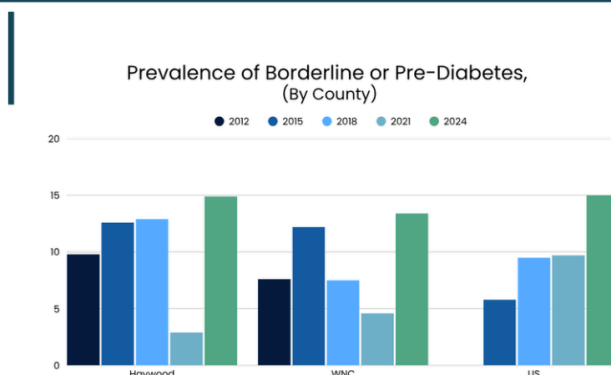
# CHRONIC DISEASE



## Community Health Assessment–Priority Setting Data Summary

A large list of primary (newly collected) and secondary (existing) data was reviewed internally by Haywood County public health staff with support from WNC Health Network partners. This allowed the team to arrive at a ‘short list.’

## THE NUMBERS



## WHAT THIS MEANS FOR HAYWOOD COUNTY

- Heart disease- 8.1% (decrease) (WNC Health Network, 2024)
- Borderline diabetes- 14.9% (increase)(WNC Health Network, 2024)
- In NC, 23.6% of children have 2+ Adverse Childhood Experiences. As ACES increase, the more likely a person is to develop a chronic disease (Healthy NC 2030).
- One hundred percent of key informants rated heart disease/stroke as major or moderate community problems (WNC Health Network, 2024).

Tool adapted by WNC Health Network from Buncombe County CHIP data team



# CHRONIC DISEASE

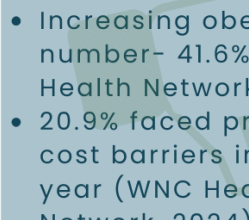
## WHAT'S HELPING?

- Medicaid expansion
  - Fewer people lack health coverage- 18.3% (WNC Health Network, 2024)
- Healthy Opportunities Pilot
- Library programs
- Local food security organizations



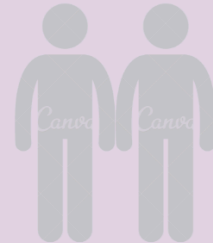
## WHAT'S HURTING?

- Lack of childcare
- Lack of maternal resources
- Cost of food
  - More individuals are facing food insecurity- 30% (WNC Health Network, 2024)
- Increasing obesity number- 41.6% (WNC Health Network, 2024)
- 20.9% faced prescription cost barriers in the past year (WNC Health Network, 2024)(single year)



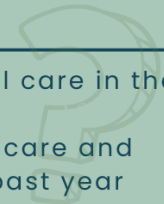
## WHO'S MOST IMPACTED?

- Those who are 45+



## WHAT ELSE DO WE KNOW?

- Over 20% of individuals had trouble accessing medical care in the past year (WNC Health Network, 2024).
- Transportation can be a barrier to accessing medical care and healthy foods. Nearly 13% reported facing this in the past year (WNC Health Network, 2024).



## HOW ARE WE SUPPORTING?

- Cooking and nutrition education through Cooperative Extension
- Public school breakfast and lunch programs
- Women, Infants and Children (WIC) and the Supplemental Nutrition Assistance Program (SNAP)
- Haywood Greenway Advisory Council
- Diabetes Prevention Program



# SOCIAL DETERMINANTS OF HEALTH

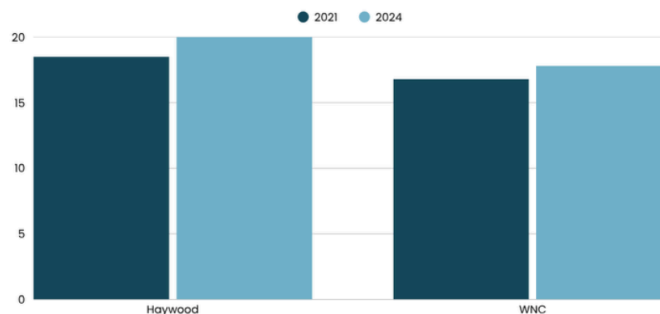


## Community Health Assessment–Priority Setting Data Summary

A large list of primary (newly collected) and secondary (existing) data was reviewed internally by Haywood County public health staff with support from WNC Health Network partners. This allowed the team to arrive at a ‘short list.’

## THE NUMBERS

Disagree That the Community Is a Welcoming Place for People of All Races and Ethnicities  
("Disagree" or "Strongly Disagree" Responses; By County)



## WHAT THIS MEANS FOR HAYWOOD COUNTY

- Often/sometimes threatened or harassed in the past year- 8.3% (single year)
- Always/usually/sometimes worried about paying rent/mortgage in the past year, with Hispanic residents reporting this more than White residents- 42.6% (increase)
- Perceived main reason for unfair treatment in the past year- top three reasons are other/don't know, race, and appearance
- In the past 12 months, a lack of transportation has prevented me from going someplace I wanted or needed to go in Haywood County- 12.9% agree or strongly agree

Source: WNC Health Network, 2024

Tool adapted by WNC Health Network from Buncombe County CHIP data team



# SOCIAL DETERMINANTS OF HEALTH

## WHAT'S HELPING?

- Healthy Opportunities Pilot
- Rent and utility assistance programs
- Food security providers
- Home ownership programs



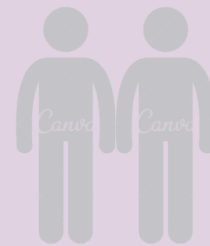
## WHAT'S HURTING?

- Housing displacement is up
- Access to affordable housing is down
- Food security increased
- Employers are struggling to fill positions
- Unhealthy relationships and domestic violence



## WHO'S MOST IMPACTED?

- Children
- Families
- All community members



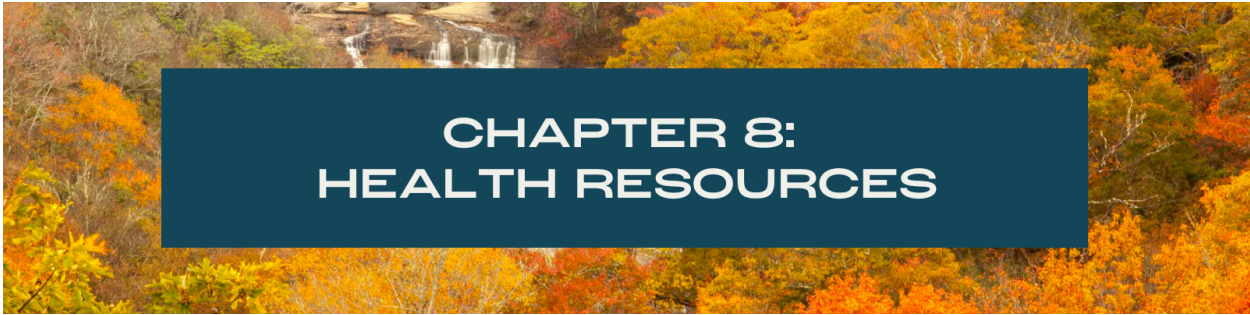
## WHAT ELSE DO WE KNOW?

- Hurricane Helene has worsened all of this and is not reflected in the numbers.
- Nearly 74% of respondents would know where to go for emergency food services (single-year point).
- Over 28% of respondents do not have cash to cover a \$400 emergency expense (single-year point).

Source: WNC Health Network, 2024

## HOW ARE WE SUPPORTING?

- Farm fresh foods are available at charitable distributions.
- A food resource guide is regularly updated and shared with the community.
- Several organizations offer crisis housing resources.



## CHAPTER 8: HEALTH RESOURCES

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

Name, Credentials	Affiliation
<b>Megan Hauser, MA, MCHES</b>	<b>Haywood County Health and Human Services Agency</b>
<b>Jack Talton, MPH</b>	<b>Haywood County Health and Human Services Agency</b>

### HEALTH RESOURCES

#### Process

Health education staff reviewed existing community resource guides. Information for this section also came from Online Key Informant Survey input, Community Health Assessment prioritization meeting participant input, and primary (newly collected) and secondary (existing) data.

Existing guides:

- [Haywood County Treatment Resource Guide](#)
- [Haywood County Food Resource Guide](#)
- [Haywood County Resource Guide](#)

#### Resource Gaps (This section includes information from the CHA Prioritization Meeting)

- Most resources are concentrated in the Waynesville area.
- Nutritious food access is key to addressing chronic health issues such as Pre-diabetes/Diabetes and heart disease, both considered major or moderate health problems in the community (Online Key Informant Survey, 2024). Many services are available during the business day and may be challenging for those working to access. Organizations are often led by dedicated volunteers and have no paid staff, affecting hours of availability.
- Housing resources often have income requirements and market rate rent may be unaffordable for some. During fiscal year 2024, the market rate for a one bedroom unit in Haywood County was \$1102 (Department of Housing and Urban Development,



2024). Affordable housing development is needed. Individuals need safe and stable housing access in order to focus on other health needs.

- While more individuals have healthcare insurance coverage, there is also an increase in individuals who have trouble accessing care (WNC Health Network, 2024).
- The county is large and rural, making it difficult to access resources. Those without a private vehicle have limited transportation options. Nearly 13% of Haywood County adults reported transportation barriers in the last year (WNC Health Network, 2024). Lack of transportation is a barrier to accessing services like food, education, and medical care.
- Language translation services are limited for some organizations, which may impact individuals seeking health services.
- Substance use and mental health treatment services are in more densely populated areas and inpatient services are limited. Some resources require individuals to travel out of the county. These health priority areas were viewed as major or moderate problems in the community through the Online Key Informant Survey). Community members ranked these health issues as the top priority area during the Community Health Assessment prioritization meeting.
- The community does not have access to some specialist health care providers [without leaving the county].

## Findings

- The county has a limited number of primary care physicians: 6.9 per 10,000 residents (UNC-Chapel Hill, 2023). Dental care resources are limited for adults without private insurance.
- Resources
  - Several agencies offer home ownership and financial literacy programs.
  - Outdoor food pantries provide non-perishable items and offer assistance outside of business hours.
- Strengths and Resources (this section includes input from the CHA Prioritization Meeting)
  - Food resources are available in a variety of formats, including hot meals, farm-fresh foods and food boxes.
  - There are many mental health and substance use treatment providers, including those offering Medication-Assisted Treatment.
  - Availability of Peer Support Specialists.
  - Involvement from the Managed Care Organization serving the region.
  - The community has a Behavioral Health Urgent Care and Adult Inpatient Recovery Unit.
  - Medicaid expansion
  - Healthcare navigator assistance
  - Access to online mental health resources
  - Walking trails, access to a national park, and community exercise opportunities
  - Cooking classes
  - New bike park



## CHAPTER 9: NEXT STEPS

### WRITING CONTRIBUTORS

The following people have supported the development of this chapter.

Name, Credentials	Affiliation
<b>Megan Hauser, MA, MCHES</b>	<b>Haywood County Health and Human Services Agency</b>
<b>Jack Talton, MPH</b>	<b>Haywood County Health and Human Services Agency</b>

### COLLABORATIVE PLANNING

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

### SHARING FINDINGS

The Community Health Assessment results and document will be shared with stakeholders and the general public. Dissemination methods will include:

- E-mail
- Website
- Social media
- Presentations will be made to groups including the Haywood County Health and Human Services Board and the Board of County Commissioners.

### WHERE TO ACCESS THIS REPORT

- [WNC Health Network | Supporting Healthy & Thriving Communities](#)
- [County Health Reports – Healthy Haywood](#)
- Each branch of the Haywood County Public Library

### FOR MORE INFORMATION AND TO GET INVOLVED

- Visit [www.healthyhaywood.com](http://www.healthyhaywood.com)
- Call 828-452-6675 or e-mail [megan.hauser@haywoodcountync.gov](mailto:megan.hauser@haywoodcountync.gov)



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## APPENDICES

### **Appendix A – Data Collection Methods & Limitations**

### **Appendix B – Survey Findings**

- Community Health Survey Results



## APPENDIX A- DATA METHODS AND LIMITATIONS

### Secondary Data Methodology

To learn about the specific factors affecting the health and quality of life of residents of WNC, the WNC Healthy Impact Data Workgroup, WNC Regional Data Team, and Mountain DEEP 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; NC Department of Health and Human Services; NC Office of State Budget and Management; NC Department of Commerce; UNC-CH Jordan Institute for Families; NC Department of Public Instruction; NC Department of Public Safety; NC Division of Health Benefits; NC Department of Transportation; and the Cecil B. Sheps Center for Health Services Research. The WNC Healthy Impact Regional Data Team made every effort to obtain the most current data available at the time the WNC Healthy Impact Dataset was prepared. It is not possible to continually update the data past a certain date; in most cases that end-point is August 2024. Secondary data is updated every summer in between Community Health Assessment (CHA) years.

The principal source of secondary health data for the WNC Healthy Impact Dataset is 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, Injury and Violence Prevention branch of (DPH); Opioid and Substance Use Action Plan Data Dashboard (DPH); Developmental Disabilities and Substance Abuse Services; the Centers for Disease Control and Prevention; Nutrition Services Branch (DPH); and NC DETECT.

Environmental data were gathered from sources including: US Environmental Protection Agency; US Department of Agriculture; and Department of Environmental Quality.

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.

The WNC Healthy Impact Dataset contains only secondary data that are : (1) retrieved directly from sources in the public domain or by special request; and (2) are available for all 16 counties in the WNC Healthy Impact region. All secondary data included in the workbook are the most current available, but in some cases may be several years old. Names of organizations, facilities, and geographic places presented in the tables and graphs 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.

## **WNC HEALTHY IMPACT COMMUNITY HEALTH SURVEY (PRIMARY DATA)**

### **Survey Methodology**

The 2024 WNC Healthy Impact Community Health Survey was conducted from March to June 2024. The purpose of the survey was to collect primary data to supplement the secondary dataset, and allow individual counties in the region to collect data on specific issues of concern. The survey was conducted throughout the entire WNC Healthy Impact region, which includes the following 16 counties: Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania and Yancey.

Professional Research Consultants, Inc. (PRC) designed and implemented the mixed-mode survey methodology, which included a combination of telephone (both landline and cell phone) interviews, online survey, as well as a community outreach component promoted by WNC Health Network and its local partners through social media posting, in-person events and other methods of communication. The survey methodology was designed to achieve a representative sample of the regional population that would allow for stratification by certain demographic characteristics, while also maximizing data collection timeliness and efficiency. Survey sampling and implementation methodology is described in greater detail below.

### ***Survey Instrument***

The survey instrument was developed by the WNC Healthy Impact Data Workgroup, WNC Regional Data Team, and Mountain DEEP, with assistance from PRC. Many of the questions were derived from the CDC Behavioral Risk Factor Surveillance System (BRFSS) and other validated public health surveys. Other questions were developed specifically by WNC Healthy Impact, with input from regional and local partners, to address particular issues of interest to communities in western North Carolina. Each county was given the opportunity to include three additional questions of particular interest to their county, which were asked only of their county's residents.

The three additional county questions included in the 2024 survey were:

- 1) In the past 12 months, a lack of transportation has prevented me from going someplace I wanted or needed to go in Haywood County.
- 2) Would know where to to to access emergency food services if needed
- 3) Would know where to go or refer someone else for substance use or mental health counseling

### *Sampling Approach & Design*

PRC designed the survey methodology to minimize sample bias and maximize representativeness by using best practice random-selection sampling techniques. They also used specific data analysis techniques, including poststratification, to further decrease sample bias and account for underrepresented groups or nonresponses in the population. Poststratification involves selecting demographic variables of interest within the population (here, gender, age, race, ethnicity, and poverty status) and then applying “weights” to the data to produce a sample which more closely matches the actual regional population for these characteristics. This technique preserves the integrity of each individual’s responses while improving overall representativeness.

In order to determine WNC regional estimates, county responses were weighted in proportion to the actual population distribution to appropriately represent Western North Carolina as a whole. Since the sample design and quality control procedures used in the data collection ensure that the sample is representative, the findings may be generalized to the region with a high degree of confidence.

### **Survey Administration**

PRC piloted the survey through 30 interviews across the region and consulted with WNC Health Network staff to resolve substantive issues before full implementation. PRC used trained, live interviewers and an automated computer-aided telephone interviewing system to administer the survey region-wide. Survey interviews were conducted primarily during evening and weekend hours, with some daytime weekday attempts. Interviewers made up to five call attempts per telephone number. Interviews were conducted in either English or Spanish, as preferred by respondents. PRC worked with a third-party provider to identify and invite potential respondents for an online survey for a small proportion of the sample population. The online survey was identical to the telephone survey instrument and allowed better sampling of younger and more urban demographic segments. The final sample included 3,313 random sample surveys (PRC).

PRC also created a link to an online version of the survey, and WNC Health Network in collaboration with Mountain DEEP, Survey Ambassadors and local partners promoted this online survey link throughout the various communities in order to drive additional



participation and bolster overall samples. This yielded 1,927 additional community outreach surveys for the region.

### **About the Haywood County Sample**

**Size:** The total regional sample size was 5,240 individuals age 18 and older, with 393 from our county. PRC conducted all analysis of the final, raw dataset.

**Sampling Error:** For statistical purposes, the maximum rate of error associated with the WNC regional sample is  $\pm 1.3\%$  at the 95 percent confidence level. For county-level findings, the maximum error rate ranges from  $\pm 3.3\%$  (Buncombe County) to  $\pm 9.8\%$  (Graham County).

Expected error ranges for a sample of 393 respondents at the 95% confidence level in Haywood County is  $\pm 5.2\%$ .

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 a sample of 200 respondents answered a certain question with a "yes," it can be asserted that between 6.0% and 14.0% ( $10\% \pm 4.0\%$ ) 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.

**Characteristics:** The following chart (figure 1) outlines the characteristics of the survey sample for Haywood County by key demographic variables, compared to actual population characteristics from census data. Note that the sample consists solely of area residents age 18 and older (WNC Health Network, 2024).

## Population & Survey Sample Characteristics (Haywood County, 2024)

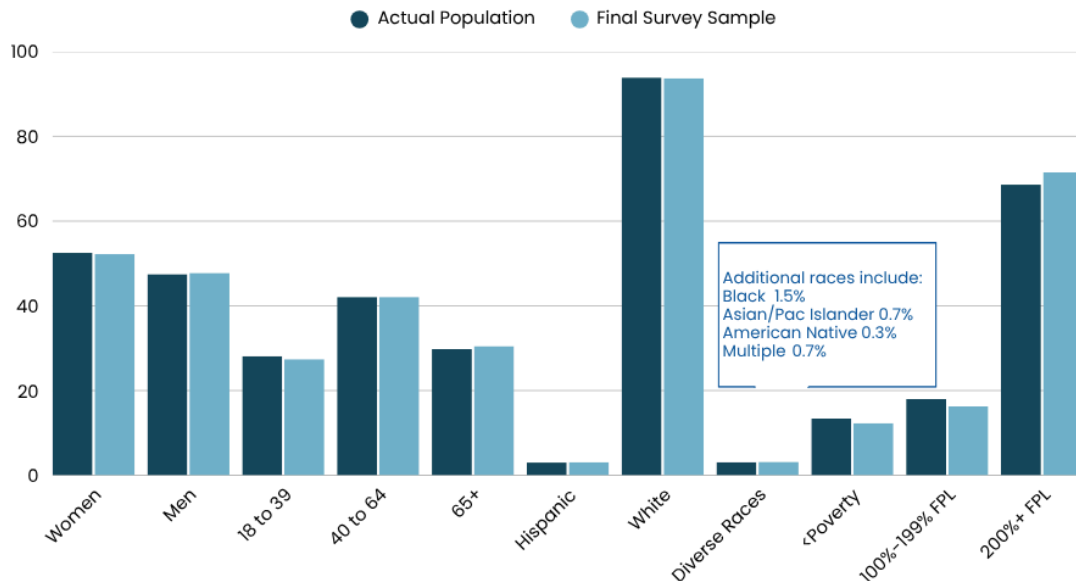


Figure 1: Population and Survey Sample Characteristics

### Survey Limitations and Information Gaps

#### Limitations

The survey methodology included a combination of telephone (both landline and cell phone) interviews, as well as an online survey. Limitations exist for these methods. For example, potential respondents must have access to a landline or a cell phone to respond to the telephone survey. In addition, the telephone survey sample included landlines (versus cell phones), which may further skew responses to individuals or households with landlines.

The PRC online survey component also has inherent limitations in recruitment and administration. Respondents were recruited from a pre-identified panel of potential respondents. The panel may not be representative of the overall population.

Additionally, PRC created an online survey link, which was promoted by WNC Health Network and its local partners through social media posting and other communications. The online survey link respondents might not be representative of the overall population.

A general limitation of using online survey technology is that respondents must interpret survey questions themselves, rather than have them explained by a trained, live interviewer. This may change how they interpret and answer questions.

Lastly, the technique used to apply post stratification weights helps preserve the integrity of each individual's responses while improving overall representativeness. However, this technique can also exaggerate an individual's responses when demographic variables are under-sampled.

### ***Information Gaps***

This assessment was designed to provide a comprehensive and broad picture of the health of the community overall. It does not measure all possible aspects of health in the community, nor does it represent all possible populations of interest. For example, due to low population numbers, members of certain racial/ethnic groups (e.g. Black, AI/AN, Hispanic/Latinx, etc.) may not be identifiable or represented in numbers sufficient for independent analyses. In these cases, information gaps may limit the ability to assess the full array of the community's health needs. The CHA leadership team also noted that to fully assess the community's health needs, additional youth and children's data is necessary.

## **Online Key Informant Survey (Primary Data)**

### **Online Survey Methodology**

#### ***Survey Purpose and Administration***

The 2024 Online Key Informant Survey was conducted in July 2024. WNC Healthy Impact, with support from PRC, implemented an Online Key Informant Survey to solicit input from local leaders and stakeholders who have a broad interest in the health of the community. WNC Healthy Impact shared with PRC a list of recommended participants, including those from our county. This list included names and contact information for physicians, public health representatives, other health professionals, social service providers, and a variety of other community leaders. Potential participants were chosen because of their ability to identify primary concerns of the populations with whom they work, as well as of the community overall.

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

#### ***Survey instrument***

The survey provided respondents the opportunity to identify important health issues in their community, what is supporting or getting in the way of health and wellbeing in their community, and who in their community is most impacted by these health issues.

### **Participation**

In all, **16** community stakeholders took part in the Online Key Informant Survey for our county, as outlined below:

<b>Local Online Key Informant Survey Participation</b>		
<b>Key Informant Type</b>	<b>Number Invited</b>	<b>Number Participating</b>
Community Leader	29	10
Other Health Provider	7	3
Physician	2	1
Public Health Representative	2	2
Social Services Provider	1	0

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

### **Survey Limitations**

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

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

### **Data Definitions**

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

### **Error**

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

### **Age-adjusting**

Secondly, since much of the information included in this report relies on mortality data, it is important to recognize that many factors can affect the risk of death, including race, gender, occupation, education and income. The most significant factor is age, because an individual's risk of death inevitably increases with age. As a population ages, its collective risk of death increases; therefore, an older population will automatically have a higher overall death rate just because of its age distribution. At any one time some communities have higher proportions of "young" people, and other communities have a higher proportion of "old" people. In order to compare mortality data from one community with the same kind of data from another, it is necessary first to control for differences in the age composition of the communities being compared. This is accomplished by age-adjusting the data.

Age-adjustment is a statistical manipulation usually performed by the professionals responsible for collecting and cataloging health data, such as the staff of the NC State Center for Health Statistics (NC SCHS). It is not necessary to understand the nuances of age-adjustment to use this report. Suffice it to know that age-adjusted data are preferred for comparing most health data from one population or community to another and have been used in this report whenever available.

### **Rates**

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

While rates help make data comparable, it should be noted that small numbers of events tend to yield rates that are highly unstable, since a small change in the raw count may translate to a large change in rate. To overcome rate instability, another convention typically used in the presentation of health statistics is data aggregation, which involves combining like data gathered over a multi-year period, usually three or five years. The practice of presenting data that are aggregated avoids the instability typically associated with using highly variable year-by-year data, especially for measures consisting of relatively few cases or events. The calculation is performed by dividing the sum number of cases or deaths in a population due to a particular cause over a period of years by the sum of the population size for each of the years in the same period.

Health data for multiple years or multiple aggregate periods is included in this report wherever possible. Sometimes, however, even aggregating data is not sufficient, so the NC SCHS recommends that rates based on fewer than 20 events—whether covering an aggregate period or not—be considered unstable. In fact, in some of its data sets the NC SCHS no longer calculates rates based on fewer than 20 events. To be sure that unstable data do not become the basis for local decision-making, this report will highlight and discuss

primarily rates based on 20 or more events in a five-year aggregate period, or 10 or more events in a single year. Where exceptions occur, the text will highlight the potential instability of the rate being discussed.

### ***Regional arithmetic mean***

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

### ***Describing difference and change***

Fifthly, in describing differences in data of the same type from two populations or locations, or changes over time in the same kind of data from one population or location—both of which appear frequently in this report—it is useful to apply the concept of percent difference or change. While it is always possible to describe difference or change by the simple subtraction of a smaller number from a larger number, the result often is inadequate for describing and understanding the scope or significance of the difference or change. Converting the amount of difference or change to a percent takes into account the relative size of the numbers that are changing in a way that simple subtraction does not, and makes it easier to grasp the meaning of the change.

For example, there may be a rate of for a type of event (e.g., death) that is one number one year and another number five years later. Suppose the earlier figure is 12.0 and the latter figure is 18.0. The simple mathematical difference between these rates is 6.0. Suppose also there is another set of rates that are 212.0 in one year and 218.0 five years later. The simple mathematical difference between these rates also is 6.0. But are these same simple numerical differences really of the same significance in both instances? In the first example, converting the 6-point difference to a percent yields a relative change factor of 50%; that is, the smaller number increased by half, a large fraction. In the second example, converting the 6-point difference to a percent yields a relative change factor of 2.8%; that is, the smaller number increased by a relatively small fraction. In these examples the application of percent makes it very clear that the difference in the first example is of far greater degree than the difference in the second example. This document uses percentage almost exclusively to describe and highlight degrees of difference and change, both positive (e.g., increase, larger than, etc.) and negative (e.g., decrease, smaller than, etc.).

### **Data limitations**

Some data that is used in this report may have inherent limitations, due to the sample size, its geographic focus, or its being out-of-date, for example, but it is used nevertheless because

there is no better alternative. Whenever this kind of data is used, it will be accompanied by a warning about its limitations.



Findings from the regional telephone and internet survey are located here:

<https://www.healthyhaywood.com/events/community-health-assessment-2024-materials/>