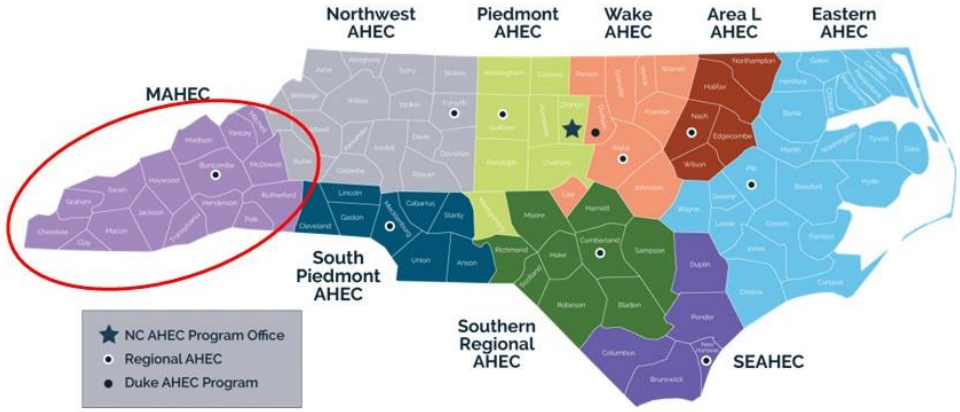
CCBHC Community Needs Assessment
Mountain Area Health Education Center (MAHEC)

Date: December 8, 2023

Introduction

The MAHEC Certified Community Behavioral Health Clinic (CCBHC) service area consists of the 16 Western-most counties in North Carolina (Figure 1). In 2021, the total population of the service area was 801,659 residents, with one-third (n=266,981) of the population residing in Buncombe County (Appendix I, Table 1), in which MAHEC is located.

Figure 1 MAHEC Service Area



Last fiscal year (2022-2023), MAHEC served 42,820 patients. Just over 75% of patients served came from zip codes that represent primarily Buncombe County, but also include Haywood, Henderson, Macon, and Transylvania counties. Per 2022 Health Resources and Services Administration (HRSA) definitions of rurality, MAHEC's service area is primarily rural, with only 4 of the 16 counties having an urban designation (Figure 2). Three-quarters (75%) of Western North Carolina (WNC) counties are completely rural and 88% are at least partially rural (Figure 2).

Figure 2 Rurality of MAHEC Service Area

The MAHEC CCBHC provides comprehensive, integrated services that support individuals with Serious Mental Illness (SMI), Severe Emotional Disturbance (SED), co-occurring SMI or SED, and Substance Use Disorder (SUD). At MAHEC, the CCBHC grant supports the Department of Psychiatry by funding services such as Peer Support, Care Management, Screening and Assessment, Crisis Response, School-Based Therapy, Program Evaluation, and services for individuals with Intellectual and Developmental Disabilities as well as the uninsured and unhoused. MAHEC's CCBHC served 4,148 clients last fiscal year (2022-2023), which is 33% of the total CCBHC population for the state. CCBHC clients were predominately White, female, and English-speaking. Almost half (41%) of clients had Medicaid insurance and 12% were uninsured.

The purpose of this community needs assessment was to identify community needs, including current conditions as well as desired services and outcomes in the community, related to mental health and substance use, and determine MAHEC's capacity to address the needs of the service population.

Methods

Data for this community needs assessment were primarily obtained from the 2023 WNC Healthy Impact Data Workbook, but also from the NC DETECT Mental Health Dashboard, WNC Health Network Mental Health Dashboard, and NCDHHS Opioid and Substance Use Action Plan Data Dashboard. The WNC Healthy Impact Data Workbook includes both primary and secondary data. Primary data for the WNC Healthy Impact Data Workbook is collected via the WNC Healthy Impact Community Health Survey, which enables individual counties in the region to collect data on specific issues of interest and hear from community members about their concerns and priorities. The survey instrument was developed by WNC Healthy Impact's data workgroup, consulting team, and local partners, with assistance from Professional Research Consultants, Inc. 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 issues of interest to communities in WNC. Each county was allowed to include three additional questions, which were asked only of residents in their county. The survey is administered by phone or online and is conducted every three years throughout the entire WNC Healthy Impact region, which includes all 16 counties in the MAHEC CCBHC service area. The most recent WNC Healthy Impact Community Health Survey was conducted in 2021.

The principal source of secondary health data 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 include the NC Division of Public Health (DPH) Epidemiology Section; NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services; the Centers for Disease Control and Prevention; National Center for Health Statistics; NC DPH Nutrition Services Branch; and the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). Secondary data sources on the demographic, economic, and social characteristics of the region include the US Census Bureau; Log Into North Carolina (LINC); NC Department of Health and Human Services; NC Office of State Budget and Management; NC Department of Commerce; Employment Security Commission of NC; University of North Carolina at Chapel Hill Jordan Institute for Families; NC Department of Public Instruction; NC Department of Justice; NC Division of Medical Assistance; NC Department of Transportation; and the Cecil B. Sheps Center for Health Services Research.

Additionally, Community Health Assessment (CHA) data for 2021-2023 were collected from 13 WNC counties and the Eastern Band of Cherokee Indians. The most recent CHAs were unavailable for Cherokee, Mitchell, and Yancey counties. Data were synthesized and visualized using Excel and Data Wrapper. Local public health departments are required to carry out a CHA and develop an action plan or community health improvement plan every three years. For each county, CHA leads collect and analyze data, then decide what is most important to act on by clarifying the desired conditions of wellbeing for their population and determining local health priorities. During the health prioritization process, community stakeholders come together to discuss and decide which health issues can be best addressed and improved upon for members of their community. The following criteria are used to identify significant health issues: 1) Relevant – How important is this issue?; 2) Impactful – What will we get out of addressing this issue?; and 3) Feasible – Can we adequately address this issue? The CHAs are then used for community health strategic planning in each county. Data of interest for this needs assessment include the top health priorities, identified vulnerable populations, identified resource gaps, and current initiatives. Current initiatives include county-specific, regional, or national level efforts that support the improvement of the county's top health priorities. Findings were organized in an Excel spreadsheet and similarities across counties were identified. Count matrices and a heat map were then created to visualize common themes across the CHAs.

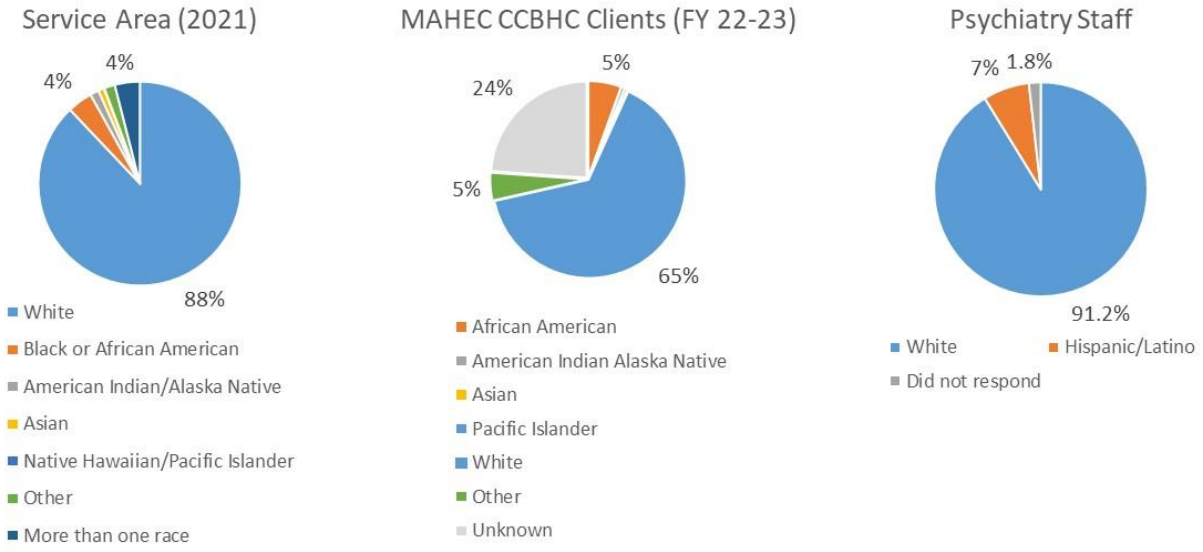
Results

Demographics

Race

The service area is predominately White (88%), with a small proportion (4%) of Black or African American residents (Figure 3). Similarly, 65% of MAHEC CCBHC clients served in the last fiscal year (2022-2023) reported being White and 5% of clients reported being Black (Figure 3). Race was unknown for 24% of MAHEC CCBHC clients, hence the proportion of White clients is likely underestimated at 65%. MAHEC Psychiatry Staff, who serve CCBHC clients, are 91.2% White, which is a slightly greater proportion than the service area (Figure 3). County-level race data can be found in Appendix I, Table 2.

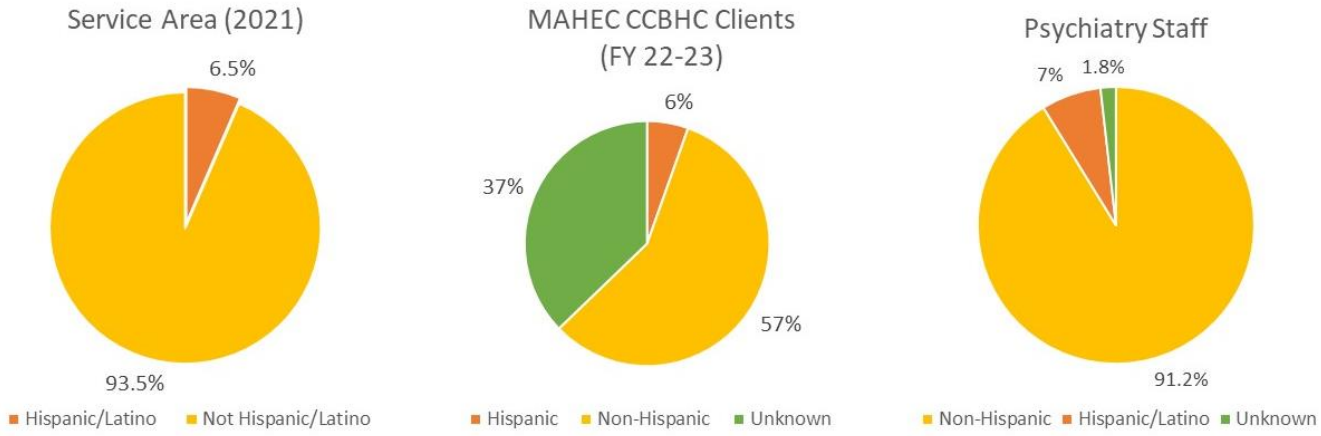
Figure 3 Comparison of Race Between Service Area, CCBHC Clients, and MAHEC Psychiatry Staff



Ethnicity

Similar proportions of Hispanic/Latinos were found across the service area, MAHEC CCBHC clients, and MAHEC Psychiatry Staff (Figure 4). In the service area, 6.5% of the population is Hispanic/Latino, compared with 6% of MAHEC CCBHC clients, and 7% of MAHEC Psychiatry staff. Ethnicity was unknown for 37% of MAHEC CCBHC clients, so the proportion of non-Hispanic clients is likely underestimated at 57% (Figure 4). County-level ethnicity data can be found in Appendix I, Table 2.

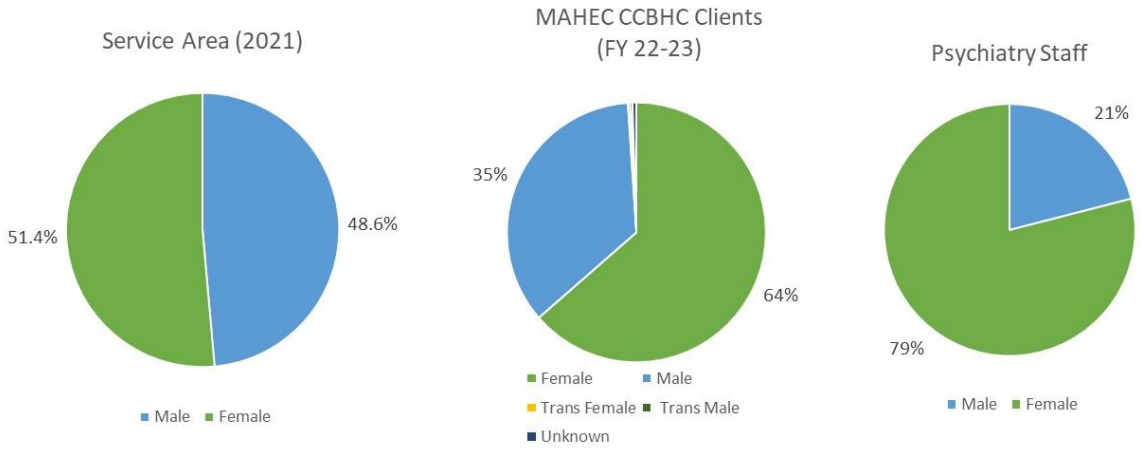
Figure 4 Comparison of Ethnicity Between Service Area, CCBHC Clients, and MAHEC Psychiatry Staff



Sex

More than half (51.4%) of the service area population is female, and 48.6% is male (Figure 5). Data on Transgender people is not currently available for the region. A slightly greater proportion of MAHEC CCBHC clients reported being female (64%), and 35% of MAHEC CCBHC clients reported being male (Figure 5). Among MAHEC Psychiatry Staff, 79% are female and 21% are male (Figure 5). Females are overrepresented among MAHEC Psychiatry Staff. County-level data on sex can be found in Appendix I, Table 3.

Figure 5 Comparison of Sex Between Service Area, CCBHC Clients, and MAHEC Psychiatry Staff



Age

In the service area, about 21% of residents are aged 19 years or younger (Figure 6) while 30% of MAHEC CCBHC clients are aged 18 years or younger (Figure 6). The MAHEC CCBHC likely has a higher proportion of clients aged 18 years or younger due to its school-based therapy services, which span 39 schools in the region. The median age for the service area is 47 years while the median age for MAHEC Psychiatry Staff is 40 years (Figure 7). One possible reason the median age for MAHEC Psychiatry Staff is 7 years younger than the service area is that the median age for the service area includes individuals who are of retirement age. County-level data on age can be found in Appendix I, Table 3.

Figure 6 Comparison of Age Between Service Area and CCBHC Clients

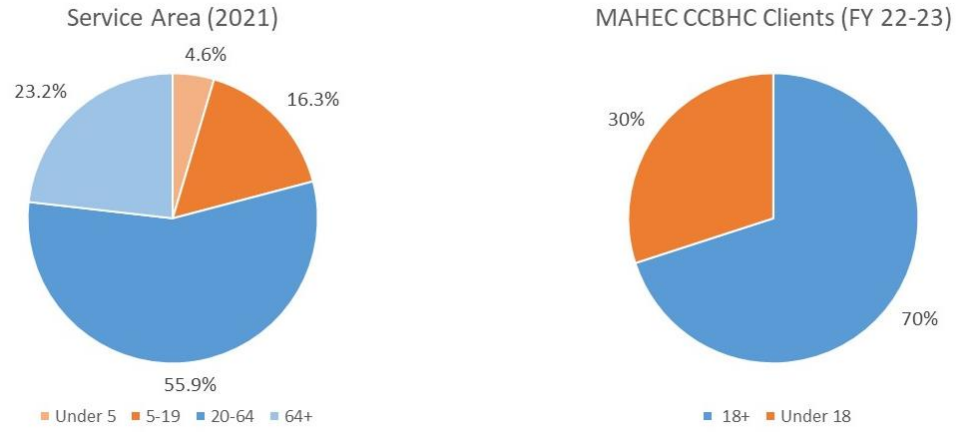
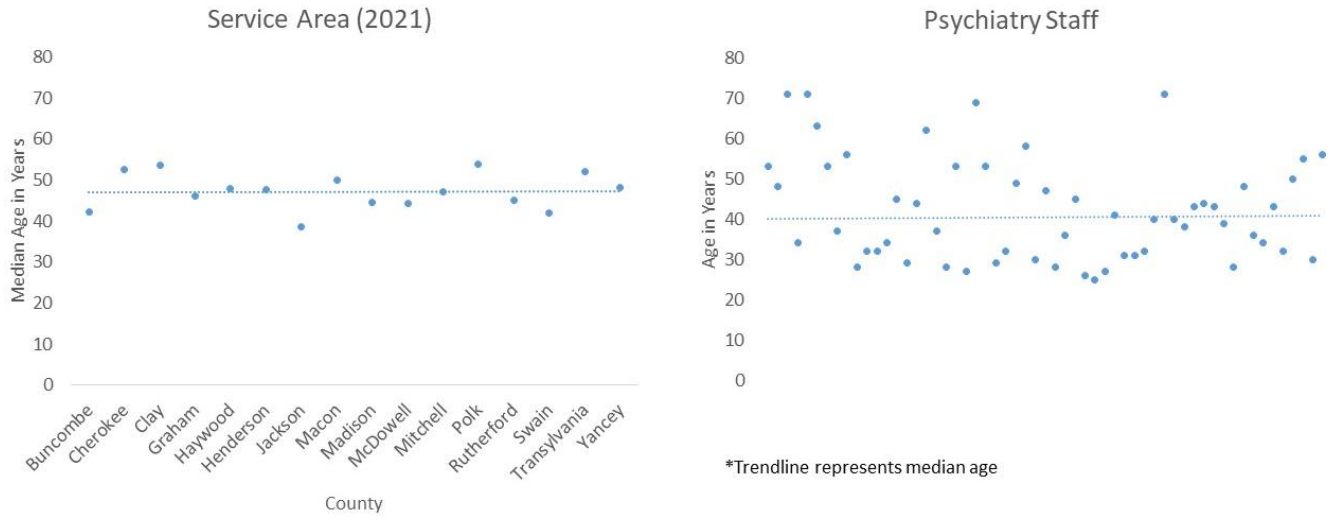


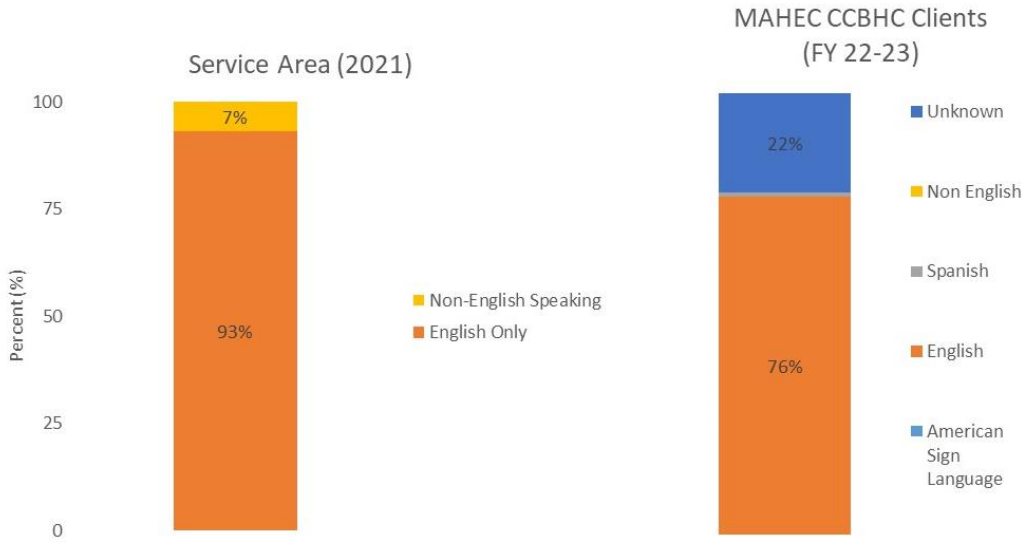
Figure 7 Comparison of Median Age Between Service Area and MAHEC Psychiatry Staff



Household Language

Most households in the service area (93%) are English-speaking only (Figure 8). About 7% of households are non-English speaking, meaning that any other language is spoken at home (Figure 8). Additionally, 4.3% of households are Spanish-Speaking and 3.3% of households are Spanish-Speaking with no English spoken at home. In comparison, 76% of MAHEC CCBHC clients identified as English-speaking (Figure 8). However, language preference was unknown for 22% of MAHEC CCBHC clients, so this is likely an underestimation. It is important to note that approximately 1% of MAHEC CCBHC clients identified as non-English speaking, despite 7% of households in the service area speaking a language other than English and 4.3% of households speaking Spanish. County-level data on household language can be found in Appendix I, Table 4.

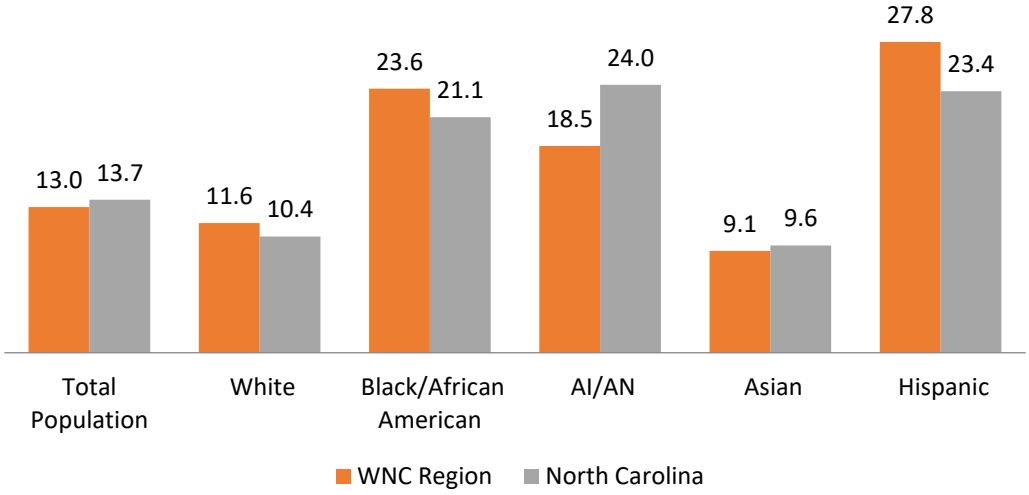
Figure 8 Comparison of Household Language Between Service Area and CCBHC Clients



Social Determinants of Health (SDOH)

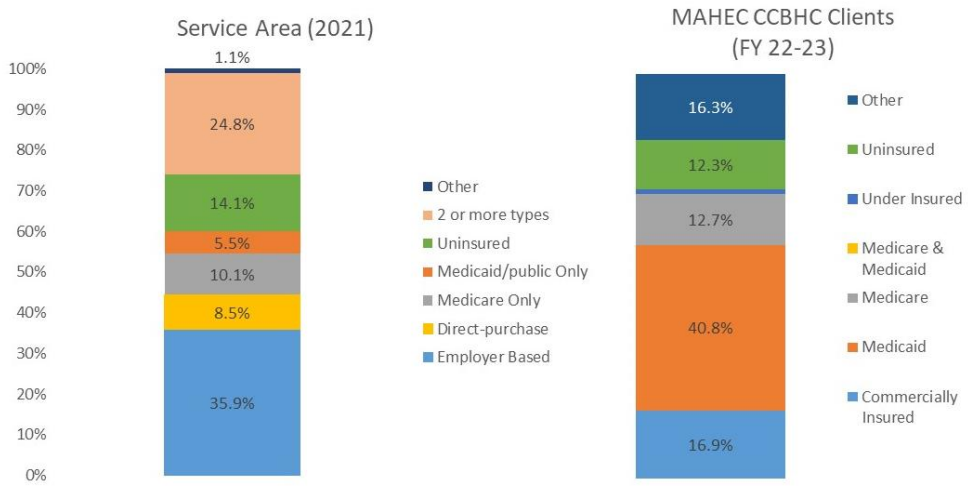
Five percent of the service area population live below 50% of the poverty level, 13% below 100% of the poverty level, and 34% below 200% of the poverty level. There is a racial disparity in poverty in the service area. Over one-quarter (27.8%) of Hispanic, 23.6% of Black, and 18.5% of American Indian/Alaska Native (AIAN) populations live below the poverty line compared to only 11.6% of the White population (Figure 9). Data from the CHAs revealed that the most cited vulnerable populations among counties in the service area included individuals experiencing poverty, followed by historically marginalized racial/ethnic groups. County-level data on poverty levels can be found in Appendix I, Table 5.

Figure 9 Comparison of Percent Below Poverty by Race and Region (2021)



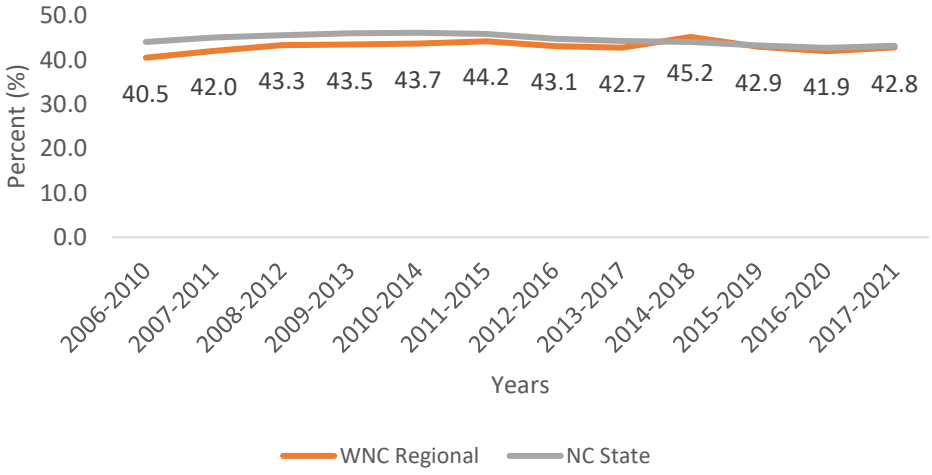
Insurance data was obtained for individuals aged 19 years and older in the service area. More than one-third of respondents (35.9%) had employer-based insurance, while 24.8% of respondents had two or more types of health insurance coverage (Figure 10). Interestingly, data shows that only 5.5% of respondents have Medicaid/means-tested public coverage (i.e. government assistance and state and federal welfare programs that measure a family's income against the federal poverty line) only. This estimation seems quite low for the service area, and it's possible that some individuals with Medicaid coverage are included in the two or more types of health insurance coverage category. Fourteen percent of respondents in the service area are uninsured, which is similar to the proportion of MAHEC CCBHC clients that are uninsured (12.3%) (Figure 10). The proportion of clients with Medicaid coverage appears to be overrepresented among MAHEC CCBHC clients at 40.8%, however, the CCBHC serves predominately low-income individuals (Figure 10). County-level data on health insurance coverage types can be found in Appendix I, Table 6.

Figure 10 Comparison of Health Insurance Coverage Types Between Service Area and CCBHC Clients



According to the WNC Healthy Impact Community Health Survey, 19% of respondents indicated that they are food insecure, defined as running out of food at least once in the past year and/or being worried about running out of food in the past year. In terms of transportation, 11.4% of rental households indicated no vehicle available, while only 2.6% of owned households indicated no vehicle available (5-Year Estimates, 2017-2021). Additionally, 26.7% of respondents indicated worry over housing in the past year, defined as being always, usually, or sometimes worried or stressed about paying rent or mortgage in the past year. Interestingly, the percent of renter occupied households spending more than 30% of their income on housing has remained relatively constant at an average of 43% since the 2006-2010 aggregate (Figure 11). County-level data on SDOH factors can be found in Appendix I, Table 7.

Figure 11 Percent of Renter Occupied Units Spending >30% of Household Income on Housing



Internet Access and Telehealth

More than three-quarters (78.7%) of households in the service area have an internet subscription, while almost one-quarter (21.3%) of households do not have an internet subscription. About 12% of households indicate having only cellular data. Additionally, 87.2% of households in the service area have

one or more type of computing device, while 12.8% of households do not have a computer. There are disparities in internet access by income. Figure 12 shows that a greater proportion of households with an income of less than $20,000 do not have an internet subscription compared to households with an income of more than $20,000. On average, about 44% of households in the service area with an income of less than $20,000 do not have an internet subscription; this metric ranges from 30% of low-income households in Henderson County to 50.2% in Macon County without an internet subscription (Figure 12). County-level data on access to computing devices and internet subscription can be found in Appendix I, Tables 8 and 9, respectively.

Figure 12 Households without an Internet Subscription by Income (Aggregate Data for 2017-2021)

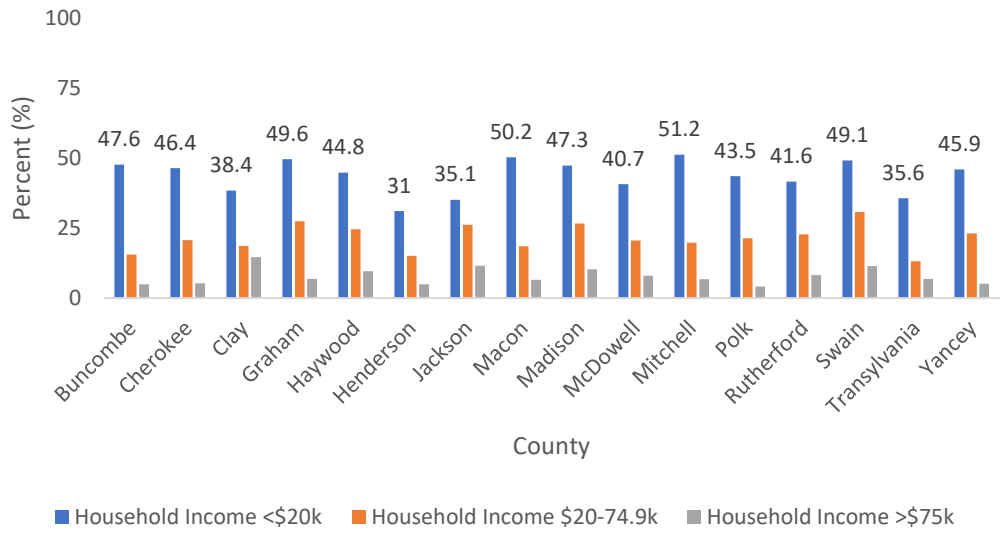
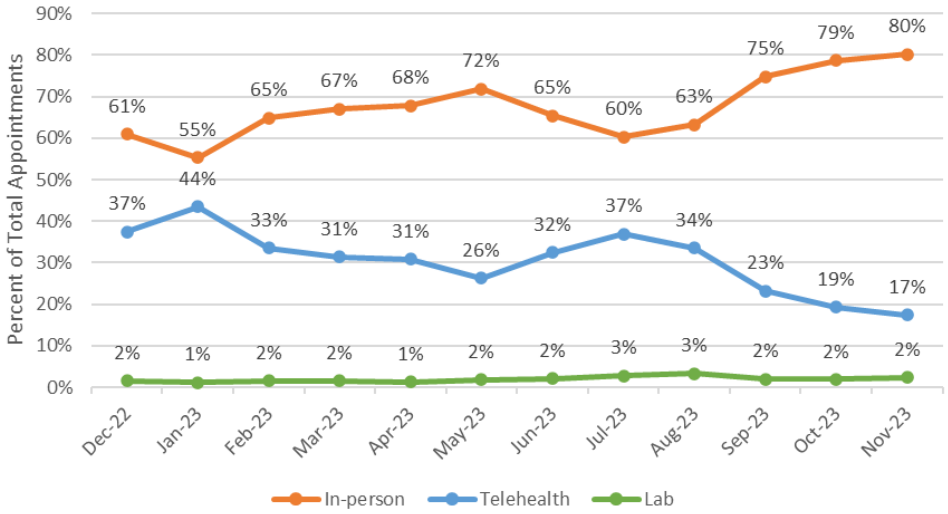


Figure 13 shows the modes of service delivery in the MAHEC Psychiatry Department from December 2022 to November 2023. The percentage of appointments that are telehealth has been decreasing, from 37% of appointments in December 2022 to 17% in November 2023. Meanwhile, the percentage of appointments that are in-person has been increasing, from 61% of appointments in December 2022 to 80% in November 2023. One possible explanation for these changes over time is post-COVID laws that require an in-person visit at least once annually, or at least once biannually if receiving medication. It is also possible that many patients prefer in-person visits. The percentage of lab appointments has remained relatively constant at about 2% (Figure 13). Given the relatively high percentage of low-income households in the service area that do not have an internet subscription, it is likely that telehealth appointments would not be ideal for all CCBHC-eligible populations in the service area. Less than half (46.6%) of survey respondents in the service area indicated that they would be extremely or very likely to use telemedicine for future routine care. This metric ranged from 39.6% of respondents in Polk County to 54.9% in Buncombe County. Therefore, telehealth may be more feasible in some counties compared to others.

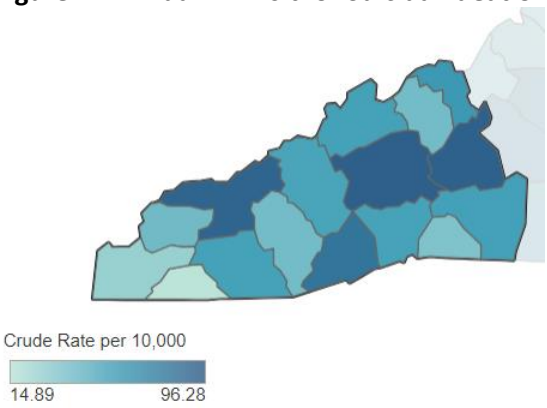
Figure 13 Service Delivery at MAHEC Psychiatry Department



Mental Health Indicators

Data for mental health indicators in the service area came from the NC DETECT Mental Health Dashboard. In 2022, the highest crude rates of emergency department (ED) visits for suicidal ideation were in Buncombe, McDowell, Transylvania, and Swain counties at 92.5, 60.4, 80.6, and 89.4 per 10,000 population, respectively (Figure 14). The crude rate is the number of new cases (or deaths) occurring in a specified population per year, in this case expressed as the number of cases per 10,000 population at risk. County and zip code in the ED data are based on patient residence, not hospital location. According to the WNC Healthy Impact Community Health Survey, 7.8% of respondents in the service area have considered suicide in the past year.

Figure 14 Annual ED Visit for Suicidal Ideation Crude Rate per 10,000 person (2022)



In 2022, the highest crude rate of ED visits for depression was in Rutherford County at 331.9 per 10,000 population (Figure 15). The highest crude rates of ED visits for anxiety were Rutherford and Swain counties at 468.7 and 414.9 per 10,000 population, respectively (Figure 16). One limitation of this data is that the ED visit count may not include Behavioral Health Urgent Care visits, which would therefore underestimate the rates.

Figure 15 Annual ED Visit for Depression Crude Rate per 10,000 person (2022)

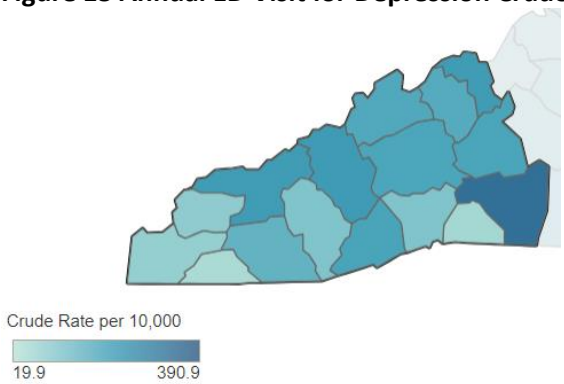
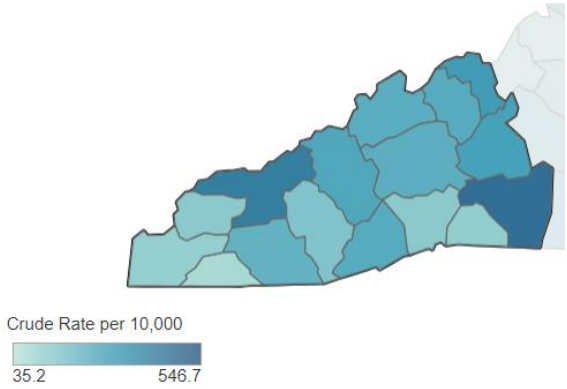
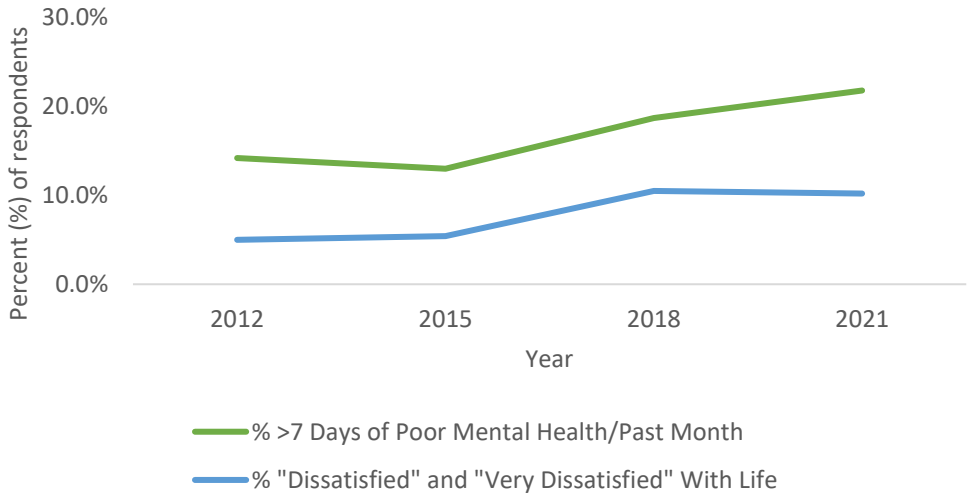


Figure 16 Annual ED Visit for Anxiety Crude Rate per 10,000 person (2022)



Results from the WNC Health Impact Community Health Survey show that 21.8% of respondents in the service area indicated more than seven days of poor mental health in the past month, while 10.2% indicated they are dissatisfied or very dissatisfied with life. These mental health indicators appear to be worsening over time (Figure 17).

Figure 17 Mental Health Indicators in WNC Over Time



Substance Use Indicators

Data for substance use indicators in the service area came from the NCDHHS Opioid and Substance Use Action Plan Data Dashboard. Within the service area, ED visits with a drug overdose diagnosis have increased from 79.1 in 2016 to 130.2 per 100,000 population in 2022 (Figure 18). Unintentional overdose deaths have also increased from 28.6 in 2010 to 40.7 per 100,000 population in 2022 in the service area (Figure 19). Rates of unintentional overdose deaths are higher in the service area than in North Carolina as a whole (Figure 19). Finally, the percentage of overdose deaths involving illicit opioids has increased from 17.3% in 2010 to 74.3% of overdose deaths in 2022 in the service area (Figure 20). This data demonstrates a clear trend that indicators of substance use are worsening over time.

Figure 18 Emergency Department Visits with a Drug Overdose Diagnosis Over Time

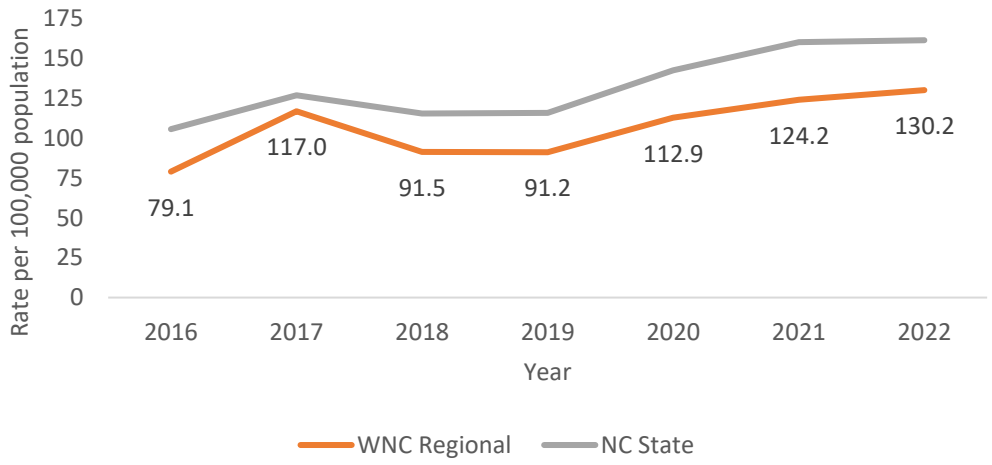


Figure 19 Unintentional Overdose Deaths (any poisoning) Over Time

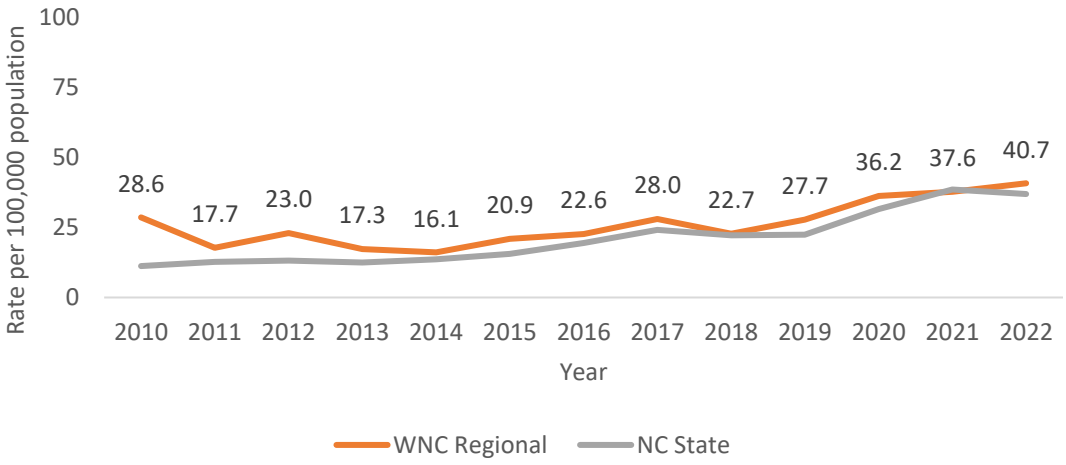
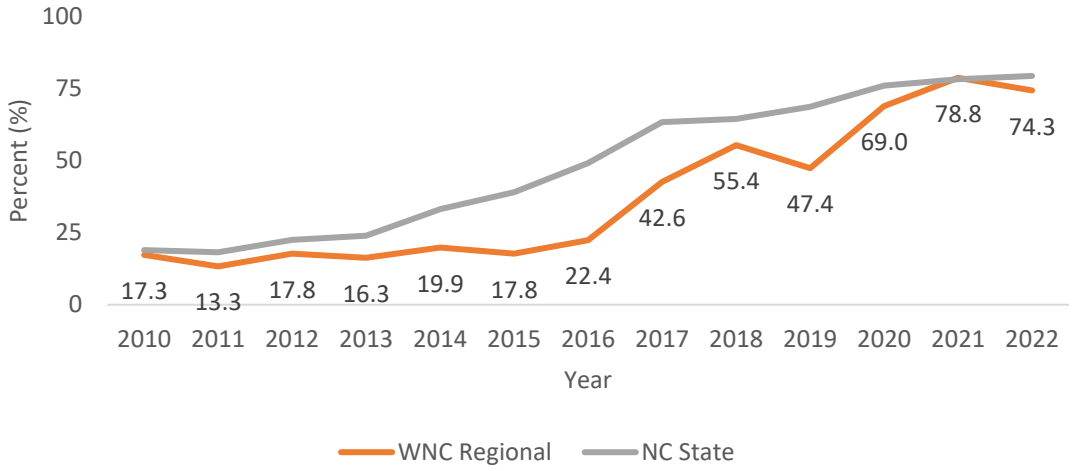


Figure 20 Percent of Overdose Deaths Involving Illicit Opioids Over Time

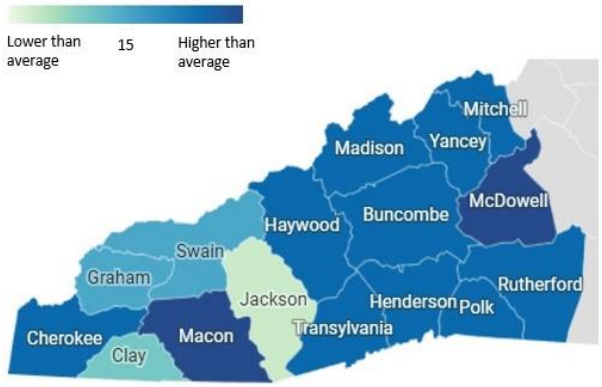


Access to Mental Health Treatment

Findings from the WNC Healthy Impact Community Health Survey show that the percentage of respondents who indicated that they are unable to obtain needed mental health services in the region has increased over time, from 6.6% of respondents in 2012 to 19.7% in 2021. One way to understand access to mental health treatment in the region is to use the Health Professional Shortage Area (HPSA) score, which was developed by the National Health Service Corps to determine priority areas for assigning clinicians. The scores range from 0 to 25, where higher scores indicate greater priority. The HPSA score for Mental Health is comprised of the following seven components: 1) population-to-provider-ratio, which includes all core mental health providers such as psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists (seven points max); 2) percent of population below 100% federal poverty level (five points max); 3) elderly ratio or percentage of people over age 65 (three points max); 4) youth ratio or percentage of people under age 18 (three points max); 5) alcohol abuse prevalence (1 pt max); 6) substance abuse prevalence (1 pt max); and 7) travel time to nearest source of care outside the HPSA designation area (five points max). Data used to calculate Mental Health HPSA scores for all 16 counties in the service area came from HRSA for 2022.

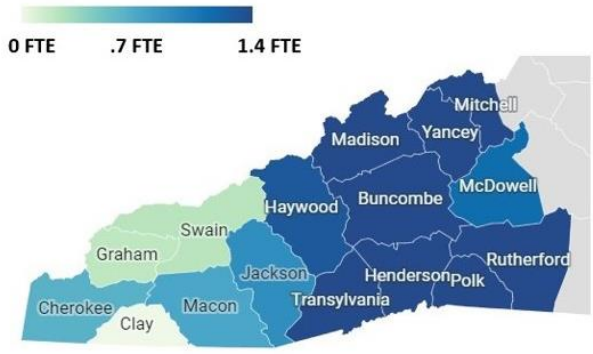
Figure 21 shows that 75% of the service area has a mental health HPSA score that is greater than the regional average of 15 points, indicating worse access to mental health providers. McDowell and Macon counties had the highest Mental Health HPSA scores in the region.

Figure 21 Mental Health Professional Shortage Areas (2022)



According to the WNC Healthy Impact Community Health Survey (2021), 19.7% of the service area population or approximately 157,926 people indicated that they were unable to obtain needed mental health services in the past year, indicating a mental health provider shortage. HRSA has specific regulations to identify areas with a shortage of providers. For example, an area must meet a certain population-to-provider ratio to qualify for the designation of provider shortage. For core mental health providers, the ratio of population to provider should be 9,000:1. Data from HRSA (2022) was used to calculate the FTE shortage for core mental health providers in the region. To meet the identified gap in the service area and remove the HPSA designation, an additional 17 core mental health providers (157,926:17.55) are needed (Figure 22). The HRSA data used here groups Buncombe, Henderson, Madison, Mitchell, Polk, Rutherford, Transylvania, and Yancey counties together, labeled the “Western Highlands Grouping,” reflected in Figures 21 and 22.

Figure 22 HRSA Mental Health Provider FTE Shortage (2022)



It's possible that HRSA's 9,000:1 population to provider ratio may underestimate the need in the region. Another useful metric to understand access to mental health treatment is the National Comorbidity Survey Replication (NCS-R) psychiatrist-to-population ratio of 25.9:100,000 (Satiani et al., 2018). This method was used to calculate the psychiatrist to population ratio for the region. Figure 23 shows that there are an additional 102 psychiatrists needed in WNC based on 2022 population data. This number excludes Buncombe County because, according to this ratio, Buncombe County has a surplus of 30 psychiatrists for its population size. The counties with the highest need for psychiatrists include Henderson, Rutherford, Haywood, and McDowell counties with 18, 14, 13, and 12 FTEs needed,

respectively. It is important to note that Buncombe County serves as a resource hub for the surrounding counties, which may account for the surplus of psychiatrists in this area. The true need in the region is likely somewhere between the 17 FTE for core mental health providers and the 102 FTE for psychiatrists estimated by these different methods.

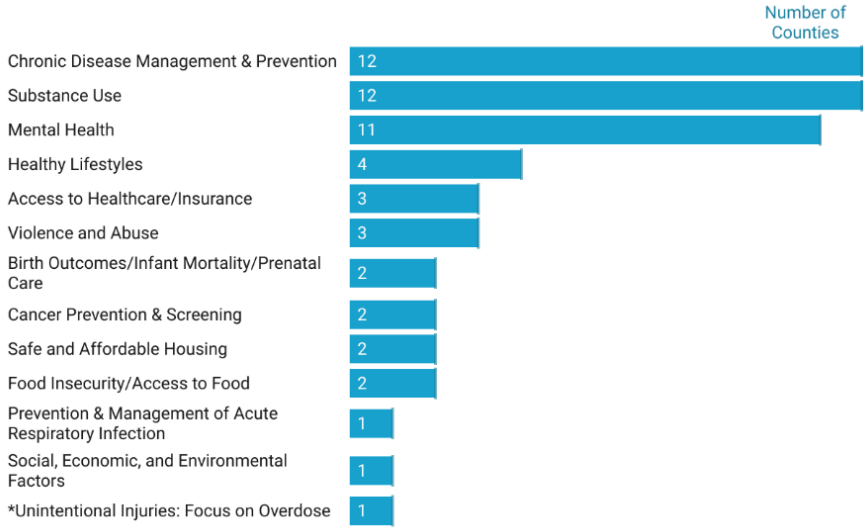
Figure 23 NCS-R Ratio, Psychiatrist to Population (25.9:100,000)

Findings from Community Health Assessments

Health Priorities

The most cited health priority across counties in the service area was chronic disease management and prevention (Figure 24). Substance use and mental health were the second and third most cited health priorities across counties in the service area, with 12 counties listing substance use and 11 counties listing mental health as health priorities (Figure 24).

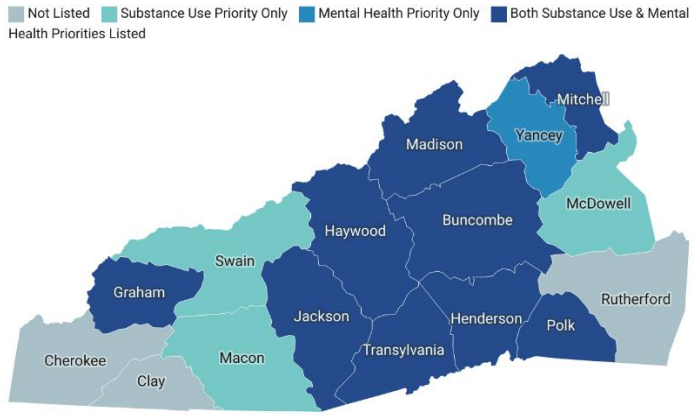
Figure 24 Community Health Priorities Identified by Counties in WNC for 2021-2023



Additionally, 13 (81%) counties in the service area listed substance use, mental health, or both as health priorities for 2021-2023 (Figure 25). Nine counties listed both substance use and mental health as health priorities, three counties listed only substance use as a health priority, and one county listed only mental

health as a health priority; three counties did not list either mental health or substance use as a health priority for 2021-2023 (Figure 25).

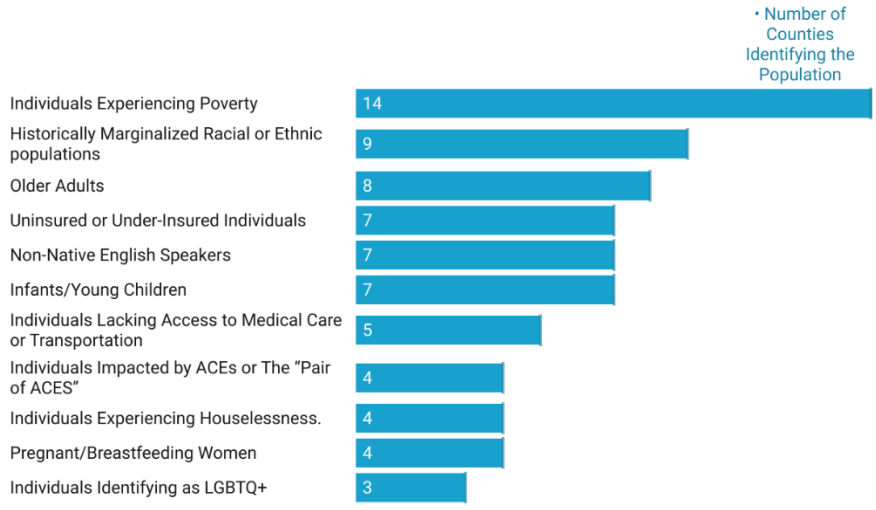
Figure 25 Mental Health and Substance Use Health Priorities Across WNC for 2021-2023



Vulnerable Populations

Individuals experiencing poverty and historically marginalized racial/ethnic groups were the two most cited vulnerable populations among counties in the service area (Figure 26). Other vulnerable populations identified by counties in the service area include older adults, uninsured or under-insured individuals, and non-native English speakers (Figure 26). These populations comprise 23.2%, 14.1%, and 7% of the service area population, respectively.

Figure 26 Underserved, At-Risk, or Vulnerable Populations Identified by Counties in WNC (2021-2023)



Current Initiatives and Resource Gaps

Table 1 shows the number of current initiatives supporting the various health priorities and vulnerable populations identified by counties in the region, encompassing the areas of mental health and substance use; child development and healthy learning; healthy lifestyles; positive birth outcomes and maternal health; domestic violence and abuse; chronic illness prevention, management, and education; as well as programs supporting SDOH factors. Current initiatives include any grants, services, programs, or other

efforts made by the county or region to address their identified health priorities and support positive health outcomes.

Current initiatives that were identified as supporting SDOH factors include those that focus on food availability and distribution services (n=10); housing assistance and support (n=5); healthcare or clinical services such as the establishment and integration of more primary, specialty, and urgent care facilities in the region (n=6); initiatives specific to the Eastern Band of Cherokee Indians (EBCI) tribal community (n=2) such as Cherokee Choices, and others (n=5) (Table 1). Screening patients for SDOH factors and ensuring that clinics have the capacity to address them through referrals and/or assistance with access to resources, such as the initiatives listed in Table 1, is key to addressing health priorities in the service area.

The top five resource gaps identified in the service area include safe and affordable housing (n=11); access to affordable healthy food (n=7); employment, livable wages, and income equality (n=7); specialty provider facilities (n=7); and accessible public transportation (n=6; Figure 27). Five programs were identified that support affordable and accessible housing across the service area, 10 programs were identified that aid in the accessibility of affordable health foods, and one program was identified that supports income equality amongst marginalized populations (Asheville Buncombe Institute of Parity Achievement) (Table 1). While the establishment of new health and urgent care clinics were mentioned in some of the CHAs, no current initiatives were mentioned that aid in accessing or creating access to public transportation. Current initiatives categorized under “Other Programs” in Table 1 include services that support health equity advocacy for marginalized populations, veteran-specific services, as well as senior care and support services.

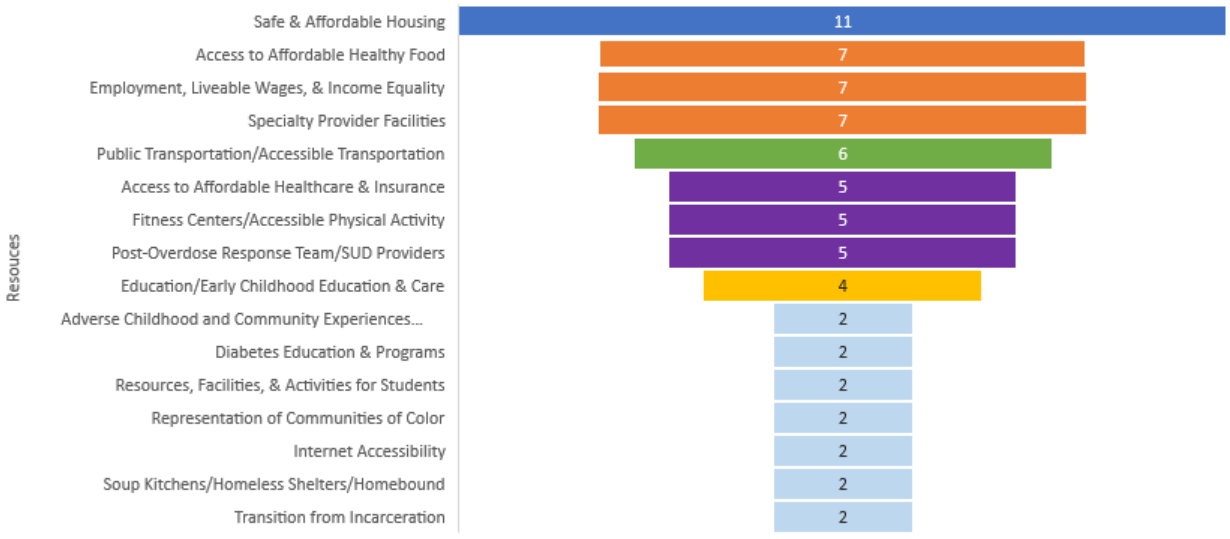
Current initiatives focused on mental health and substance use specifically include All Souls Counseling, RHA mobile crisis teams, Madison Substance Awareness Coalition, Henderson County’s Hope Coalition, and post-overdose response initiatives including medication-assisted treatment (MAT) services. All Souls Counseling is based out of Buncombe County and provides mental health counseling and outreach to under- and un-insured individuals across the service area. Madison Substance Awareness Coalition provides services to residents of Madison County that aid in the prevention of substance use, abuse, and overdose. RHA mobile crisis teams currently provide services to individuals in Buncombe, Henderson, Madison, McDowell, Mitchell, Polk, Rutherford, Transylvania, and Yancey counties who may be experiencing a mental health crisis, developmental disabilities, or addiction. The Hope Coalition of Henderson County focuses on preventing substance use and abuse among youth and provides long-term recovery services for individuals with a substance use disorder. There are currently post-overdose response teams serving individuals in Buncombe, Haywood, and Henderson Counties. MAT services are currently provided to individuals experiencing opioid use disorder in all counties in the service area, except for Swain and Jackson counties.

The EBCI has a population of over 16,000 enrolled members, with jurisdictional boundaries that span across six counties that include Cherokee, Graham, Haywood, Jackson, Macon, and Swain. Current initiatives specific to the EBCI span the areas of mental health and substance use, domestic violence, and abuse services, as well as SDOH factors. Examples include the establishment of the Kanvwotiyi residential treatment center and the Ernestine Walkingstick Domestic Violence Shelter, free or reduced cost healthcare for non-enrolled members of the EBCI community, the Cherokee Choices program, Southcentral Foundation’s Family Wellness Warrior Initiative (Beauty for Ashes), and the Unity Healing Center.

Table 1 Current Initiatives Supporting 2021-2023 Health Priorities in WNC

Current Initiatives in WNC	Initiative Description	Count
Programs Supporting All SDOH	Housing Assistance, Clincal Services, Food Availability & Distribution	28
Mental Health & Substance Use Programs	Recovery & Treatment Centers, MAT Services, PSS, Counseling	24
Child Development & Healthy Learning Programs	School Health Centers, SBT, 4H Programs	9
Healthy Lifestyle Programs	WithALL Program, Mountain Wise Programs, Blue Zone Strategies	9
Programs Supporting Positive Birth Outcomes & Maternal Health	Sistas Caring 4 Sistas, Project NAF, Prenatal Vitamin Programs	7
Domestic Violence & Abuse Programs	Helpmate, OurVOICE, Safelight	5
Chronic Illness Prevention, Management, & Educational Programs	Walk With Ease Program, Diabetes Prevention & Education Programs, Breast & Cervical Cancer Screening Programs	5
Re-Entry Services & Crime Prevention Programs	Community Linkage to Care, Health-e-Release Grant, Juvenile Crime Prevention Council	4
Other Programs	Guiding Reins, ABIPA, Active Living Centers for Seniors	4

Figure 27 Count of Community Resource Gaps Identified by Counties in WNC (2021-2023)



Conclusions

Clients served at the MAHEC CCBHC are generally representative of service area, with comparable proportions of Black and Hispanic populations. One notable discrepancy between the service area population and MAHEC CCBHC clients is preferred language, with 7% of the service area population speaking a language other than English at home and nearly all MAHEC CCBHC clients speaking only English. One limitation of this data is the high proportion of MAHEC CCBHC clients with unknown race, ethnicity, and preferred language, which limits our ability to compare clients with the service area population. MAHEC's Continuous Quality Improvement team has prioritized increasing the number of clients with complete demographic information in the Electronic Health Record, which will aid with comparison in future reporting. Additionally, a greater proportion of MAHEC psychiatry staff are White and female compared with the service area population. Recommendations for staffing are to hire more diverse providers that can serve a greater proportion of non-English speaking clients. MAHEC plans to work more closely with Historically Black Colleges and Universities to recruit providers.

Mental health and substance use indicators appear to be worsening over time in the service area. Not only is the percentage of residents unable to access needed mental health services increasing, but there is a mental health provider shortage in the service area. It is important to note that last fiscal year (2022-2023), over 75% of the MAHEC patient population were from Buncombe, Haywood, Henderson, Macon, and Transylvania counties, the majority of whom resided in Buncombe County. Psychiatrists are primarily needed outside of Buncombe County, so expanding the reach of MAHEC Psychiatry's services into the more western and rural parts of the service area could help to address the mental health provider shortage. Rutherford County could especially benefit from increased access to MAHEC Psychiatry's services given that it had the highest crude rates of ED visits for depression and anxiety as well as the highest FTE needed according to the NCS-R psychiatrist-to-population ratio. Additionally, the relative proximity of Rutherford County to Buncombe County makes expanding services into this area more feasible. Telehealth could be another way to address the mental health provider shortage in the service area, however, it is important to consider that a relatively high proportion of low-income households do not have an internet subscription. SDOH factors that may contribute to limited access to needed mental health services include lack of insurance, food insecurity, lack of transportation, and housing costs. Screening for SDOH factors and assisting with access to resources that could help address those factors could help to improve access to mental health services in the region.

MAHEC is working to improve access to psychotherapy services in the region through the recent establishment of an open access model, in which referred patients can walk in for an appointment during open access hours rather than having to wait for a scheduled time. MAHEC is also working to establish a Center of Excellence for Substance Use Disorder, which would house addiction services across MAHEC Psychiatry, Family Health Center, and OB/GYN services to offer more fully integrated services. Another service MAHEC could consider offering is a Substance Abuse Intensive Outpatient Program (SAIOP), which would provide direct services for people with substance use disorders or co-occurring mental and substance use disorders who do not require medical detoxification or 24-hour supervision. As the number of patients coming in-person for services continues to increase, so does the need for more space. In addition to looking at the expansion of services to more western and rural counties, MAHEC Psychiatry is also considering expanding clinic hours and establishing more diverse work schedules for providers, such as four 10-hour shifts per week, which would increase access to mental health and substance use treatment.

In conclusion, mental health and substance use remain top health priorities in the MAHEC CCBHC service area. MAHEC'S long-term goal is to expand the reach of its services to address the mental health provider shortage and increase access to mental health and substance use services, which are especially needed outside of Buncombe County.

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Appendix I

Table 1 Population Size by County (2021)

County	Total Population Size (N)
Buncombe	266,981
Cherokee	28,515
Clay	10,997
Graham	8,089
Haywood	61,695
Henderson	115,613
Jackson	42,983
Macon	36,532
Madison	21,269
McDowell	44,527
Mitchell	14,951
Polk	19,413
Rutherford	64,592
Swain	14,166
Transylvania	32,979
Yancey	18,357
WNC Regional	**801,659**

Table 2 Race and Ethnicity by County (2021)

County	White N(%)	Black or African American N(%)	American Indian/Alaska Native N(%)	Asian N(%)	Native Hawaiian/ Pacific Islander N(%)	Other N(%)	More than one race N(%)	Hispanic/ Latino N(%)
Buncombe	230,739 (86.4)	15,402 (5.8)	718 (0.3)	3,197 (1.2)	341 (0.1)	3,501 (1.3)	12,984 (4.9)	18,431 (6.9)
Cherokee	26,433 (92.7)	412 (1.4)	482 (1.7)	206 (0.7)	16 (0.1)	243 (0.9)	733 (2.6)	1,024 (3.6)
Clay	10,318 (93.8)	259 (2.4)	191 (1.7)	78 (0.7)	23 (0.2)	0 (0.0)	128 (1.2)	175 (1.6)
Graham	6,984 (86.3)	14 (0.2)	741 (9.2)	0 (0.0)	0 (0.0)	240 (3.0)	110 (1.4)	320 (4.0)
Haywood	57,645 (93.4)	434 (0.7)	290 (0.5)	339 (0.5)	0 (0.0)	677 (1.1)	2,310 (3.7)	2,671 (4.3)
Henderson	102,346 (88.5)	3,962 (3.4)	311 (0.3)	1,588 (1.4)	0 (0.0)	2,890 (2.5)	4,516 (3.9)	12,090 (10.5)
Jackson	34,896 (81.2)	883 (2.1)	3,206 (7.5)	437 (1.0)	3 (0.0)	1,147 (2.7)	2,411 (5.6)	2,724 (6.3)
Macon	33,547 (91.8)	519 (1.4)	128 (0.4)	229 (0.6)	0 (0.0)	1,205 (3.3)	904 (2.5)	2,754 (7.5)
Madison	19,957 (93.8)	315 (1.5)	75 (0.4)	72 (0.3)	0 (0.0)	211 (1.0)	639 (3.0)	541 (2.5)
McDowell	39,921 (89.7)	1,446 (3.2)	109 (0.2)	470 (1.1)	0 (0.0)	1,021 (2.3)	1,560 (3.5)	2,819 (6.3)
Mitchell	14,080 (94.2)	45 (0.3)	76 (0.5)	42 (0.3)	0 (0.0)	162 (1.1)	546 (3.7)	891 (6.0)
Polk	17,594 (90.6)	939 (4.8)	21 (0.1)	133 (0.7)	0 (0.0)	275 (1.4)	451 (2.3)	1,171 (6.0)
Rutherford	54,935 (85.0)	5,878 (9.1)	124 (0.2)	325 (0.5)	15 (0.0)	1,114 (1.7)	2,201 (3.4)	3,109 (4.8)
Swain	8,949 (63.2)	113 (0.8)	4,286 (30.3)	80 (0.6)	8 (0.1)	48 (0.3)	680 (4.8)	894 (6.3)
Transylvania	29,960 (80.9)	1,448 (4.4)	67 (0.2)	31 (0.1)	0 (0.0)	408 (1.2)	1,065 (3.2)	1,129 (3.4)
Yancey	17,387 (94.7)	108 (0.6)	84 (0.5)	64 (0.3)	6 (0.0)	279 (1.5)	429 (2.3)	986 (5.4)
WNC Regional	**705,691 (88.0)**	**32,177 (4.0)**	**10,909 (1.4)**	**7,291 (0.9)**	**412 (0.1)**	**13,421 (1.7)**	**31,667 (4.0)**	**51,729 (6.5)**

Table 3 Sex and Age by County (2021)

County	Male N(%)	Female N(%)	Under 5 Yrs N(%)	5-19 Yrs N(%)	20-64 Yrs N(%)	65+ Yrs N(%)	Median Age
Buncombe	128,615 (48.2)	138,366 (51.8)	12,736 (4.8)	42,456 (15.9)	158,245 (59.3)	53,544 (20.1)	42.2
Cherokee	14,011 (49.1)	14,504 (50.9)	1,052 (3.7)	4,033 (14.1)	14,872 (52.2)	8,558 (30.0)	52.5
Clay	5,277 (48.0)	5,720 (52.0)	446 (4.1)	1,733 (15.8)	5,446 (49.5)	3,372 (30.7)	53.5
Graham	3,845 (47.5)	4,244 (52.5)	363 (4.5)	1,479 (18.3)	4,327 (53.5)	1,920 (23.7)	46.0
Haywood	30,026 (48.7)	31,669 (51.3)	2,766 (4.5)	9,743 (15.8)	34,050 (55.2)	15,136 (24.5)	47.8
Henderson	55,817 (48.3)	59,796 (51.7)	5,427 (4.7)	18,908 (16.4)	61,589 (53.3)	29,689 (25.7)	47.6
Jackson	21,210 (49.3)	21,773 (50.7)	1,731 (4.0)	8,232 (19.2)	24,464 (56.9)	8,556 (19.9)	38.6
Macon	17,902 (49.0)	18,630 (51.0)	1,651 (4.5)	5,615 (15.4)	18,941 (51.8)	10,325 (28.3)	50.1
Madison	10,479 (49.3)	10,790 (50.7)	969 (4.6)	3,692 (17.4)	11,860 (55.8)	4,748 (22.3)	44.5
McDowell	22,270 (50.0)	22,257 (50.0)	2,285 (5.1)	7,605 (17.1)	25,559 (57.4)	9,078 (20.4)	44.2
Mitchell	7,431 (49.7)	7,520 (50.3)	704 (4.7)	2,381 (15.9)	8,181 (54.7)	3,685 (24.6)	47.2
Polk	9,147 (47.1)	10,266 (52.9)	757 (3.9)	2,662 (13.7)	10,071 (51.9)	5,923 (30.5)	54.0
Rutherford	31,359 (48.5)	33,233 (51.5)	3,243 (5.0)	11,496 (17.8)	35,996 (55.7)	13,857 (21.5)	45.1
Swain	6,858 (48.4)	7,308 (51.6)	714 (5.0)	2,917 (20.6)	7,874 (55.6)	2,661 (18.8)	42.1
Transylvania	16,000 (48.5)	16,979 (51.5)	1,345 (4.1)	4,628 (14.0)	17,066 (51.7)	9,940 (30.1)	52.0
Yancey	9,079 (49.5)	9,278 (50.5)	842 (4.6)	2,870 (15.6)	9,898 (53.9)	4,747 (25.9)	48.2
WNC Regional	**389,326 (48.6)**	**412,333 (51.4)**	**37,031 (4.6)**	**130,450 (16.3)**	**448,439 (55.9)**	**185,739 (23.2)**	**47.2**

Table 4 Household Language by County (2021)

County	English Only (%)	Non-English Speaking (%)	Spanish Speaking (%)	Spanish Speaking—No English (%)
Buncombe	92.1	7.9	4.6	3.2
Cherokee	95.7	4.3	2.9	2.7
Clay	96.1	3.9	2.3	2.1
Graham	94.5	5.5	2.8	1.5
Haywood	96.1	3.9	2.5	2.0
Henderson	89.2	10.8	7.6	6.0
Jackson	93.3	6.7	2.6	1.6
Macon	94.2	5.8	4.5	3.7
Madison	97.7	2.3	0.8	0.8
McDowell	92.8	7.2	4.8	3.8
Mitchell	94.2	5.8	3.8	3.8
Polk	92.1	7.9	4.4	3.9
Rutherford	94.7	5.3	3.7	2.7
Swain	93.5	6.5	1.7	1.7
Transylvania	96.8	3.2	1.8	1.2
Yancey	94.3	5.7	3.8	3.0
WNC Regional	**93.1**	**6.9**	**4.3**	**3.3**

Table 5 Poverty Levels by County (2021)

County	Below 50% Poverty Level N(%)	Below 100% Poverty Level N(%)	Below 200% Poverty Level N(%)
Buncombe	10,140 (3.9)	28,397 (10.9)	80,154 (30.8)
Cherokee	2,296 (8.1)	4,757 (16.9)	11,623 (41.3)
Clay	447 (4.1)	1,549 (14.2)	3,813 (34.9)
Graham	519 (6.5)	1,067 (13.4)	3,350 (42.0)
Haywood	3,188 (5.2)	7,541 (12.4)	20,686 (33.9)
Henderson	5,240 (4.6)	11,856 (10.4)	33,094 (28.9)
Jackson	3,926 (10.0)	7,551 (19.2)	16,060 (40.9)
Macon	2,308 (6.4)	5,925 (16.3)	13,738 (37.9)
Madison	1,111 (5.5)	2,811 (13.8)	6,605 (32.5)
McDowell	2,084 (4.8)	6,011 (13.8)	15,862 (36.5)
Mitchell	803 (5.5)	1,889 (13.0)	5,048 (34.7)
Polk	795 (4.1)	1,824 (9.5)	5,531 (28.9)
Rutherford	4,475 (7.1)	11,572 (18.2)	26,859 (42.3)
Swain	1,362 (9.7)	2,614 (18.7)	6,313 (45.1)
Transylvania	1,719 (5.4)	4,187 (13.1)	10,424 (32.6)
Yancey	1,375 (7.5)	2,686 (14.7)	7,305 (40.1)
WNC Regional	**41,788 (5.3)**	**102,237 (13.0)**	**266,465 (34.0)**

Table 6 Health Insurance Coverage Types by County for Respondents Aged 19 Years and Older (2021)

County	With employer-based health insurance only (%)	With direct-purchase health insurance only (%)	With Medicare coverage only (%)	With Medicaid/means-tested public coverage only (%)	With 2 or more types of health insurance coverage (%)	No health insurance (%)
Buncombe	40.6	10.4	9.8	5.5	18.6	12.8
Cherokee	26.1	6.0	12.6	4.8	32.1	17.3
Clay	27.2	5.6	14.5	3.6	30.9	17.4
Graham	31.3	4.8	7.3	6.2	31.3	18.6
Haywood	34.9	7.3	9.6	5.9	28.5	13.2
Henderson	35.6	7.6	10.8	4.1	27.3	13.9
Jackson	35.9	8.4	7.3	5.6	24.8	17.2
Macon	28.2	9.1	11.4	4.3	30.8	15.1
Madison	36.9	9.8	11.0	6.8	24.2	11.0
McDowell	37.7	6.2	7.7	6.2	27.5	14.1
Mitchell	34.3	7.6	11.1	8.2	25.5	12.6
Polk	31.7	8.6	11.4	3.6	31.8	11.6
Rutherford	33.4	7.1	10.4	7.5	26.2	14.8
Swain	34.0	5.6	10.7	6.2	21.1	21.3
Transylvania	30.3	7.7	9.6	4.6	31.3	15.6
Yancey	32.4	8.0	11.2	6.3	26.3	15.0
WNC Regional	**35.9**	**8.5**	**10.1**	**5.5**	**24.8**	**14.1**

Table 7 Social Determinants of Health Factors by County

County	% Food Insecure[a]	% Worry Over Housing[b]	% Households with no vehicle available[c] (renter)	% Households with no vehicle available[c] (owner)
Buncombe	19.1	30.0	11.7	2.1
Cherokee	17.5	21.7	7.6	3.1
Clay	14.6	19.8	19.8	3.7
Graham	22.2	20.5	15.2	4.8
Haywood	18.9	26.6	10.5	3.0
Henderson	17.2	24.6	10.0	1.4
Jackson	24.8	25.9	6.9	2.9
Macon	20.5	32.4	13.1	4.1
Madison	16.6	28.1	9.1	2.4
McDowell	18.5	24.1	12.7	3.7
Mitchell	17.1	19.9	20.7	3.4
Polk	14.2	21.2	10.2	2.3
Rutherford	24.4	30.6	12.1	3.7
Swain	21.2	28.6	21.0	3.7
Transylvania	13.6	18.1	11.2	2.1
Yancey	18.8	19.8	9.9	2.3
WNC Regional	**19.0**	**26.7**	**11.4**	**2.6**

[a]Represents those who ran out of food at least once in the past year and/or worried about running out of food in the past year (2021)

[b]Represents those who indicated Always/Usually/Sometimes Worried or Stressed About Paying Rent or Mortgage in the past year (2021)

[C]5-Yr. Estimate, 2017-2021

Table 8 Access to Computing Devices by County

County	With one or more type of computing device[a] (%)	Desktop or laptop only[a] (%)	Smartphone only[a] (%)	Tablet or portable wireless computer only[a] (%)	No computer[a] (%)
Buncombe	89.3	4.1	7.8	1.0	10.7
Cherokee	88.9	7.4	10.5	1.4	11.1
Clay	86.4	5.0	11.8	1.8	13.6
Graham	79.1	6.8	12.5	1.2	20.9
Haywood	88.2	4.3	13.7	1.0	11.8
Henderson	92.8	4.2	9.3	0.9	7.2
Jackson	91.6	4.0	14.9	1.1	8.4
Macon	86.2	6.1	10.5	1.5	13.8
Madison	83.4	5.7	9.3	1.8	16.6
McDowell	89.3	6.1	12.6	1.9	10.7
Mitchell	84.1	6.8	11.4	2.1	15.9
Polk	91.7	6.6	10.1	1.2	8.3
Rutherford	86.1	5.3	11.7	1.1	13.9
Swain	83.4	4.5	16.4	0.3	16.6
Transylvania	91.1	7.2	10.5	1.3	8.9
Yancey	84.0	5.1	7.8	2.8	16.0
WNC Regional	**87.2**	**5.6**	**11.3**	**1.4**	**12.8**

[a]5-Year Estimate, 2017-2021

Table 9 Internet Access and Telemedicine Preference by County

County	With an internet subscription[a] (%)	Dial-up internet access only[a] (%)	Cellular data plan only[a] (%)	Broadband (Cable, Fiber Optic, DSL)[a] (%)	Satellite internet[a] (%)	Without an Internet subscription[a] (%)	Likely to Use Telemedicine[b] (%)
Buncombe	84.0	0.3	11.6	69.4	4.0	15.9	54.9
Cherokee	78.5	0.6	9.6	56.1	15.3	21.5	47.5
Clay	78.6	0.2	6.1	61.5	12.1	21.4	42.2
Graham	72.5	0.5	7.9	55.2	15.7	27.5	43.2
Haywood	77.1	0.2	15.3	55.2	7.5	22.9	43.1
Henderson	87.0	0.1	10.6	71.1	10.6	13.0	39.7
Jackson	76.4	0.8	14.0	52.7	11.1	23.6	45.8
Macon	78.3	0.7	9.0	58.4	11.4	21.7	41.3
Madison	75.1	0.4	12.5	51.4	11.2	24.9	48.4
McDowell	80.3	0.2	16.0	54.6	10.9	19.7	46.7
Mitchell	77.4	0.4	13.7	60.8	3.4	22.6	42.3
Polk	81.6	0.5	11.5	62.5	12.2	18.4	39.6
Rutherford	77.3	0.2	17.2	50.0	12.0	22.7	40.3
Swain	72.1	0.3	12.1	53.3	7.4	27.9	49.2
Transylvania	86.0	0.2	9.5	72.5	4.5	14.0	41.0
Yancey	77.5	0.5	7.6	64.6	6.2	22.5	42.4
WNC Regional	**78.7**	**0.4**	**11.5**	**59.3**	**9.7**	**21.3**	**46.6**

[a]5-Year Estimate, 2017-2021

[b]Indicated extremely or very likely to use telemedicine for future routine care (2021)