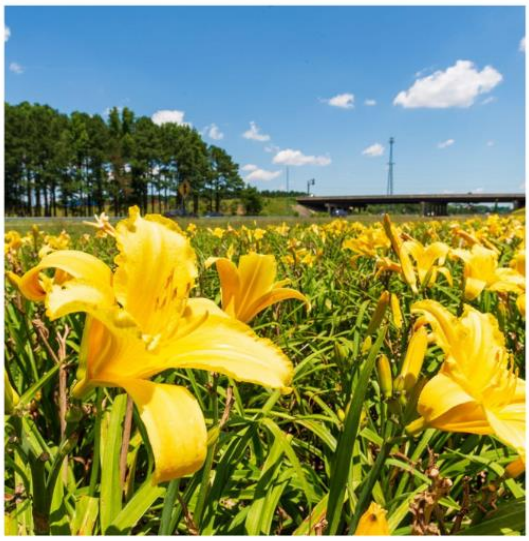
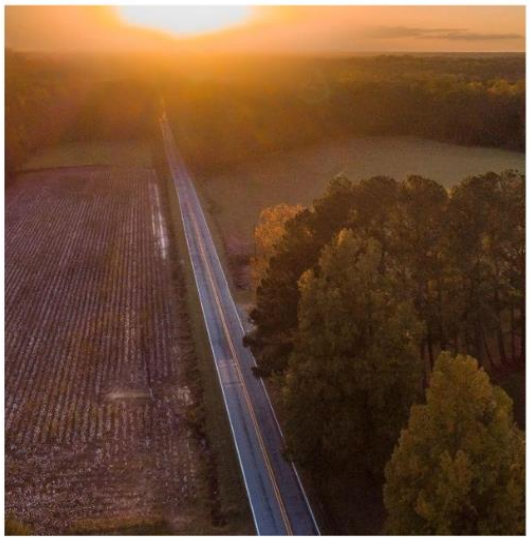
2024 JOHNSTON COUNTY

COMMUNITY HEALTH NEEDS ASSESSMENT





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Johnston County NC
Public Health

UNC HEALTH Johnston

ACKNOWLEDGEMENTS

This Community Health Needs Assessment (CHNA) represents the culmination of work completed by multiple individuals and groups. Health ENC – a group of stakeholders who help find ways to collaborate and share resources to improve the health of the population in eastern North Carolina – served an integral role in making this comprehensive assessment possible. To provide focused guidance throughout the assessment process, Health ENC convened a smaller decision-making group, which will be referred to as the Steering Committee throughout this CHNA. The Steering Committee would like to extend its gratitude to all the focus groups participants, health leaders, and community members who provided information used in the development of this assessment.

The Health ENC CHNA Steering Committee

Name	Title	Organization
Lorrie Basnight	Executive Director	Eastern Area Health Education Center (AHEC)
Amanda Betts	Public Health Education Coordinator	Albemarle Regional Health Services (ARHS)
April Culver	Vice President, External Affairs	UNC Health Johnston
Caroline Doherty	Community Health Consultant	Roanoke Chowan Community Health Center (RCCHC)
Laura Ellis	Health Education	Halifax County Health Department
Sandra McMasters	Community Benefit Project Manager	Sentara Health
Claire Mills	Director	Eastern AHEC
Emmanuelle Quenum	Health Education Director	Greene County Department of Public Health (DPH)
Rose Ann Simmons	Administrator, Community Health Improvement	ECU Health
Michelle Wagner	Public Health Educator	Dare County Department of Health & Human Services (DHHS)

Johnston County CHNA Leadership

In addition to the Steering Committee, the Johnston County 2024 CHNA was developed in partnership with representatives from Johnston County Health Department and UNC Health Johnston.

Name	Title	Organization
April Culver	Vice President, External Affairs	UNC Health Johnston
Leah Johnson	Community Relations Coordinator	UNC Health Johnston
Kimetha Fulwood	Population Health Officer	Johnston County Public Health Department (JCPHD)
Marilyn Pearson, MD	Johnston County Public Health Director	JCPHD
Mary Banks	Public Health Education Specialist	JCPHD
Samantha Patrick	Public Health Education Specialist	JCPHD

Johnston County CHNA Stakeholders

The Johnston County 2024 CHNA was also developed with input from additional representatives from the following local organizations:

Name	Title	Organization
Deana Lee	Operations Manager	Benson Health
Chris Vann	Senior Director	CommWell Health
Maria Sanchez	Health Promotion and Outreach	El Centro-Mexican Consulate
Sarah Piper	Community Paramedic Coordinator	Johnston County EMS
Kim Ratliff	Opioid Grant Coordinator	JCPHD
Marilyn Pearson	Health Director	JCPHD
Amanda Allen	Executive Director of Student Services	Johnston County Public Schools
Susan Kelly	Head School Social Worker	Johnston County Public Schools
Kim Lewter	Lead School Counselor	Johnston County Public Schools
Georgia Anthony	Director	Project Access of Johnston & Harnett Counties
Charissa Gray	Program Director of CATCH Johnston	UNC Chapel Hill
Mitch King	Manager: Medical Staff Services	UNC Health Johnston
Lacey Barnes	Board Member	UNC Health Johnston Board of Directors

In addition, the Health ENC Steering Committee and Johnston County CHNA Leadership would like to thank Kathryn Dail, Director of Community Health Assessment at the NCDHHS Division of Public Health, for her valuable guidance throughout the development of this assessment, as well as Ascendient Healthcare Advisors for directing the CHNA process and producing this report.

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EXECUTIVE SUMMARY

A Community Health Needs Assessment (CHNA) helps health leaders evaluate the health and wellness of the community they serve and identify gaps and challenges that should be addressed through new programs, services and policy changes. This report was developed as part of the Health ENC coalition's collaborative, regional 2024 CHNA process. Health ENC – a group of stakeholders who help find ways to collaborate and share resources to improve the health of the population in eastern North Carolina – served an integral role in making this comprehensive assessment possible. The report adheres to North Carolina Local Health Department Accreditation standards, as well as Internal Revenue Service requirements for not-for-profit hospitals.

Vision Statement

Through collaboration between the Health ENC Steering Committee, Johnston County Health Department and UNC Health Johnston, the 2024 CHNA process aspires to create a healthier eastern North Carolina where collaborative action, shared resources, and community engagement converge to eliminate health disparities and build resilient, connected communities that support wellbeing for generations to come.

Johnston County CHNA Leadership

Several local health organizations came together to help develop this CHNA, including Johnston County Public Health Department (JCPHD) and UNC Health Johnston.

Name	Title	Organization
April Culver	Vice President, External Affairs	UNC Health Johnston
Leah Johnson	Community Relations Coordinator	UNC Health Johnston
Kimetha Fulwood	Population Health Officer	JCPHD
Marilyn Pearson, MD	Johnston County Public Health Director	JCPHD
Mary Banks	Public Health Education Specialist	JCPHD
Samantha Patrick	Public Health Education Specialist	JCPHD

Johnston County CHNA Partnerships

The 2024 CHNA process for Johnston County included a variety of different stakeholders who assisted with community engagement activities, provided feedback, and participated in the prioritization process. A summary of the partner organizations who participated in the process is below.

Type of Partner Organization	Number of Partners
Public Health Agency	1
Hospital/Health Care System(s)	1
Healthcare Provider(s)	3
EMS Provider(s)	1
Community Organization(s)	1
Educational Institution(s)	1
Public/Private/Charter School System(s)	1

The Health ENC Steering Committee and Johnston County CHNA Leadership contracted with Ascendient Healthcare Advisors to coordinate the regional CHNA process, including primary and secondary data analysis, relevant trainings for county partners and development of the contents of this report.

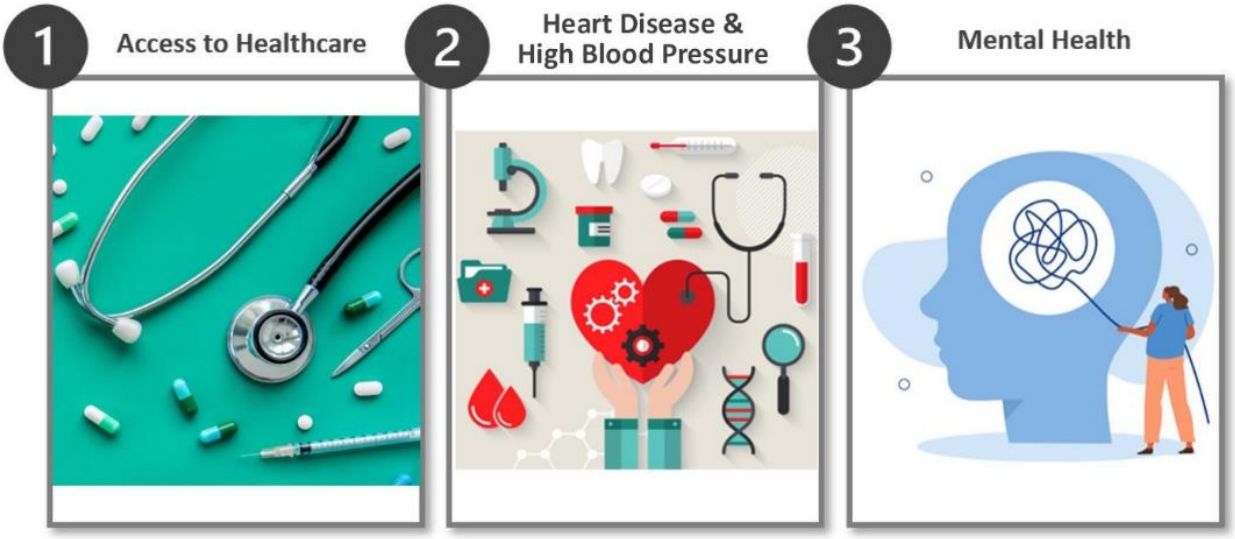
Johnston County CHNA Timeline and Process

The Health ENC 2024 process formally kicked off with a collaborative meeting of all participating counties on February 8th, 2024. It concluded with the delivery of final CHNA reports to all 34 counties on December 20th, 2024. A summary of key process milestones is shown below.

Secondary (existing) data came from various public sources related to demographics, social determinants of health, environmental health, disease trends, behavioral health trends, and individual health behaviors. Data was evaluated using the Robert Wood Johnson Foundation's population health framework and compared to state or national benchmarks to identify areas of concern. Top community needs identified through secondary data analysis included behavioral health (specifically substance use), diet and exercise, healthcare access and quality, tobacco use, transportation and transit, and family, community and social support.

Primary (new) data were collected through focus groups, key informant interviews, and a web-based survey for community members and included feedback from 760 people who live, work or receive healthcare in Johnston County. A total of three focus groups were conducted, either virtually or in person, with a variety of community members from different backgrounds, age groups and life experiences. Additionally, ten key informant interviews were conducted with individuals and organizations in Johnston County to gain perspective on the health and well-being of residents. The individuals who participated in the key informant interviews were selected because they serve populations of the highest need in our county. Primary data identified behavioral health (specifically mental health), employment and income, healthcare access and quality, housing and homelessness, and physical health (chronic diseases, cancer, obesity) as top needs that impact the health and well-being of people living in Johnston County.

Representatives from Johnston County worked together to identify the priorities the county should focus on over the following three-year period. Leaders evaluated the primary and secondary data collected throughout the process to identify needs based on the size and scope, severity, the ability for hospitals or health departments to make an impact, associated health disparities, and importance to the community. Although it was not possible for every single area of potential need to be identified as a priority, three top priority areas were selected by Johnston County (in alphabetical order): Access to Care, Heart Disease and High Blood Pressure, and Mental Health.



Johnston County also compiled a Community Resource Guide, which describes a variety of resources available to help Johnston County residents meet their health and social needs.

Following completion of this report, health leaders throughout Johnston County will use its findings to collaborate with community organizations and local residents to develop effective health strategies, new implementation plans and interventions, and action plans to improve the communities they serve.

INTRODUCTION

Background

To illustrate its commitment to the health and well-being of the community, the Health ENC CHNA Steering Committee has completed this assessment to understand and document the greatest health needs currently faced by local residents. Guidance was also provided by local representatives from Johnston County Public Health Department and UNC Health Johnston. These organizations helped gather the focus group and survey data, which are detailed in this report. The CHNA process helps local leaders continuously evaluate how best to improve and promote the health of the community. It builds upon formal collaborations between the Steering Committee and other community partners to proactively identify and respond to the needs of Johnston County residents.

This report was created in compliance with the State of North Carolina's Local Health Department Accreditation (NCLHDA) Board's accreditation standards.[1] The accreditation process allows local health departments to assess how they are meeting national and state-specific standards for public health practice and provides opportunities to address any identified gaps. It also ensures that local health departments have the ability to deliver the ten essential public health services, as described in **Figure 1** below. In its demonstration of data and prioritization of Johnston County's community needs, this report aligns with all NCLHDA standards for accreditation, including the need to:

- Provide evidence of community collaboration in planning and conducting the assessment;
- Reflect the demographic profile of the population and describe socioeconomic, educational and environmental factors that affect health;
- Assemble and analyze secondary data to describe the health status of the community;
- Collect and analyze primary data to describe the health status of the community;
- Use scientific methods for collecting and analyzing data, including trend data, to describe changes in community health status and in factors affecting health;
- Identify population groups at risk for health problems;
- Identify existing and needed health resources;
- Compare selected local data with data from other jurisdictions; and
- Identify leading community health problems.

[1] Source: NCLHDA Health Department Self-Assessment Instrument Interpretation Document 2024.

Figure 1: The 10 Essential Public Health Services

Further, this process complies with Internal Revenue Service (IRS) requirements for not-for-profit hospitals to complete a CHNA every three years to maintain their tax exemption.[2] Specifically, the IRS requires that hospital facilities do the following:

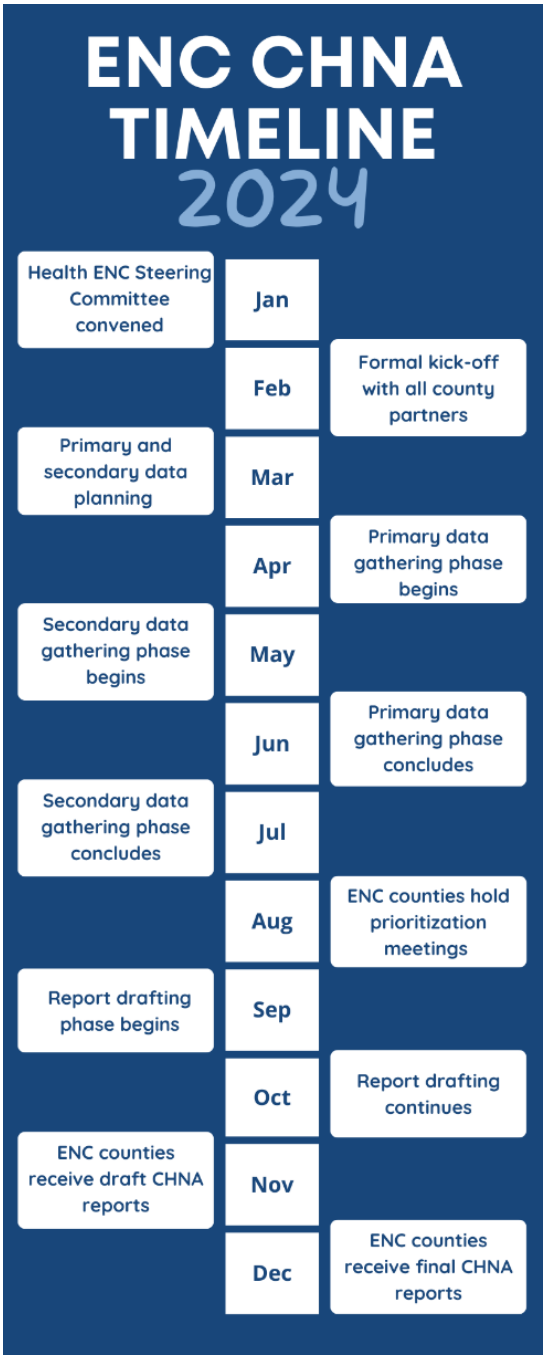
- Define the community it serves;
- Assess the health needs of that community;
- Through the assessment process, take into account input received from people who represent the community's broad interests, including those with special knowledge of or expertise in public health;
- Document the CHNA in a written report that is reviewed and adopted by the hospital facility's authorizing body; and
- Make the CHNA widely available to the public.

[2] Source: *Community Health Needs Assessment for Charitable Hospital Organizations – Section 501®(3)* (2023). Internal Revenue Service. Retrieved February 13th, 2024 from https://www.irs.gov/charities-non-profits/community-health-needs-assessment-for-charitable-hospital-organizations-section-501r3.

Timeline

The Health ENC 2024 CHNA process for all participating counties, including Johnston County, began in January 2024 with the convening of the Steering Committee and continued throughout the year. The process concluded in December 2024 with the delivery of final CHNA reports. A high-level summary of activities conducted throughout the year can be found in **Figure 2** below.

Figure 2: Health ENC 2024 CHNA Milestones



Process Overview

A significant amount of information has been reviewed during this planning process, and the Steering Committee has been careful to ensure that a variety of sources were used to deliver a truly comprehensive report. Both existing (secondary) data and new (primary) data were collected directly from the community throughout this process. It is also important to note that, although unique to Johnston County, the sources and methodologies used to develop this report comply with the current NCLHDA and IRS requirements for health departments and not-for-profit hospital organizations.

The purpose of this study is to better understand, quantify, and articulate the health needs of Johnston County residents. Key objectives of this CHNA include:

- Identify the health needs of Johnston County residents;
- Identify disparities in health status and health behaviors, as well as inequities in the factors that contribute to health challenges;
- Understand the challenges residents face when trying to maintain and/or improve their health;
- Understand where underserved populations turn for services needed to maintain and/or improve their health;
- Understand what is needed to help residents maintain and/or improve their health; and
- Prioritize the needs of the community and clarify/focus on the highest priorities.

There are twelve phases in the CHNA process, as shown in **Figure 3** below, beginning with pre-planning and assessing organizational capacity and ending with an evaluation of the process. Once the CHNA process is complete, county leaders must develop community health action plans to describe the specific activities they will implement to address the health and social needs identified in the CHNA.

Figure 3: The Community Health Assessment Process[3]

Report Structure

The outline below provides detailed information about each section of the report.

1) *Methodology* – The methodology chapter provides an overall summary of how the priority health need areas were selected, as well as how information was collected and incorporated into the development of this CHNA, including study limitations.

2) *County Profile* – This chapter details the demographic (such as age, gender, and race) and socioeconomic data of Johnston County residents.

3) *Priority Health Need Areas* – This chapter describes each identified priority health need area for Johnston County and summarizes the new and existing data that support these prioritizations. This chapter also describes the impact of health disparities among various sub-groups in Johnston County.

4) *Health Resource Inventory* – This chapter documents existing health resources currently available to the Johnston County community.

[3] Source: NCDHHS Division of Public Health (2024). *North Carolina Community Health Assessment Guidebook*. Accessed April 7th, 2025 from https://schs.dph.ncdhhs.gov/units/ldas/docs/chaguidebook/NC-CHA-GuidebookOnlineRev1.pdf

5) *Next Steps* – This chapter briefly summarizes the next steps that will occur to address the priority health need areas discussed throughout this document.

In addition, the appendices discuss all of the data used during the development of this report in detail, including:

1) *State of the County Health Report* – Detailed information about actions taken to address the priority health needs identified in previous CHNAs are presented in **Appendix 1**.

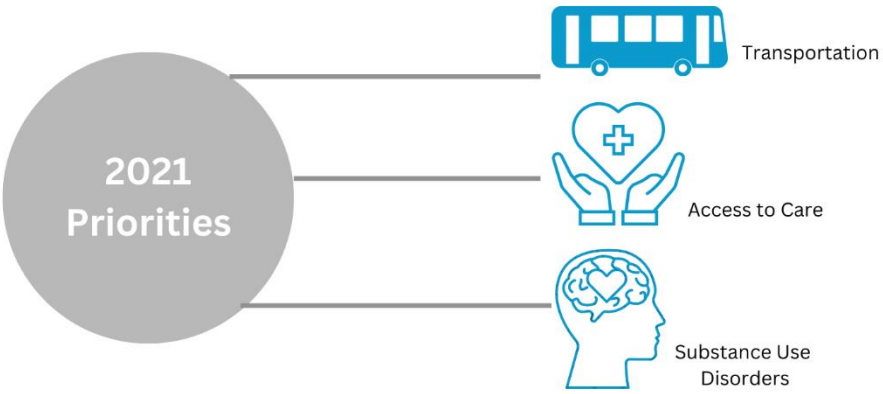
2) *Detailed Summary of Secondary Data Measures and Findings* – Existing data measures and findings used in the prioritization process are presented in **Appendices 2-3.**

3) *Detailed Summary of Primary Findings* – Summaries of new data findings from community member surveys, key informant interviews, and focus groups are presented in **Appendices 4-5.**

Evaluation of Prior CHNA Implementation Strategies

A CHNA is an ongoing process that begins with an evaluation of the previous CHNA. In 2021, Johnston County completed its previous assessment. Associated implementation strategies focused on three priority areas, as listed below:

Figure 4: Johnston County 2021 Priority Need Areas



Local organizations developed goals and implementation plans to address these priority health needs. Below are brief summaries of each organization's most recent CHNA implementation plans.

Johnston County Public Health Department

The mission of the Johnston County Public Health Department is to provide quality healthcare, promote a safe environment, and partner with the citizens of Johnston County to foster healthy lifestyles. To achieve that mission, the Johnston County Health Department provides various health services to over 230,000 individuals living in Johnston County, with or without insurance, on a sliding fee scale. Additionally, the Johnston County Public Health Department collaborates with local organizations,

churches, non-profits, and the UNC Health Johnston hospital system to provide resources and equitable care to all.

UNC Health Johnston

The mission of UNC Health Johnston is to improve the health of the people in the communities it serves. Since opening the first hospital in 1951, UNC Health Johnston has since expanded buildings and added services to keep pace with the health care needs of its growing communities. UNC Health Johnston has more than 2,000 full-time and part-time employees in Smithfield and Clayton, as well as nearly 300 physicians with a wide range of specialties to meet the needs of patients.

Previous CHNA Priority: Transportation

- **Quick Ride:** Quick Ride is a ride-share program that was launched in 2023 and serves the community Monday-Saturday, 6am-8pm, in and around Smithfield and Selma. This is a fee-for-service, lower- cost transportation option, much like Uber, which costs $6.00 each way.

Previous CHNA Priority: Access to Care

- **Mobile Telehealth Program:** This outreach program improved access to comprehensive and quality health care. Uninsured patients with chronic conditions are referred to Project Access of Johnston and Harnett for charity care.

Previous CHNA Priority: Substance Abuse Disorders

- **Narcan Distribution**: In 2023, 3,125 doses of Narcan were administered in Johnston County by the community and EMS, which is more than three times the volume administered in 2022.
- **QuitlineNC:** Referrals and calls by Johnston County residents to QuitlineNC were tracked.
- **Peer Support Specialist Training:** In 2023, eight people completed Peer Support Specialist Training with opioid settlement funding, increasing recovery support resources in Johnston County.

Additional details about previous implementation plans, as captured in the NCLHDA State of the County Health (SOTCH) report, can be found in **Appendix 1**.

Summary Findings: Johnston County 2024 Priority Health Need Areas

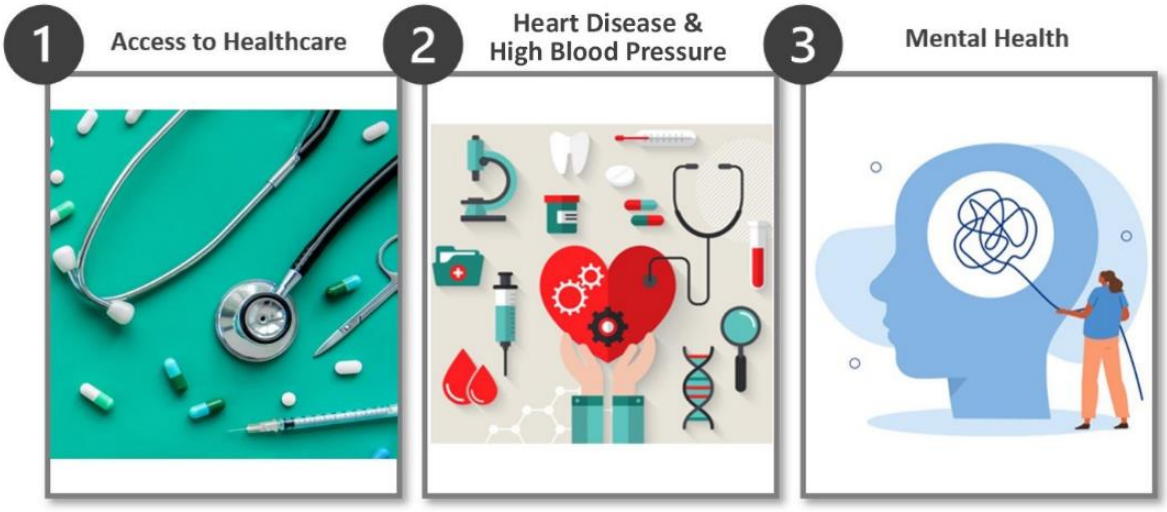
To achieve the study objectives in the 2024 assessment, both new and existing data were collected and reviewed. New data included information from web-based surveys of adults (18+ years) and focus groups; various local organizations, community members, and health service providers within Johnston County participated. Existing data included information regarding demographics, health and healthcare resources, behavioral health, disease trends, and county rankings. The data collection and analysis process began in January 2024 and continued through July 2024.

Throughout Johnston County, significant variations in demographics and health needs exist. At the same time, consistent needs are present across the whole county and serve as the basis for determining priority health needs at the county level. This document will discuss the priority health need areas for Johnston

County, as well as how the severity of those needs might vary across subpopulations based on the information obtained and analyzed during this process.

Through the prioritization process, the CHNA Steering Committee identified Johnston County's priority health need areas from a list of over 100 health indicators. Please note that the final priority needs were not ranked in any order of importance and county health leaders will engage in each of the three priority need areas. After looking at all relevant data and feedback from the Johnston County Stakeholders and Johnston County CHNA Leadership, the Johnston County focus areas identified as priorities for the 2024 CHNA are Access to Healthcare, Heart Disease and High Blood Pressure, and Mental Health, as seen in **Figure 5**.

Figure 5: Johnston County 2024 Priority Health Needs[4]



Health, healthcare, and associated community needs are very much interrelated, and often influence each other. Although this CHNA process considered these areas separately, their impact on each other should be considered when planning for programs or services to address community needs.

Many health needs are also related to underlying societal and socioeconomic factors. Research has consistently shown that income, education, physical environment, and other such demographic and socioeconomic factors affect the health status of individuals and communities. This CHNA acknowledges that link and focuses on identifying and documenting the greatest health needs as they present themselves today. As plans are developed to address these needs, the Committee's goal is to work with other community organizations to address underlying factors that could drive long-term improvements to the county population's health.

For additional discussion of current priority needs and the data that supports those priorities, please see **Chapter 3**.

[4] Note: All graphics in this image were licensed from Adobe Stock

CHAPTER 1 | METHODOLOGY

Study Design

The process used to assess Johnston County's community needs, challenges, and opportunities included multiple steps. Both new and existing data were used throughout the study to paint a more complete picture of Johnston County's health needs. While the CHNA Steering Committee largely viewed the new and existing data equally, there were situations where one provided clearer evidence of community health needs than the other. In these instances, the health needs identified were discussed based on the most appropriate data gathered. Data analysis, community feedback review, and stakeholder engagement were all used to identify key areas of need.

Specifically, the following data types were collected and analyzed:

New (Primary) Data

Public engagement and feedback were received through a web-based community member survey along with community focus groups, key informant interviews, and significant input and direction from the CHNA Steering Committee. The Steering Committee worked together to develop the survey questions for the web-based survey, and county leaders were provided with a set of target numbers based on their county population's race, ethnicity, and age distribution to encourage recruitment of a representative sample of the community. Community members were asked to identify the most significant health and social needs in their community, as well as asked questions about topics specific to Johnston County, including access to care, substance use disorders, and transportation and transit.

Interviews were conducted with 10 "key informants" for Johnston County to gain perspective on the health and well-being of residents. These key informants consisted of various community leaders across healthcare, education, emergency services, and social service organizations. In addition, three focus groups were conducted with representation from key leaders, non-profit partners, and community members. Participants were asked a standard set of questions about health and social needs in order to identify trends across various groups and to highlight areas of concern for specific populations. In total, the input was gathered from over 790 Johnston County residents and other stakeholders. This included web survey responses from over 750 community members and three focus groups that included over 25 community members and other people who live, work or receive healthcare in Johnston County, in addition to the ten key informants interviewed.

For more information regarding specific questions asked as part of the focus groups and surveys, please refer to **Appendix 4.**

Existing (Secondary) Data

The primary source for existing data on Johnston County was the North Carolina Data Portal. This website is a joint effort by NCDHHS and the University of Missouri Center for Applied Research and Engagement Systems (CARES), which includes over 120 data indicators focused on demographics, health status and social determinants of health. In addition to information from the North Carolina Data Portal, a variety of other sources were leveraged in this assessment process, including:

- *County Health Rankings*, developed in partnership with the Robert Wood Johnson Foundation (RWJF) and University of Wisconsin Population Health Institute
- *The Opportunity Atlas*, developed in partnership with the U.S. Census Bureau, Harvard University, and Brown University
- *Food Access Research Atlas*, published by the U.S. Food and Drug Administration
- *Social Vulnerability Index*, developed by the CDC and the Agency for Toxic Substances and Disease Registry (ATSDR)
- *Environmental Justice Index*, developed by the CDC and the ATSDR
- *American Community Survey*, as collected and published by the U.S. Census Bureau
- Data provided by CHNA Steering Committee members and other affiliated organizations, including CHNAs for Johnston County from 2018 and 2021.

For more information regarding data sources and data time periods, please refer to **Appendix 2**.

Comparisons

To understand the relevance of existing data collected throughout the process, each measure must be compared to a benchmark, goal, or similar geographic area. In other words, without being able to compare Johnston County to an outside measure, it would be impossible to determine how the county is performing. For this process, each data measure was compared to outside data as available, including the following:

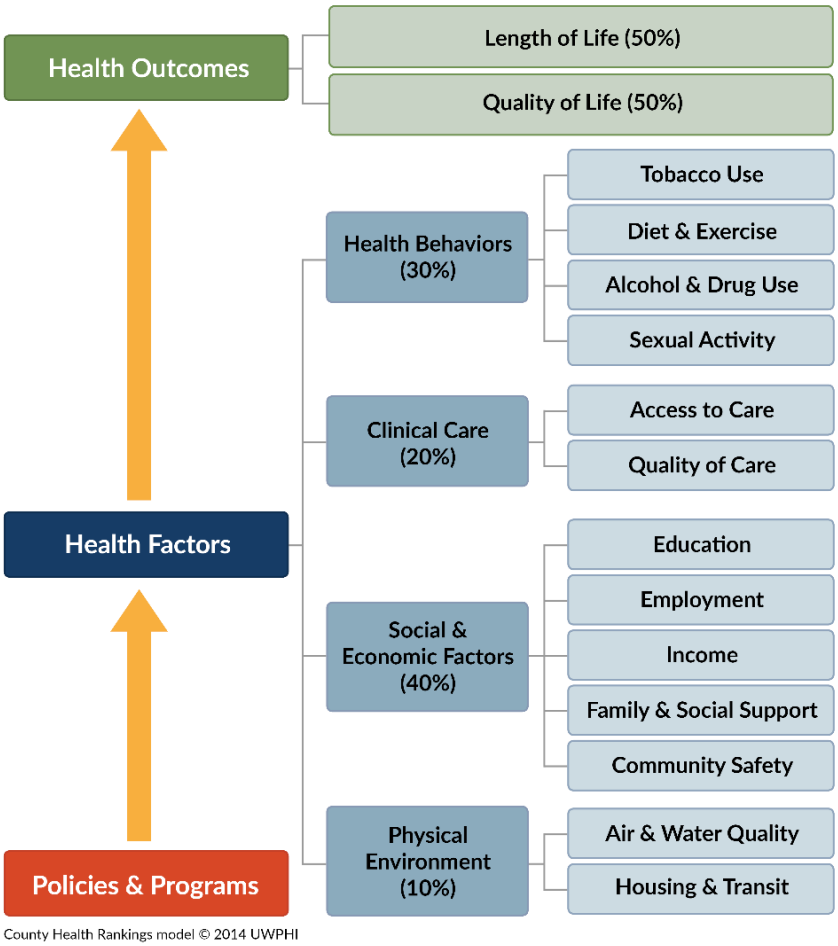
- *County Health Rankings* Top Performers: This is a collaboration between the RWJF and the University of Wisconsin Population Health Institute that ranks counties across the nation by various health factors.
- State of North Carolina: The Steering Committee determined that comparisons with the state of North Carolina were appropriate.

Population Health Framework

This assessment was developed in alignment with the RWJF population health framework, originally developed by the University of Wisconsin's Population Health Institute. Population health focuses on health status and outcomes among a specific group of people, and can be based on geographic location, health diagnoses, or common health providers. The population health framework recognizes that the issues that affect health in a community are complex; there are many factors that have the potential to impact health outcomes, including both length and quality of life, within a population. Broadly, these factors include the clinical care available to community members, individual health behaviors, the physical environment, and the social and economic conditions in the community.

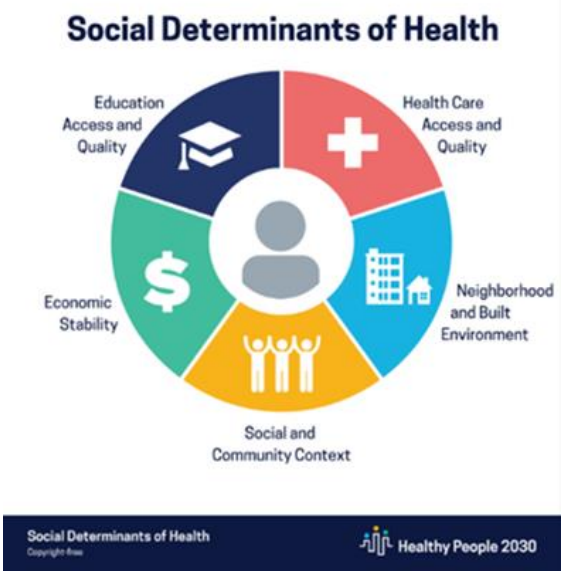
Using the population health framework as a guide for the CHNA process helps categorize many individual pieces of data in a way that connects the dots between health status and social drivers of health in a way that helps local leaders better understand and address the health and well-being of the communities they serve. This understanding is critical in identifying potential interventions to address priority needs in the community, and to help develop partnerships across sectors that can help drive these interventions forward. **Figure 6** below illustrates the broad categories and sub-categories within the population health framework.

Figure 6: Population Health Framework[5]



[5] Source: University of Wisconsin Population Health Institute (2024). County Health Rankings & Roadmaps. www.countyhealthrankings.org.

Figure 7: Social Determinants of Health[6]



Throughout the process, the Steering Committee also considered *Healthy People 2030*'s "Social Determinants of Health and Health Equity." The CDC defines social determinants of health (SDoH) as 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. These factors can include healthcare access and quality, neighborhood and built environment, social and community context, economic stability, and education access and quality, as outlined in **Figure 7**.

Recognizing that SDoH have an impact on health disparities and inequities in the community was a key point Johnston County leaders considered throughout the CHNA process. **Figure 8** describes the way various social and economic conditions may affect health and well-being.

Figure 8: SDoH and Health Disparities[7]

[6] Source: CDC (2022). Social Determinants of Health at CDC. Accessed March 7th, 2024 via https://www.cdc.gov/about/sdoh/index.html

[7] Source: Kaiser Family Foundation (2024). Disparities in Health and Health Care: 5 Key Questions and Answers. Accessed December 30, 2024 via https://www.kff.org/racial-equity-and-health-policy/issue-brief/disparities-in-health-and-health-care-5-key-question-and-answers/

Prioritization Process Overview and Results

The process of identifying the priority health needs for the 2024 CHNA began with the collection and analysis of hundreds of new and existing data measures. In order to create more easily discussable categories, all individual data measures were then grouped into 6 categories and 20 corresponding focus areas based on "common themes" that correspond to the Population Health Model, as seen in **Figure 6**. These focus areas are detailed further in **Appendix 2.**

Since a large number of individual data measures were collected and analyzed to develop these 20 focus areas, it was not reasonable to make each of them a priority. The Johnston County CHNA leadership considered which focus areas had data measures of high need or worsening performance, priorities from the primary data, and how possible it is for health departments or hospitals to impact the given need to help determine which health needs should be prioritized.

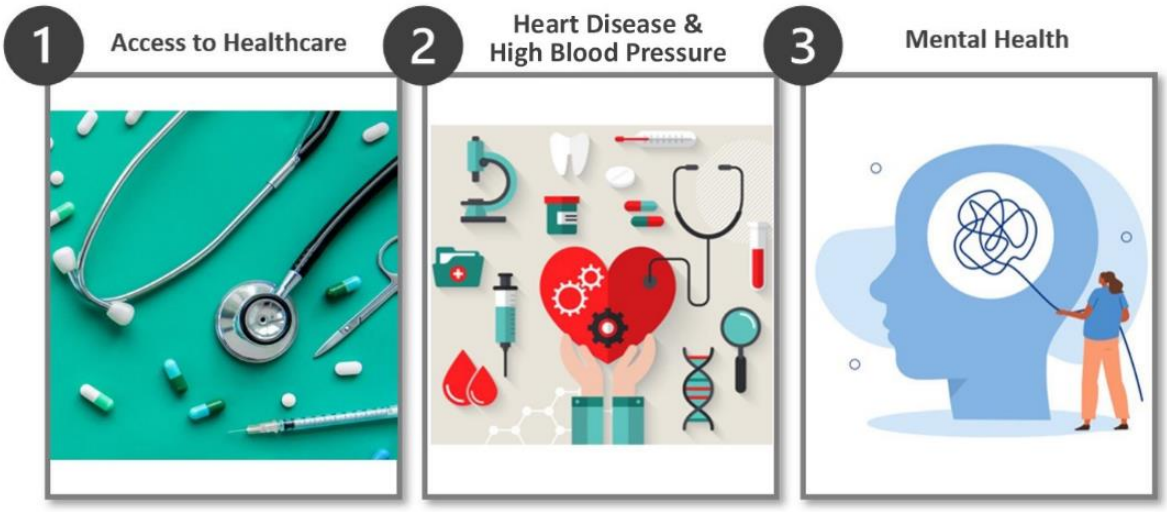
Once the primary and secondary data had been grouped into the focus areas detailed in **Appendix 2**, the leaders in Johnston County evaluated and prioritized the health needs of Johnston County while considering the following factors:

- Size and scope of the health need;
- Severity and intensity of the health need;
- Whether possible interventions would be possible and effective;
- Health disparities associated with the need; and
- Importance the community places on addressing the need.

Specifically, Johnston County CHNA leaders utilized the multi-voting technique to determine Johnston County's priority need areas via a digital Survey Monkey. Twenty-two potential priority need areas were identified and used in the survey voting. Priority need areas were narrowed down to the top eleven and then to the top three. Participants used key considerations to prioritize needs, including relevance, magnitude/severity of the problem, urgency, feasibility, availability of resources, cost, alignment with other public health initiatives/goals, and considerations for social/historical/political context, social determinants of health, and health equity.

The final priority need areas were not ranked in any particular order of importance, and each will be addressed by the Johnston County CHNA leadership. The following three focus areas (Access to Healthcare, Heart Disease & High Blood Pressure, and Mental Health) were identified as Johnston County's top priority health needs to be addressed over the next three years, as seen in **Figure 9** below:

Figure 9: Johnston County 2024 Priority Health Needs



The list of organizations below had members who participated in the prioritization voting process.

- Benson Health
- CommWell Health
- El Centro – Mexican Consulate
- Johnston County EMS
- Johnston County Public Health Department
- Johnston County Public Schools
- Project Access of Johnston and Harnett Counties
- UNC Health Johnston, including the UNC Health Johnston Board of Directors
- UNC Chapel Hill

Study Limitations

Developing a CHNA is a long and time-consuming process. Because of this, more recent data may have been made available after the collection and analysis timeframe. Existing data typically become available between one and three years after the data is collected. This is a limitation because the "staleness" of certain data may not depict current trends. For example, the U.S. Census Bureau's American Community Survey is a valuable source of demographic information; however, data for a particular year is not published until late the following year. This means 2022 data on community characteristics, such as languages spoken at home, did not become available until late fall 2023. The Steering Committee tried to account for these limitations by collecting new data, including focus groups and web-based community member surveys. Another limitation of existing data is that, depending on the source, it may have limited demographic information, such as gender, age, race, and ethnicity.

Given the size of Johnston County in both population and geography, this study was limited in its ability to fully capture health disparities and health needs across racial and ethnic groups. Resource limitations meant that county leaders relied on convenience sampling to engage with the community via the web-

based survey. This method of survey sampling and limited sample size may fail to capture a truly representative cross-section of the community, resulting in overrepresentation of some demographic groups and underrepresentation of others, which leads to poor generalizability. This can lead to findings that do not accurately reflect the health needs and perspectives of the entire community, particularly those from underrepresented or marginalized groups. Efforts were made to include diverse community members in the survey. For example, Johnston County CHNA Leadership staff facilitated surveys with people with disabilities and mental health conditions, kinship caregivers, uninsured and Spanish-speaking patients, and minority groups. Minority populations were engaged through local flea markets, Black-owned barbershops, grassroots organizations, faith-based organizations, and groups serving minority youth.

Roughly, 66% of all respondents were White, compared to 61% of the Johnston County population reported as being White. Another 20% of respondents were Black or African American, exceeding the county population reported as being 16%. Additionally, 14% of respondents identified as Hispanic, which was slightly less than the reported county population level of 18%. Nearly 5% of respondents identified with an “Other” race compared to 4% of the county population identifying with this racial designation.

In addition, there are existing gaps in information for some population groups. Many available datasets are not able to isolate historically underserved populations, including the uninsured, low-income persons, and/or certain minority groups. Despite the lack of available data, attempts were made to include underserved sub-segments of the greater population through the new data gathered throughout the CHNA process. For example, the Steering Committee chose to focus on Spanish-speaking members of the community by providing a Spanish-language version of the web-based community survey and the Johnston County CHNA Leadership staff conducted a focus group solely in Spanish. Paper surveys were also distributed in an effort to reach as much of the community as possible to enhance outreach to populations with low technological literacy. To increase future survey responses, members of the Steering Committee should consider working directly with partner organizations in the community that can connect directly with populations who are hard to access through traditional outreach methods, including people with disabilities, the uninsured and people who are disengaged.

In the future, assessments should make efforts to include other underserved communities whose needs are not specifically discussed here because of data and input limitations during this CHNA cycle. Of note, residents in the disabled, blind, deaf, and hard-of-hearing communities can be a focus of future new data collection methods. Using a primarily web-based survey collection method might have also impacted response rates of community members with no internet access or low technological literacy. The web-based surveys were distributed through social media, health department and hospital websites, and emailed to local community coalitions members. The Health Department team made an effort to distribute paper surveys where applicable, including the public library and the local senior centers. Data from the paper surveys was manually entered into the survey platform by Johnston County CHNA Leadership staff. Additionally, more input from both patients and providers of substance use disorders (SUD) services would also be helpful in future assessments.

Finally, parts of this assessment have relied on input from community members and key community health leaders through web-based surveys and focus groups. Since it would be unrealistic to gather input from every single member of the community, the community members who participated have offered their best expertise and understanding on behalf of the entire community. As such, the CHNA Steering

Committee has assumed that participating community members accurately and completely represented their fellow residents.

CHAPTER 2 | COUNTY PROFILE

Geography

Johnston County is in the Inner Coastal Plain region of North Carolina, characterized by the presence of large sounds, bays, and river mouths. It covers a total of 796 square miles, including 792 square miles of land and 4 square miles of water. Johnston County is comprised of 11 municipalities: Archer Lodge, Benson, Clayton, Four Oaks, Kenly, Micro, Pine Level, Princeton, Selma, Smithfield, and Wilson's Mills. Over half (53%) of Johnston County's population resides in rural areas.

Population

Population figures discussed throughout this chapter were obtained from Esri, a leading GIS provider that utilizes U.S. Census data projected forward using proprietary methodologies.

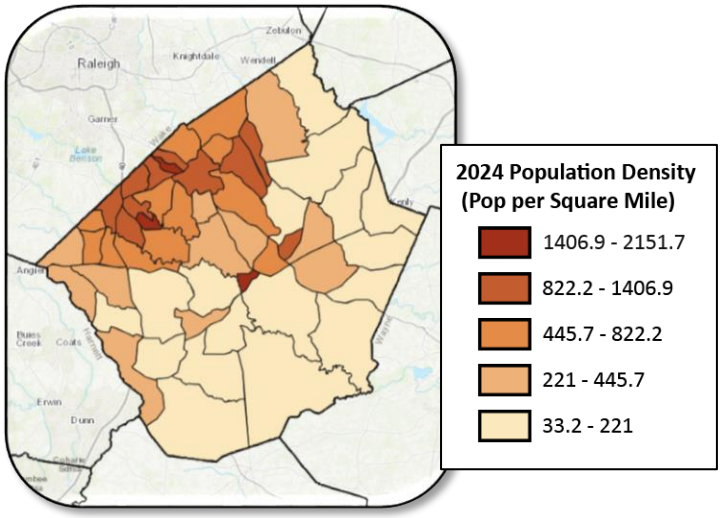
Johnston County has a population of 237,149, making up approximately 2.2% of North Carolina's total population.

Table 1: Total Population, 2023[8]

	Johnston County	North Carolina	United States
Population	237,149	10,765,678	337,470,185

Johnston County has a population density of 310.1 persons per square mile – higher than the population density of North Carolina (214.7 persons per square mile). Smithfield and Clayton are the most densely populated areas in the county.

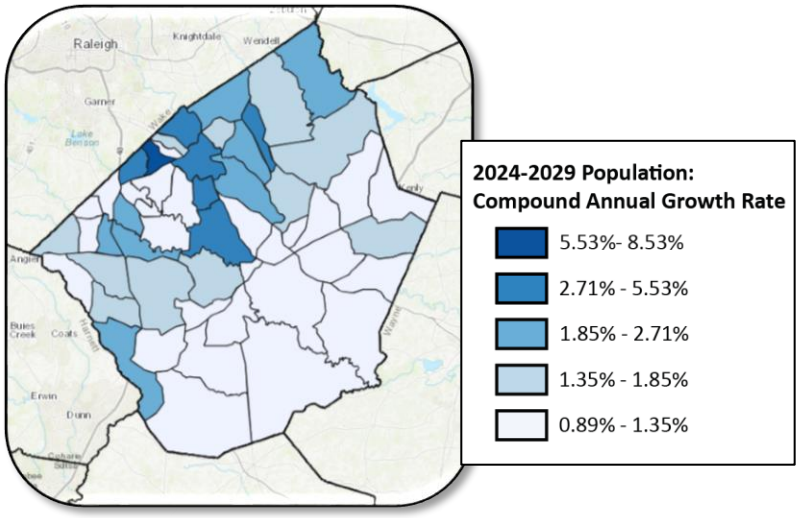
Figure 10: Johnston County Map: Population Density[8]



[8] Source: Esri. Throughout this report, maps and demographic estimates (unless otherwise noted) were developed using ArcGIS® software by Esri. ArcGIS® and ArcMap™ are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved. For more information about Esri® software, please visit www.esri.com.

In total, the population of Johnston County is projected to grow 2.20% annually between 2024 and 2029. Areas in the northwestern parts of the county are experiencing the greatest population growth.

Figure 11: Johnston County Map: Population Growth[8]



Age and Sex Distribution

Data on age and sex helps health providers understand who lives in the community and informs planning for needed health services. The age distribution of Johnston County skews younger than the state. The county has a higher percentage of residents below 15 (20.6%) compared to North Carolina (17.9%). The percentage of residents between 15 and 44 (38.8%) is similar to the state average (39.3%). The county has a slightly higher proportion of residents aged 45-64 (26.0% vs. 25.1% state) but a lower percentage of residents 65 and older (14.6% vs. 17.7% state).

Table 2: Age Distribution, 2023[8]

	Johnston County	North Carolina	United States
Percentage below 15	20.6%	17.9%	18.1%
Percentage between 15 and 44	38.8%	39.3%	39.5%
Percentage between 45 and 64	26.0%	25.1%	24.6%
Percentage 65 and older	14.6%	17.7%	17.8%

Like North Carolina overall, Johnston County has a slightly higher distribution of females than males in its population. Females make up 50.8% of the county's residents, while males comprise 49.2%, a distribution very close to the overall state ratio.

Table 3: Sex Distribution, 2023[8]

	Johnston County		North Carolina		United States	
	Count	Pct. of Total	Count	Pct. of Total	Count	Pct. of Total
Female	120,388	50.8%	5,489,419	51.0%	170,118,720	50.4%
Male	116,761	49.2%	5,276,259	49.0%	167,351,465	49.6%

Race and Ethnicity

Data on race and ethnicity informs the need for healthcare services and cultural factors that can impact how services are delivered. Johnston County's racial composition differs somewhat from state averages. Non-Hispanic white) residents make up 63.7% of the population, a slightly higher proportion than North Carolina's 61.2%. Non-Hispanic black residents comprise 16.4% of the population, which is lower than the state average (20.4%). The county has lower percentages of Asian (0.9% vs. 3.5% state) residents but higher percentages of Some Other Race Alone (9.4% vs. 6.3% state). Native Hawaiian and Pacific Islander residents make up 0.1% of the population, matching the state average.

Table 4: Racial Distribution, 2023[8]

	Johnston County		North Carolina		United States	
	Count	Pct. of Total	Count	Pct. of Total	Count	Pct. of Total
Black (Non-Hispanic)	39,004	16.4%	2,199,488	20.4%	42,132,758	12.5%
White (Non-Hispanic)	151,014	63.7%	6,590,161	61.2%	204,562,590	60.6%
Asian	2,075	0.9%	379,374	3.5%	21,088,177	6.2%
AIAN	2,120	0.9%	133,820	1.2%	3,831,126	1.1%
NHPI	125	0.1%	9,214	0.1%	712,229	0.2%
Some Other Race Alone	22,268	9.4%	677, 338	6.3%	29,432,586	8.7%
Two or More Races	20,543	8.7%	776,283	7.2%	35,710,719	10.6%

Johnston County’s Hispanic population, about 17.8% of the total population, is significantly higher than the North Carolina average of 11.4%.

Table 5: Ethnic Distribution, 2023[8]

	Johnston County		North Carolina		United States	
	Count	Pct. of Total	Count	Pct. of Total	Count	Pct. of Total
Non-Hispanic	194,961	82.2%	9,465,874	88.6%	271,934,049	80.6%
Hispanic	42,188	17.8%	1,299,804	11.4%	65,536,136	19.4%

The proportion of foreign-born individuals residing in Johnston County is 7%, lower than both state and national averages.

Table 6: Foreign Born Population, 2022[9]

	Johnston County	North Carolina	United States
Foreign Born	7%	9%	13.9%

According to the most recent American Community Survey (ACS), approximately 14% of Johnston County residents speak a language other than English at home. This is similar to the roughly 13% of North Carolinas and lower than the 22% of U.S. residents who speak a language other than English at home. Nearly 12% of Johnston County residents speak Spanish at home.

Table 7: Language Spoken at Home, 2022[9]

	Johnston County	North Carolina	United States
English Only	86%	87.3%	78%
Spanish	11.9%	7.9%	13.3%
Indo-European Languages	1.0%	2.1%	3.8%
Asian and Pacific Islander Languages	0.5%	1.9%	3.6%
Other Languages	0.6%	0.8%	1.2%

Disability Status[10]

Data on disability status helps us understand how to create fair and equal opportunities for everyone in the county. Individuals with disabilities may require services that look different or are delivered in different ways and may require unique outreach by health and other service providers. The proportion of Johnston County residents with a disability is 12%, similar to both the state and national figures.

Table 8: Disability Status, 2022[9]

	Johnston County	North Carolina	United States
Population with a Disability	12%	13.3%	12.9%

[9] Source: U.S. Census Bureau. "Selected Social Characteristics in the United States." *American Community Survey, ACS 5-Year and 1-Year Estimates Data Profiles, Table DP02*, 2022, https://data.census.gov. Accessed on April 1, 2024.

[10] Disability status is classified in the ACS according to yes/no responses to questions about six types of disability concepts. For children under 5 years old, hearing and vision difficulty are used to determine disability status. For children between the ages of 5 and 14, disability status is determined from hearing, vision, cognitive, ambulatory, and self-care difficulties. For people aged 15 years and older, they are considered to have a disability if they have difficulty with any one of the six difficulty types.

Veteran Status

Military veterans often need special services and support, so it is important to collect data about them to be better able to meet their health needs. The percentage of veterans among Johnston County residents (8.1%) is comparable to both the North Carolina and U.S. averages.

Table 9: Veteran Status, 2022[9]

	Johnston County	North Carolina	United States
Veterans	8.1%	7.8%	6.2%

Economic Indicators

In addition to demographic data, socioeconomic factors in the community, such as income, poverty, and food scarcity, play a significant role in identifying health-related needs. The median household income in Johnston County ($72,735) is higher than the average in North Carolina ($64,316) and is comparable to the average for the U.S.

Table 10: Median Household Income, 2023[8]

	Johnston County	North Carolina	United States
Median Household Income	$72,736	$64,316	$72,603

Poverty has a significant impact on health. Across the lifespan, people who live in impoverished communities have a higher risk of poor health outcomes, including mental illness, chronic diseases, higher mortality, and lower life expectancy. Poverty is a concern across the lifespan; children who live in poverty are at risk for developmental delays, toxic stress, and poor nutrition, and are likely to live in poverty as adults as well. Unmet social needs, such as having low or no income, can also limit people's ability to access healthcare when they need it or to access the basic necessities needed to live healthy lives, such as safe housing or healthy food. In 2023, approximately 9.5% of Johnston County households were below the federal poverty level (FPL), which is on par with the average for the U.S. and slightly lower than that reported for North Carolina.

Table 11: Percent of Households Below the Federal Poverty Level, 2023[8]

	Johnston County	North Carolina	United States
Percent Below FPL	9.5%	10.1%	9.5%

Approximately 15% of Johnston County households received Food Stamps/SNAP (Supplemental Nutrition Assistance Program) benefits in 2022. This is slightly higher than the rate for North Carolina overall.

Table 12: Households Receiving Food Stamps/SNAP, 2022[11,12]

	Johnston County	North Carolina	United States
Number of Households Receiving Food Stamps/SNAP	12,584	575,860	16,072,733
Total Number of Households	87,064	4,299,266	129,870,928
Percentage of Households receiving Food Stamps/SNAP	14.5%	13.4%	12.4%

In Johnston County, 22.6% of the population has an educational attainment of high school only, which is slightly higher than the state average (21.2%). The county has higher rates of some college education (23.1% vs. 21.1% state) and notably higher rates of associate's degrees (13.4% vs. 9.9% state). However, the county shows lower rates of advanced education, with bachelor's degrees (17.0%) lower than North Carolina's rate (20.4%) and graduate/professional degrees (6.9%) significantly lower than the state average (11.6%). The county has lower percentages of residents with less than 9th-grade education (4.5%) compared to the state figure (6.0%), though a slightly higher percentage with some high school but no diploma (7.2% vs. 5.5% state).

Table 13: Educational Attainment, 2020[13,14]

	Johnston County	North Carolina	United States
Less than 9th Grade	4.5%	6.0%	3.5%
Some High School/No Diploma	7.2%	5.5%	5.3%
High School Diploma	22.6%	21.2%	28.5%
GED/Alternative Credential	5.1%	4.3%	*[15]
Some College/No Diploma	23.1%	21.1%	14.6%
Associate's Degree	13.4%	9.9%	10.5%
Bachelor's Degree	17.0%	20.4%	23.4%
Graduate/ Professional Degree	6.9%	11.6%	14.2%

[11] Source (for County): North Carolina Department of Health and Human Services. FNS Cases and Participants (March 2024). https://www.ncdhhs.gov/divisions/social-services/program-statistics-and-reviews/fns-caseload-statistics-reports. Note: county household estimate is from Esri (2023).

[12] Source (for North Carolina and United States): U.S. Census Bureau. "Food Stamps/Supplemental Nutrition Assistance Program (SNAP)." *American Community Survey, ACS 1-Year Estimates Subject Tables, Table S2201,* 2022, https://data.census.gov/table/ACSST1Y2022.S2201?q=s2201&g=010XX00US_040XX00US37&moe=false. Accessed on April 1, 2024.

[13] Source (for County and North Carolina): U.S. Census Bureau. "Educational Attainment for the Population 25 Years and Over." *American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B15003,* 2020, https://data.census.gov/table/ACSDT5Y2020.B15003?q=b15003&g=040XX00US37,37$0500000&moe=false. Accessed on April 1, 2024.

[14] Source (for United States): U.S. Census Bureau. "Educational Attainment in the United States: 2022." Table 1, All Races. https://www.census.gov/data/tables/2022/demo/educational-attainment/cps-detailed-tables.html.

[15] U.S. totals combine GED with High School Diploma

The overall unemployment rate in Johnston County (3.7%) is lower than both state (5.1%) and national (3.9%) averages. Young people between the ages of 16 and 24 face a slightly higher unemployment (13.1%) than North Carolina's rate (12.4%). However, the county shows notably lower unemployment rates for all other age groups: ages 25 to 54 (2.7% vs. 4.7% state), ages 55 to 64 (1.7% vs. 3.3% state), and those 65 or more (1.0% vs. 3.0% state). This data indicates strong employment conditions in the county, particularly for working-age and older adults.

Table 14: Unemployment, 2022[16,17]

	Johnston County	North Carolina	United States
Percentage unemployed ages 16 to 24	13.1%	12.4%	11.0%
Percentage unemployed ages 25 to 54	2.7%	4.7%	3.4%
Percentage unemployed ages 55 to 64	1.7%	3.3%	2.7%
Percentage unemployed ages 65 or more	1.0%	3.0%	2.9%
Total unemployment	3.7%	5.1%	3.9%

Johnston County's overall uninsured rate (11.2%) is lower than the state average (15.0%). The county shows similar insurance coverage for those 18 and younger (5.1%) compared to the state average (5.2%). However, the uninsured rate for ages 19 to 34 (21.2%) is higher than North Carolina's 15.5%, and the uninsured rate for ages 35 to 64 (13.4%) is also slightly higher than the state average of 12.5%. This data suggests that while Johnston County performs better overall in terms of insurance coverage, both young and middle-aged adults face challenges in accessing health insurance, with particularly high rates among young adults.

Table 15: Health Insurance Status, 2022[18]

	Johnston County	North Carolina	United States
Percentage uninsured ages 18 or below	5.1%	5.2%	5.4%
Percentage uninsured ages 19 to 34	21.2%	15.5%	13.6%
Percentage uninsured ages 35 to 64	13.4%	12.5%	9.9%
Total % Uninsured	11.2%	15.0%	12.0%

[16] Source (for County and North Carolina): U.S. Census Bureau. "Employment Status." *American Community Survey, ACS 5-Year Estimates Subject Tables, Table S2301,* 2022, https://data.census.gov/table/ACSST5Y2022.S2301?q=S2301&g=040XX00US37,37$0500000&moe=false. Accessed on April 1, 2024.

[17] Source (for United States): Federal Reserve Bank of Saint Louis. Federal Reserve Economic Data - FRED (March 2024). https://fred.stlouisfed.org/

[18] Source: U.S. Census Bureau. "Selected Characteristics of Health Insurance Coverage in the United States." *American Community Survey, ACS 5-Year Estimates Subject Tables, Table S2701,* 2022, https://data.census.gov/table/ACSST5Y2022.S2701?q=s2701&g=010XX00US_040XX00US37,37$0500000&moe=false. Accessed on April 1, 2024.

Social Determinants of Health

In addition to the considerations noted above, there are many other factors that can positively or negatively influence a person's health. The Steering Committee recognizes this and believes that to portray a complete picture of the county's health status, it first must address the factors that impact community health. The Centers for Disease Control and Prevention (CDC) defines social determinants of health (SDoH) as the conditions in the environments where people are born, live, learn, work, play, worship, and age that affects a wide range of health, functioning and quality of life outcomes and risks. According to the CDC's "Social Determinants of Health" from its *Healthy People 2030* public health priorities initiative, factors contributing to an individual's health status can include the following: healthcare access and quality, neighborhood and built environment, social and community context, economic stability, and education access and quality.

Figure 12: Social Determinants of Health

As seen in **Figure 12**, many of the factors that contribute to health are hard to control or societal in nature. As such, health and healthcare organizations need to consider many underlying factors that may impact an individual's health and not simply their current health conditions.

It is widely acknowledged that people with lower incomes, social statuses, and education levels find it harder to access healthcare services than people in the community with more resources. This lack of access is a factor that contributes to poor health status. Further, people in communities with fewer resources may also experience high levels of stress, which also contributes to worse health outcomes, particularly related to mental or behavioral health.

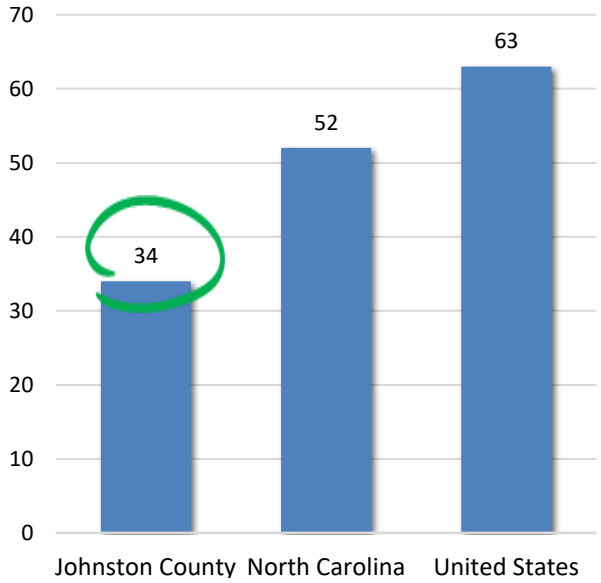
An analysis of the racial and geographic disparities that emerged in the information obtained and analyzed during this process is detailed below. The CHNA Steering Committee also collected new data via focus groups and surveys to ensure that residents and key community health leaders could provide input regarding the needs of their specific communities. This information will be presented in detail later in this report.

Disparities

Recognizing the diversity of Johnston County, as discussed above, the Steering Committee evaluated factors that may contribute to health disparities in its community. These included racial equity; racial segregation; financial barriers; nutrition; social, behavioral, and economic factors that influence health; and English language proficiency.

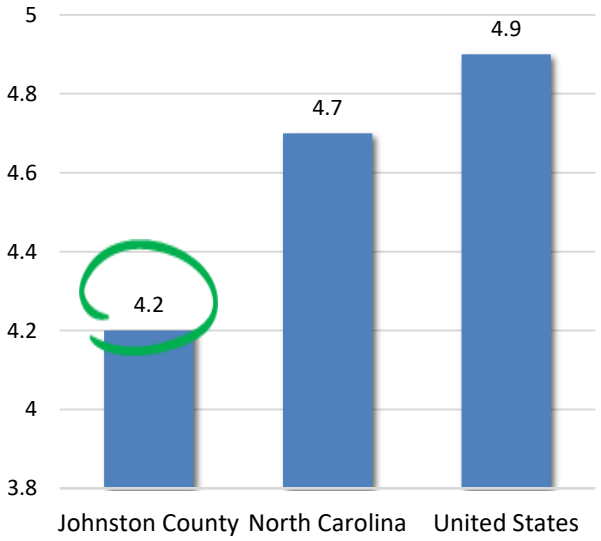
Residential segregation is measured by the index of dissimilarity, a demographic measure ranging from 0 to 100 that represents how evenly two demographic groups are distributed across a county's census tracts. Lower scores represent a higher level of integration. There is less residential segregation in Johnston County compared to the state and country, as seen in **Figure 13**.

Figure 13: Residential Segregation[5]



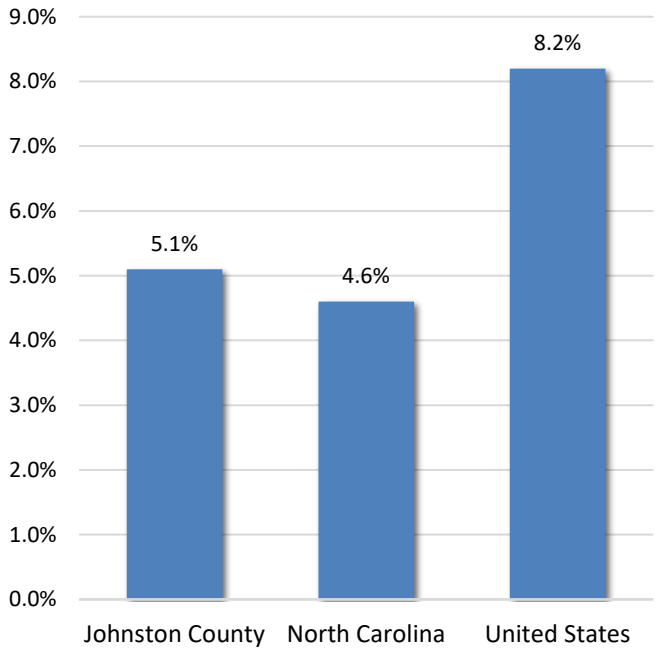
Income inequality is measured as the ratio of household income at the 80th percentile to household income at the 20th percentile. Communities with greater income inequality may have worse outcomes on a variety of metrics, including mortality, poor health, sense of community, and social support. As seen in **Figure 14**, the income inequality ratio in Johnston County is lower than state and national figures.

Figure 14: Income Inequality Ratio[5]



People with limited English proficiency (LEP) may face challenges accessing care and resources that fluent English speakers do not. Language barriers may make it hard to access transportation, medical, and social services as well as limit opportunities for education and employment. Importantly, LEP community members may not understand critical public health and safety notifications, such as safety-focused communications provided during the COVID-19 pandemic. More people have limited English proficiency in Johnston County when compared to the state, as seen in **Figure 15**.

Figure 15: Percent of Population with Limited English Proficiency[9]



Social Vulnerability Index

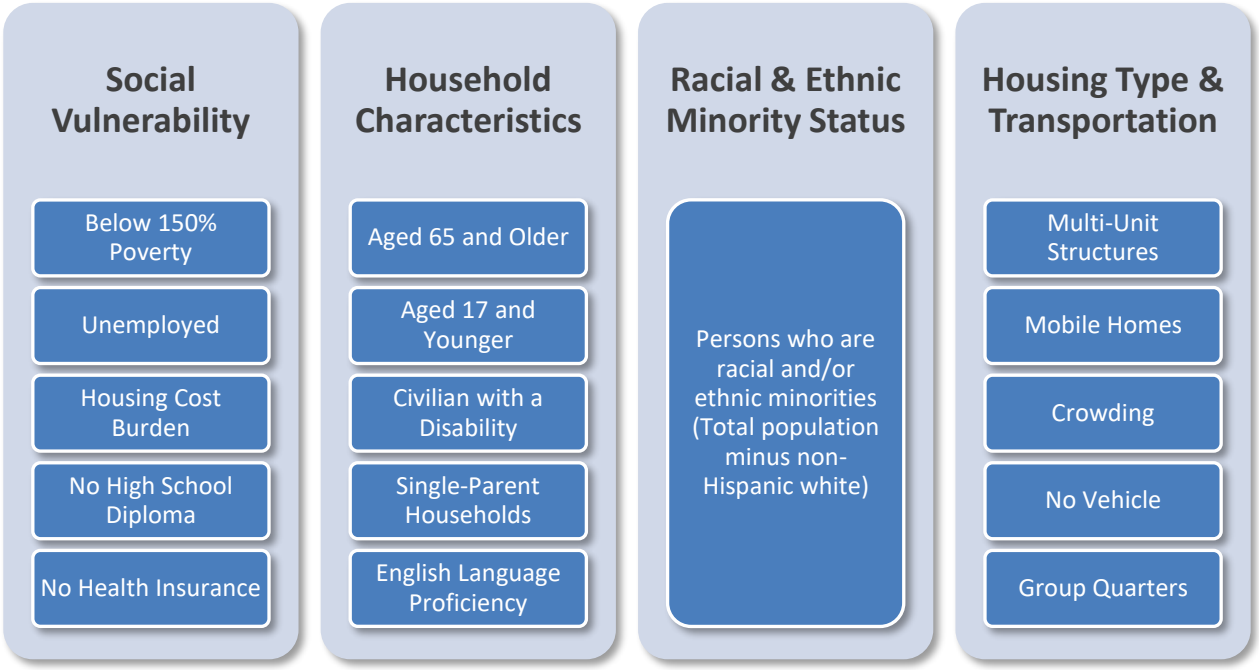
One resource that helps demonstrate variation and disparities between geographic areas is the Social Vulnerability Index (SVI), which was developed by the CDC and the Agency for Toxic Substances and Disease Registry (ATSDR). Social vulnerability refers to negative effects communities may experience due to external stresses that impact human health, like natural or human-caused disasters or disease outbreaks. Socially vulnerable populations are at especially high risk during public health emergencies.

The SVI uses 16 U.S. Census variables to help local officials identify communities that may need support before, during, or after a public health emergency.[19] Communities with a higher SVI score are generally at a higher risk for poor health outcomes. Instead of relying on public health data alone, the SVI accounts for underlying economic and structural conditions that affect overall health, including SDoH. SVI scores are calculated at the census tract level and based on U.S. Census variables across four related themes:

[19] Source: Centers for Disease Control and Prevention (2024). Social Vulnerability Index. https://www.atsdr.cdc.gov/place-health/php/svi/index.html

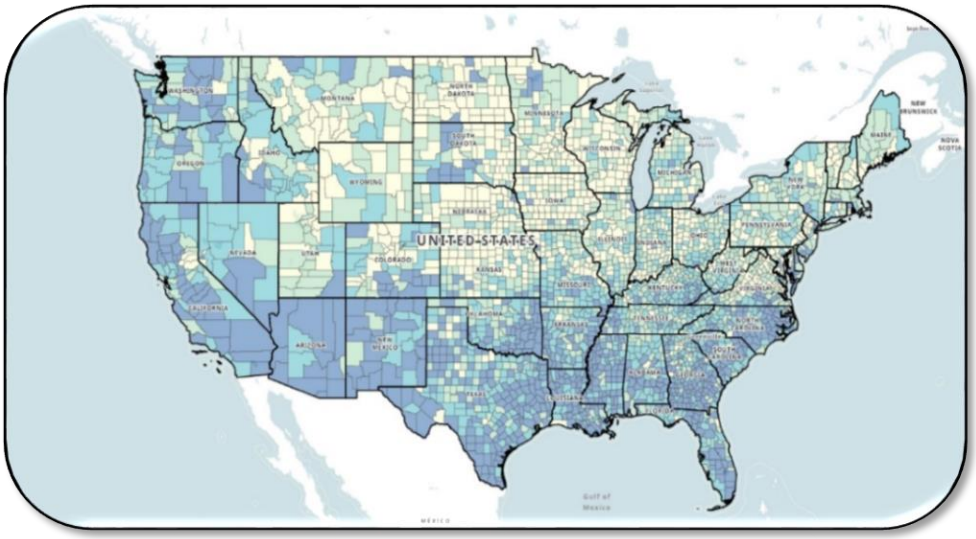
socioeconomic status, household characteristics, racial and ethnic minority status, and housing type/transportation. **Figure 16** outlines the variables used to calculate SVI scores.

Figure 16: SVI Variables



The United States SVI by county is shown in **Figure 17** below. As shown, a lot of variation exists across the country and even within individual states.

Figure 17: United States SVI by County, 2022



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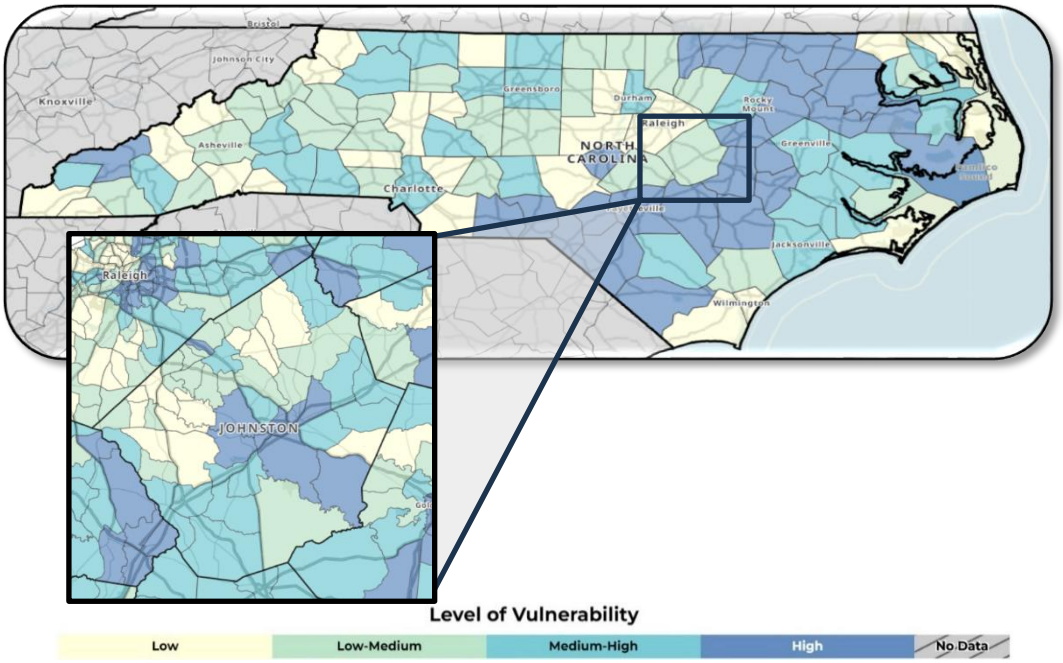
The 2022 SVI scores for Johnston County are shown in **Figure 18** below. Possible scores range from 0 (lowest vulnerability) to 1 (highest vulnerability), and these scores show a relative comparison with other counties and census tracts in North Carolina. The vulnerability of Johnston County overall is lower than average compared to the state. Levels of vulnerability are variable across the county, with the average being 0.33

Figure 18: Johnston County SVI by Census Tract, 2022



Environmental Justice Index

Environmental justice means the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment. It aims to protect everyone from disproportionate health and environmental risks, address cumulative impacts and systemic barriers, and provide equitable access to a healthy and sustainable environment for all activities and practices.[20]

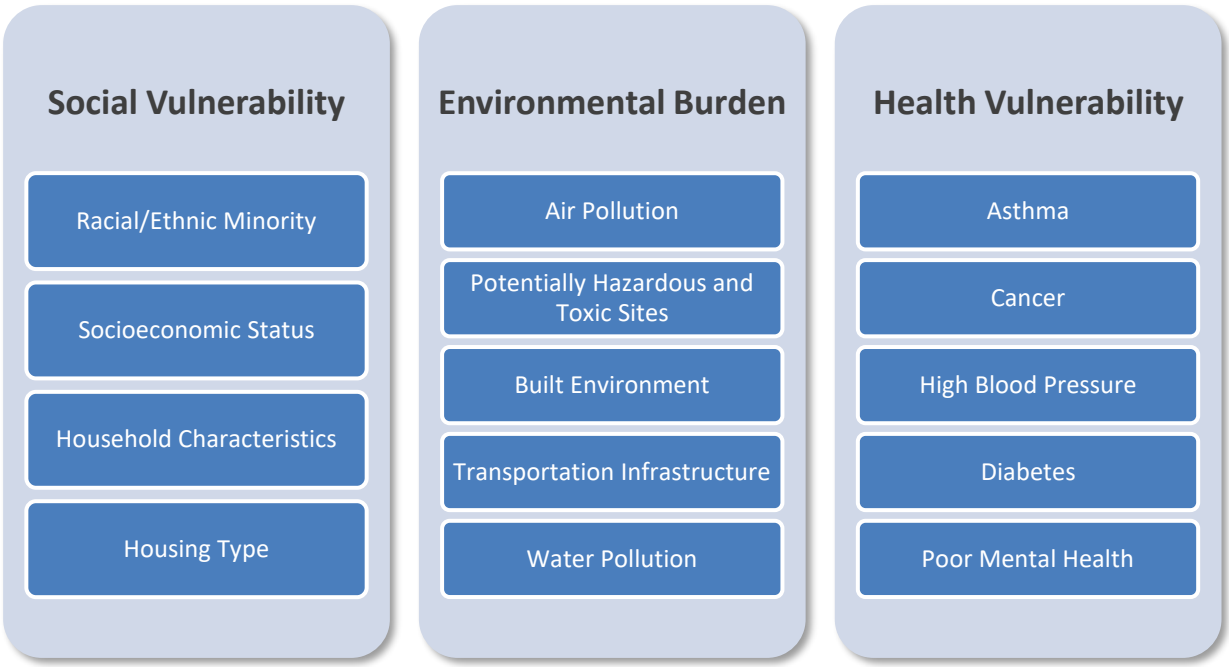
The CDC/ATSDR Environmental Justice Index (EJI) is a database that ranks the impact of environmental injustice on health. It uses data from the U.S. Census Bureau, the U.S. Environmental Protection Agency, the U.S. Mine Safety and Health Administration, and the U.S. Centers for Disease Control and Prevention.

[20] Source: Centers for Disease Control and Prevention (2024). Environmental Justice Index. https://www.atsdr.cdc.gov/place-health/php/eji/index.html#cdc_generic_section_3-eji-tools-and-resources

The Index scores environmental burden and injustice at the census tract level in the U.S. based on multiple social, environmental, and health factors.

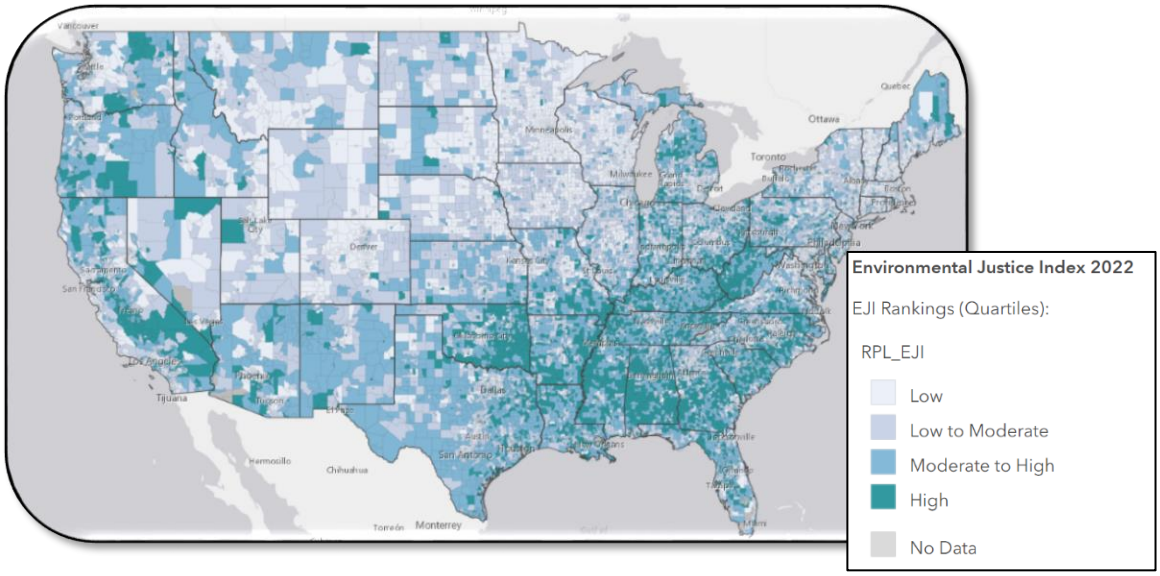
Over time, communities with a higher EJI score are generally shown to experience more severe impacts from environmental burdens than communities in other census tracts. **Figure 19** outlines the variables used to calculate EJI scores.

Figure 19: EJI Variables



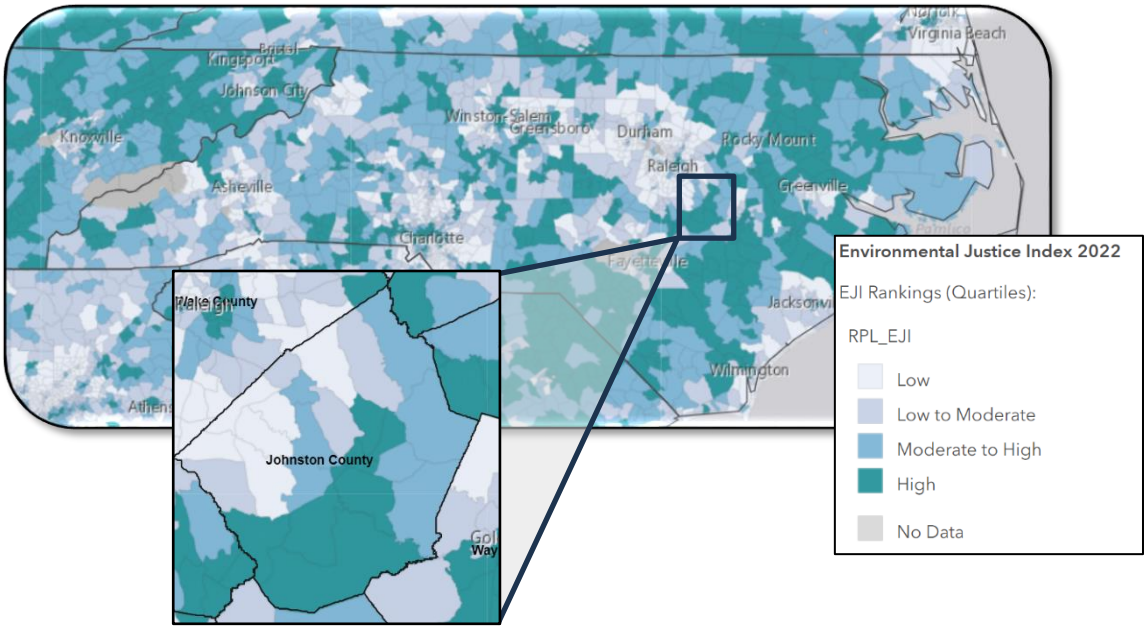
The United States EJI by census tract is shown in **Figure 20** below. As shown, a lot of variation exists across the country and even within individual states.

Figure 20: United States EJI by Census Tract, 2022



The 2022 EJI scores for census tracts in Johnston County are shown in **Figure 21** below. EJI scores use percentile ranking, which represents the proportion of census tracts that experience environmental burdens relative to other census tracts in North Carolina. The index ranges from 0-1, with higher scores indicating more environmental burden compared to other census tracts. Levels of environmental burden are variable across the county, with the average being 0.53.

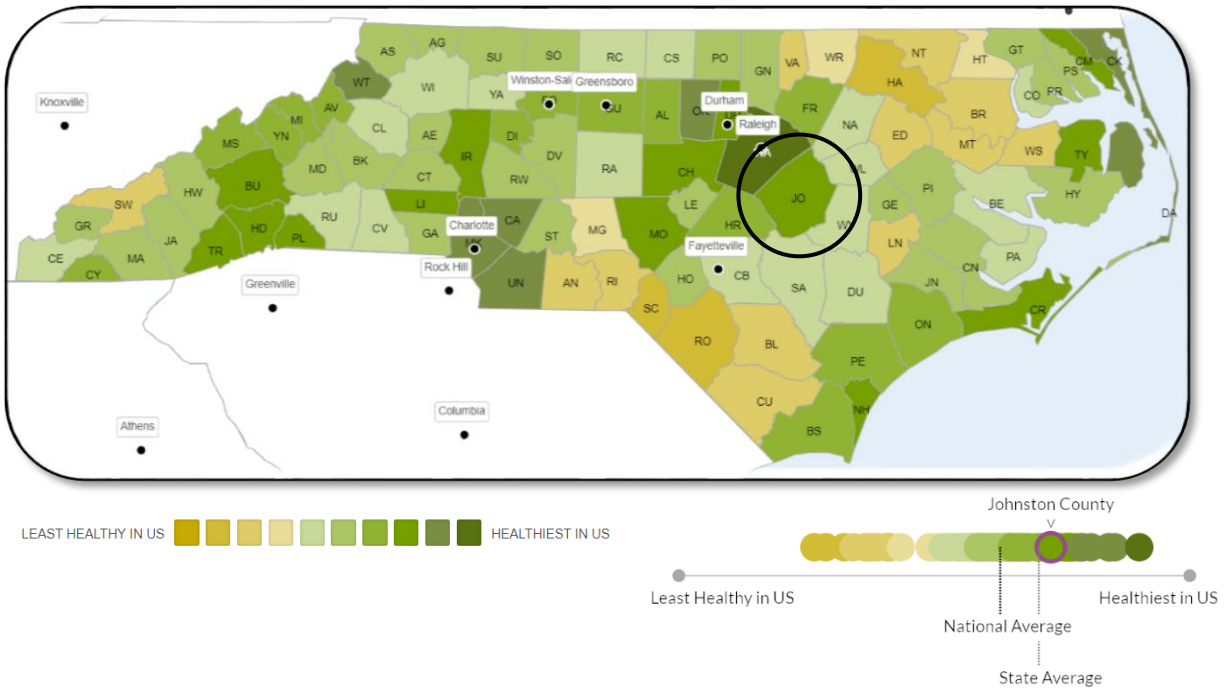
Figure 21: Johnston County EJI by Census Tract, 2022



Health Outcome and Health Factor Rankings

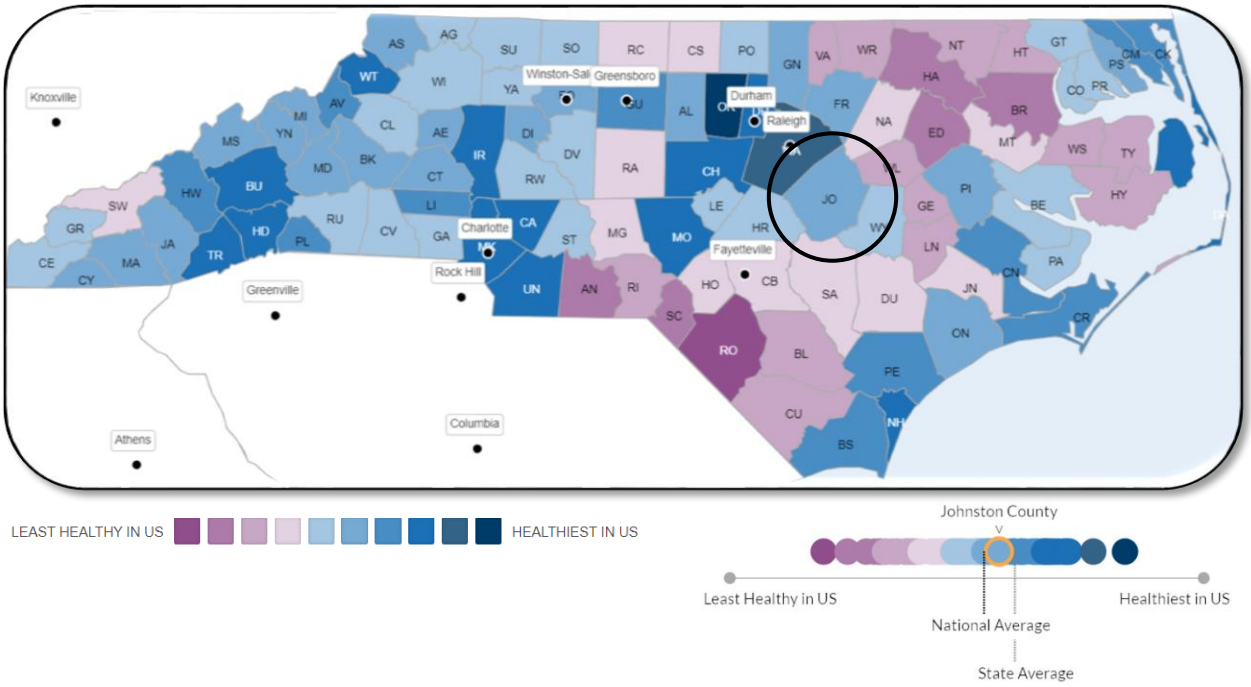
County leaders also reviewed and analyzed data from the Robert Wood Johnson Foundation and the University of Wisconsin County Health Rankings for the year 2024. The Health Outcomes measure looks at how long people in a community live and how physically and mentally healthy they are. These categories are discussed further in **Appendices 2** and **3**. Johnston County surpasses the average for the country and the state, which means people there may be healthier on average.

Figure 22: State Health Outcomes Rating Map[5]



The Health Factors measure considers variables that affect people's health, including health behaviors, clinical care, social and economic factors, and the physical environment in which they live. More details about these indicators can be found in **Appendices 2** and **3**. Johnston County surpasses the national average but falls behind the average of the state.

Figure 23: State Health Factors Rating Map[5]



CHAPTER 3 | PRIORITY NEED AREAS

This chapter describes each of the three priority areas in more detail and discusses the data that supports each priority. The information in this section includes context and national perspective, secondary data findings, and primary data findings (including the community member survey and focus groups). As previously described in **CHAPTER 1 |** METHODOLOGY, secondary data was primarily sourced using the North Carolina Data Portal. For additional descriptive information on data sources and methodology, please see **APPENDIX 2** | SECONDARY DATA METHODOLOGY AND SOURCES.

On Wednesday, September 4, 2024, key stakeholders from Johnston County gathered at the UNC Health Johnston Bright Leaf Conference Room to participate in a prioritization meeting for the 2024 Community Health Needs Assessment. Representatives from various organizations, including UNC Health Johnston, Johnston County Public Health Department, Johnston County Public Schools, CommWell Health, Benson Health, and El Centro – Mexican Consulate, among others, took part in the process. The group employed a multi-voting technique, consisting of two rounds, to identify the top health priorities for the county. The process involved a digital Survey Monkey survey with 22 health problems, which was narrowed down to the top 11 and then to the final top three priorities.

As mentioned previously, these priority needs areas are not listed in any hierarchical order of importance and all will be addressed by the Johnston County leaders in health improvement plans guided by this CHNA. As noted in Chapter 1, Johnston County CHNA Stakeholders and Johnston County CHNA Leadership considered the following factors when determining the priority needs reported in this assessment:

- Size and scope of the health need;
- Severity and intensity of the health need;
- Estimated feasibility and effectiveness of possible interventions;
- Health disparities associated with the need; and
- Importance the community places on addressing the need.

PRIORITY NEED: ACCESS TO CARE

Context and National Perspective

Access to care means patients are able to get high quality, affordable healthcare in a timely fashion to achieve the best possible health outcomes. It includes several components, including coverage (i.e., insurance), a physical location where care is provided, the ability to receive timely care, and enough providers in the workforce. The CHNA Steering Committee identified access to care as a high-priority need for residents of Johnston County

From a national perspective, according to Healthy People 2030, approximately one in ten people in the U.S. do not have health insurance, which means they are less likely to have a primary care provider or to

be able to afford the services or medications they need.[21] Access is a challenge even for those who are insured.[22]

The availability and distribution of healthcare providers in the U.S. contributes to healthcare access challenges. According to the Association of American Medical Colleges (AAMC), there is estimated to be a shortage of 13,500 to 86,000 physicians in the U.S. by 2036, which will impact both primary and specialty care.[23] Access issues are anticipated to increase in the coming years. Growing shortages of both nurses and doctors are being driven by several factors, including population growth, the aging U.S. population requiring higher levels of care, provider burnout (physical, mental, and emotional exhaustion) made worse by the COVID-19 pandemic, and a lack of clinical training programs and faculty – particularly for nurses.[24] The aging of the current physician workforce is also driving anticipated personnel shortages. In North Carolina, 30.6% of actively practicing physicians were over the age of 60 in 2020.[25] Access is also impacted by the number of actively practicing physicians overall. In 2020, there were just 9,211 primary care physicians in North Carolina, with 27,650 physicians actively practicing overall.[25]

The ability to access healthcare is not evenly distributed across groups in the population. Groups who may have trouble accessing care include the chronically ill and disabled (particularly those with mental health or substance use disorders), low-income or homeless individuals, people located in certain geographical areas (rural areas; tribal communities), members of the LGBTQIA+ community, and certain age groups – particularly the very young or the very old.[26] In addition, individuals with limited English proficiency (LEP) face barriers to accessing care, experience lower quality care, and have worse outcomes for health concerns. LEP is known to worsen health disparities and can make challenges related to other SDoH (access to housing, employment, etc.) worse.[27] Both primary and secondary data resources analyzed for this report highlight the need for greater access to health services within Johnston County.

Secondary Data Findings

Access to healthcare was identified as a significant concern for Johnston County through the CHNA process. The county demonstrated a high need for several access to care metrics relative to the state of North Carolina and the U.S., as displayed in the table below.

[21] Source: U.S. Department of Health and Human Services Office of Disease Prevention and Health Promotion (2023). *Healthy People 2030: Health Care Access and Quality*. Retrieved September 9th, 2024 from https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality.

[22] Source: Phillips, K.A., Marshall, D.A., Adler, L., Figueroa, J., Haeder, S.F., Hamad, R., Hernandez, I., Moucheraud, C., Nikpay, S. (2023). Ten health policy challenges for the next ten years. *Health Affairs Scholar*. Retrieved from: https://academic.oup.com/healthaffairsscholar/article/1/1/qxad010/7203673.

[23] Source: Association of American Medical Colleges (AAMC) (2024). *The complexities of physician supply and demand: Projections from 2021 to 2036*. Retrieved from: https://www.aamc.org/media/75236/download?attachment .

[24] Source: Association of American Medical Colleges (AAMC) (2024). *State of US Nursing Report 2024*. Retrieved, from https://www.incrediblehealth.com/wp-content/uploads/2024/03/2024-Incredible-Health-State-of-US-Nursing-Report.pdf .

[25] Source: AAMC (2021). *North Carolina physician workforce profile*. Retrieved September 9, 2024, from: https://www.aamc.org/media/58286/download.

[26] Source: Joszt, L. (2018). 5 Vulnerable Populations in Healthcare. *American Journal of Managed Care*. Retrieved September 9, 2024 from https://www.ajmc.com/view/5-vulnerable-populations-in-healthcare.

[27] Source: Espinoza, J. and Derrington, S. (2021). How Should Clinicians Respond to Language Barriers That Exacerbate Health Inequity? *AMA Journal of Ethics.* Retrieved from: https://journalofethics.ama-assn.org/article/how-should-clinicians-respond-language-barriers-exacerbate-health-inequity/2021-02.

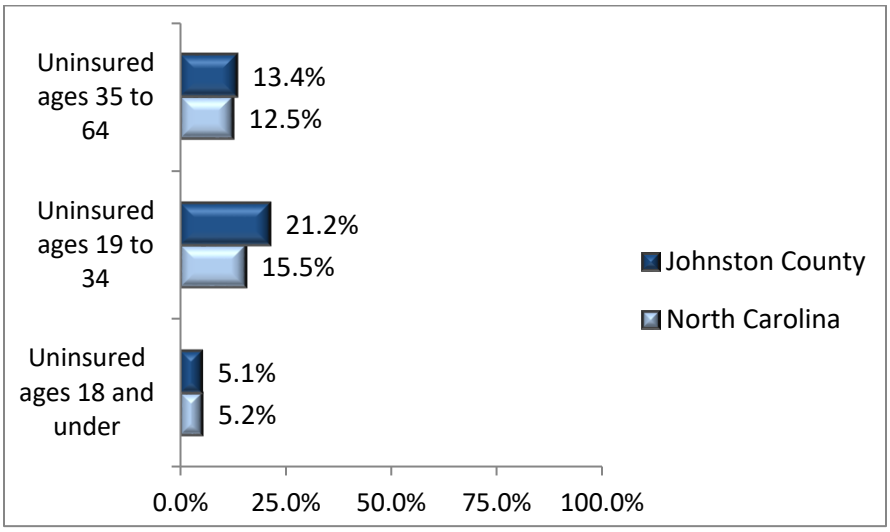
Table 16: Access to Care Indicators

Indicator	Johnston County	North Carolina	United States
Substance Abuse Providers (Rate per 100,000 Population)	15.3	25.0	27.9
Buprenorphine Providers (Rate per 100,000 Population)	3.3	15.2	15.5
Dental Providers (Rate per 100,000 Population)	18.5	31.5	39.1
Mental Health Providers (Rate per 100,000 Population)	72.7	155.7	178.7
Primary Care Providers (Rate per 100,000 Population)	44.4	101.1	112.4
Percentage of Population Living in an Area Affected by a Dental Care HPSA	30%	34%	18%
Percent of Insured Population Receiving Medicaid	20%	20%	22%
Rate of Federally Qualified Health Centers (Rate per 100,000 Population)	2.3	4.0	3.5

Johnston County has notably lower rates of all types of healthcare providers per 100,000 population compared to state and national averages. This is true across multiple specialties, including dental, mental health, primary care, substance abuse, and buprenorphine providers. These low rates suggest that accessing care from these types of providers in the community may be more challenging.

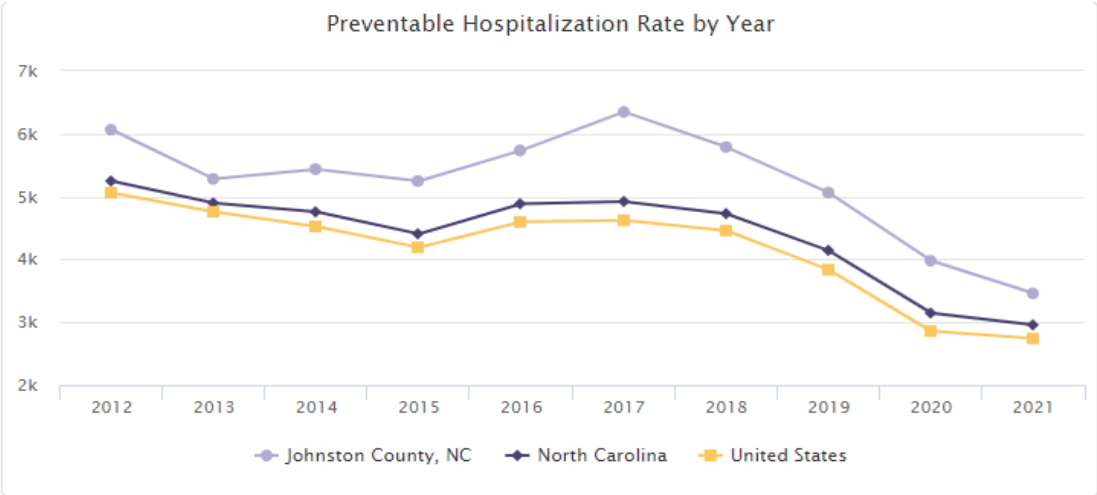
The percentage of the population living in an area affected by a Dental Care Health Professional Shortage Area (HPSA) is 30% in Johnston County, which is lower than the state average (34%) but significantly higher than the national average (18%). Regarding insurance status, Johnston County has a slightly lower percentage of residents ages 18 and under who are uninsured than North Carolina but a higher percentage of uninsured residents ages 19 to 34 (21.2%).

Figure 24: Health Insurance Status



Another access-related indicator of concern for Johnston County was the number of preventable hospital stays for ambulatory care-sensitive conditions per 100,000 Medicare enrollees. While there has been a general downward trend in preventable hospital stays, the rate in Johnston County (3,396) remains higher than state (2,957) and national (2,752) averages.

Figure 25: Preventable Hospital Stays Trend



Even more concerning are the health disparities that exist for preventable hospital stays. The rates among White Medicare beneficiaries in Johnston County (3,632 per 100,000) were higher compared to the overall county rate (3,396 per 100,000). Notably, data for Black or African American Medicare beneficiaries was not available, suggesting a potential gap in this data for Johnston County.

Table 17: Preventable Hospital Stays by Race/Ethnicity

Preventable Hospital Stays	Johnston County Rate
Preventable Hospital Stays per 100,000 Medicare Beneficiaries	3,396
Black or African American Medicare Beneficiaries	0
White Medicare Beneficiaries	3,632

Access to care may also be impacted by transportation challenges. Johnston County has a lower percentage of households with no motor vehicle (4.0%) compared to the state (5.4%) and national (8.3%) averages. However, the county has minimal public transit options, with none of the population using public transit for commuting and none living within a half-mile of public transit, compared to state averages of 0.8% and 10.9%, respectively.

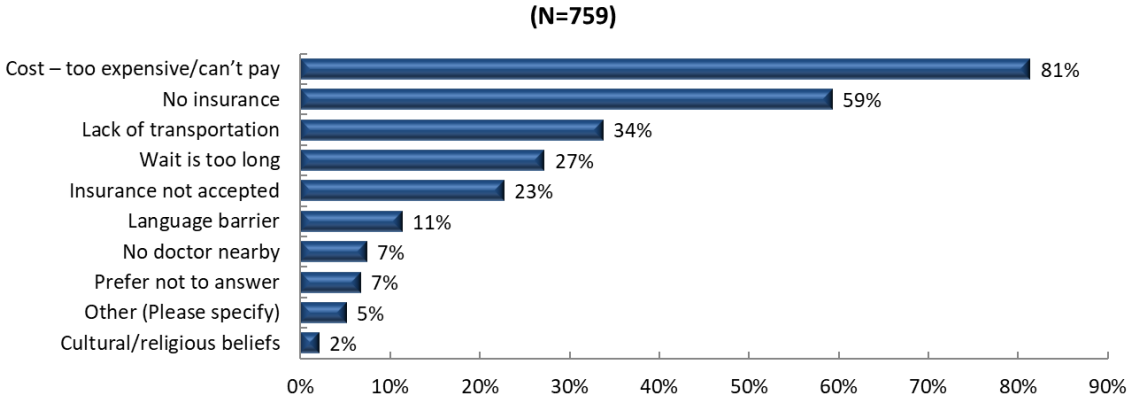
These data suggest that while Johnston County performs better than state averages on some access to care indicators, there are still significant concerns, particularly regarding the availability of healthcare providers and the rate of preventable hospitalizations. The lack of public transportation options may also present a barrier to accessing care for some residents.

For additional detail on secondary data findings, see **Appendix 3**.

Primary Data Findings – Community Member Web Survey

Nearly 760 Johnston County residents responded to the web-based survey. Respondents identified several access to care needs in Johnston County. In the survey, community members were asked to identify the top barriers to receiving healthcare. Cost (81%), no insurance (59%), and lack of transportation (34%) were the top three identified reasons why people in the community are not getting care when they need it. Another third of responses identified long wait times, and a quarter of responses indicated a lack of nearby doctors as the top barriers to care.

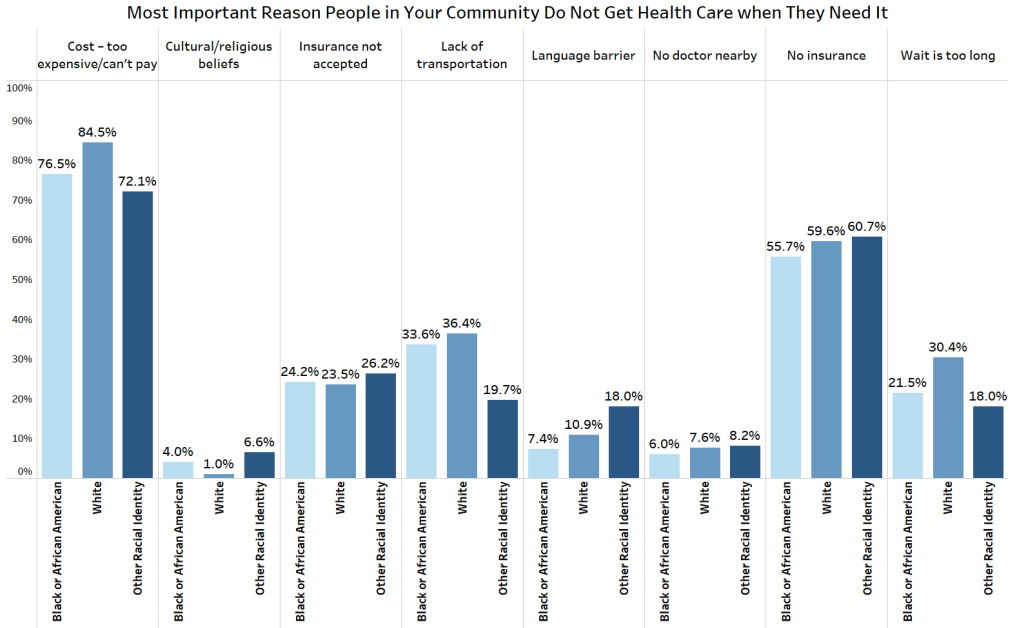
Figure 26: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three.



When these data were examined by age group, the age groups that most frequently identified cost and lack of transportation as top barriers were those ages 25 to 44 (83% and 62%) and 45 to 65 (85% and 64%), although all age groups identified both reasons as important barriers.

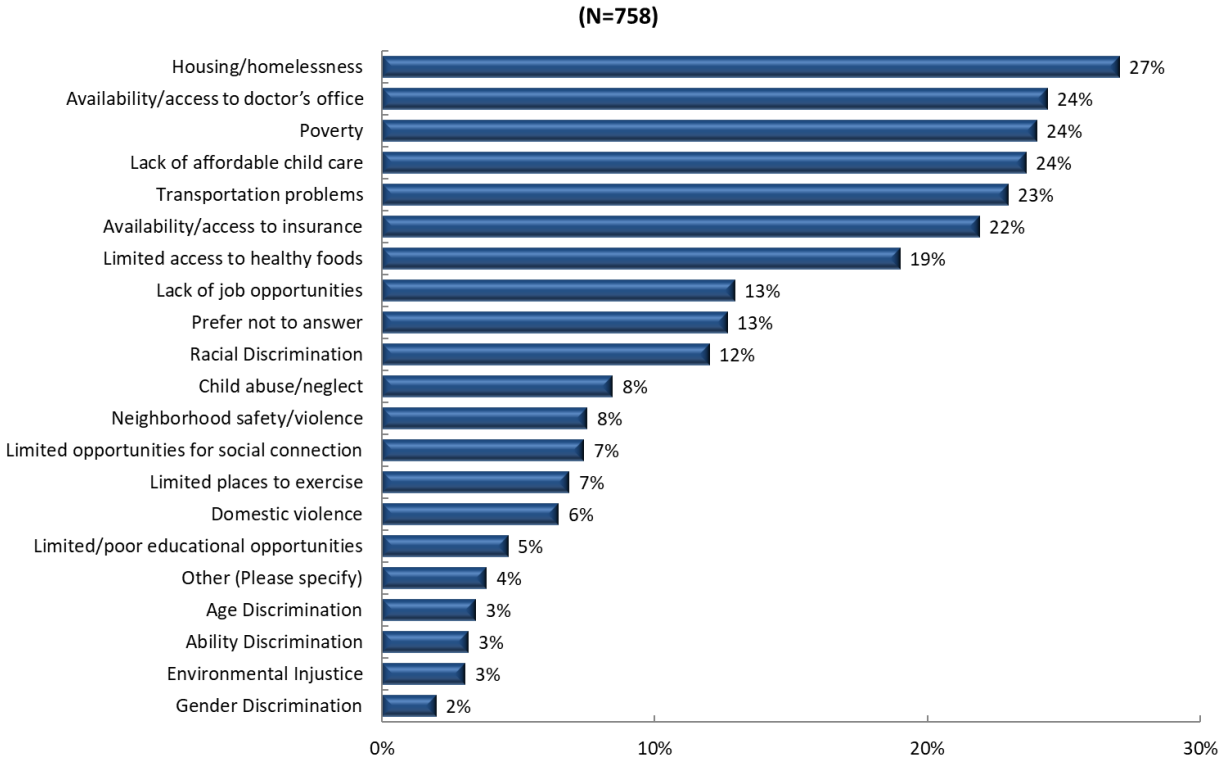
Responses also differed by race. Nearly 85% of respondents identifying as White noted cost as the top barrier to healthcare compared to 77% of respondents identifying as Black or African American and 72% of respondents identifying as another racial identity. By contrast, responses citing a lack of insurance were similar across these demographic groups.

Figure 27: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three. (By race)



Community members were also asked to identify the most important social or environmental problems that affect the health of the community. As displayed in the figure below, the second most frequently identified problem was the availability or access to doctor's offices (24%), again highlighting access to care challenges within the community. Transportation (23%) also emerged as the fifth most frequently identified social or environmental problem that affects the health of the community.

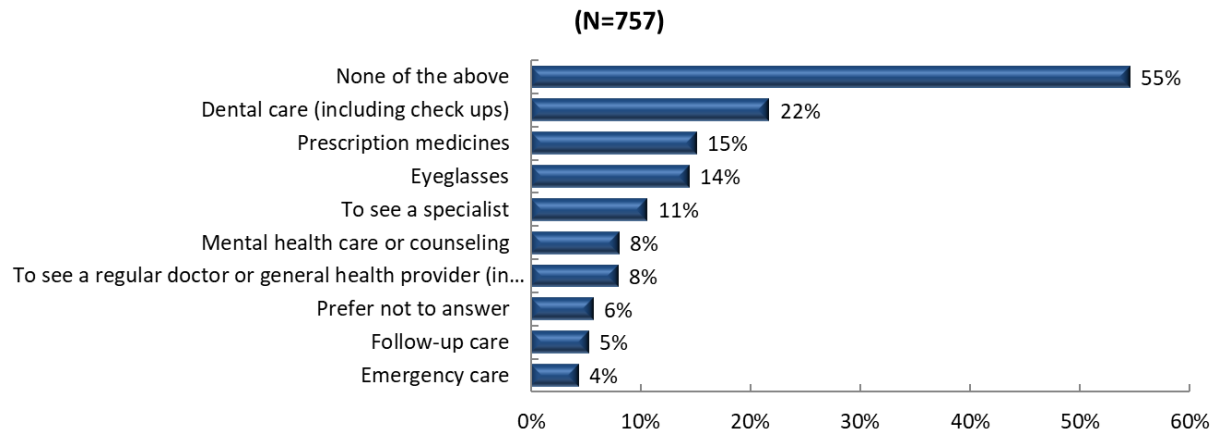
Figure 28: What are the three most important social or environmental problems that affect the health of your community? Please select up to three.



Notably, men and women differed in their responses. More men identified availability and access to doctor's offices as a top social and environmental problem (26% for men vs. 24% for women). Conversely, women were more likely than men to identify availability and access to insurance (24% compared to 15%) and transportation problems (24% compared to 21%) as important social and environmental concerns. Responses also varied by race. Those identifying as White were more likely to cite the availability of doctor's offices, availability or access to insurance, and transportation than all other races (White: 27%, 23%, 26%; Black or African American: 20%, 20%, 20%; All Other: 16%, 21%, 15%).

Johnston County community member respondents were also asked if there was a time during the past 12 months when they needed specific types of medical care or health-related items and were unable to receive them due to the cost. As displayed in the figure below, one-fifth of respondents indicated affordability barriers prevented them from accessing dental care. The second highest response identified that prescription medicine (15%) access was impacted due to lack of affordability, followed by eyeglasses (14%).

Figure 29: During the past 12 months, was there any time when you needed any of the following, but didn't get it because you couldn't afford it?



Respondents were asked if they have put off or neglected going to the doctor due to distance or transportation, to which nearly one in ten respondents answered yes, further emphasizing that transportation can be a barrier for at least a portion of the community.

For additional detail on survey findings, see **Appendix 5**.

Primary Data Findings – Key Informant Interviews

Access to care was described as a significant concern by nine out of ten key informants interviewed, highlighting its importance as a high-priority need in Johnston County. Key themes that emerged from the interviews included:

1. Provider shortages: Many local providers have long wait times due to established patient lists. Specialty care access was noted as particularly challenging.
2. Geographic disparities: Providers are concentrated in areas like Smithfield and Clayton, making access more difficult for rural residents.
3. Insurance and cost barriers: While Medicaid expansion has improved coverage for many residents; wait times for Medicaid providers are extremely long. The overall cost of care, including insurance premiums and co-pays, remains a significant barrier.
4. Cultural and language barriers: There is a lack of translation and interpreter services, as well as bilingual providers, to assist residents with limited English proficiency.
5. Transportation issues: Lack of transportation was repeatedly mentioned as a major barrier to accessing healthcare.
6. Trust and fear: Many community members fear getting bad news about their health or have concerns about stigma or discrimination by providers. Trust between patients and providers was identified as an issue.

7. Awareness of services: Vulnerable community members are often not aware of the services available to them.

Demographic groups identified as being particularly impacted by access to care issues included rural residents, low-income individuals, the Hispanic/Latino community (especially undocumented individuals), and the elderly.

Suggestions from key informants included expanding mobile health services, increasing the number of providers (especially those accepting Medicaid), improving transportation options, and enhancing community education about available health resources.

For a more detailed description of key informant interviews, see **Appendix 5**.

Primary Data Findings – Focus Groups

Access to care was a common theme across all three focus groups conducted in Johnston County. The groups identified several key barriers to accessing healthcare. All groups mentioned the high overall cost of care as a significant barrier. The Faith Network group specifically noted that people cannot afford things they may need to stay healthy, like gym memberships. In addition, all groups mentioned a shortage of healthcare providers in the county, particularly in rural areas. The Public Library group noted long wait times for appointments with existing providers.

Lack of transportation and transit was another major barrier to accessing healthcare described in the focus groups, particularly for rural residents. The Faith Network and Public Library groups mentioned the lack of health insurance as a barrier to care, while the Spanish language group at the Health Department emphasized the severe lack of Spanish-speaking providers in the community to meet the growing needs of the Hispanic/Latino population.

The Spanish language group also noted that many community members, particularly migrant farmworkers, are wary of visiting medical providers due to their legal status.
For a more detailed description of focus group findings, see **Appendix 5**.

PRIORITY NEED: HEART DISEASE AND HIGH BLOOD PRESSURE

Context and National Perspective

As society has changed and people live longer, chronic health conditions have become more common than communicable diseases like typhoid and cholera. As defined by the World Health Organization (WHO), chronic diseases are those with a long duration, and are influenced by a combination of genetic, environmental, psychological, or behavioral factors.[28] Chronic health conditions are extremely common

[28] Source: World Health Organization (WHO) (2023). *Noncommunicable diseases*. Retrieved September 10th, 2024, from: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases.

in the United States, with 6 in 10 Americans living with at least one chronic disease, such as high blood pressure, heart disease, diabetes, obesity, or cancer.[29]

Chronic diseases are the leading cause of death and disability in the United States.[28] According to the WHO, chronic health conditions kill 41 million people globally each year and are responsible for 7 in 10 deaths in the U.S. annually.[28] The number of individuals living with a chronic health condition is expected to increase as the U.S. population continues to age. The population over the age of 50 is expected to increase by 61% to 221.1 million people by 2050.[30] Among those 221 million, nearly two-thirds (142.7 million people) are expected to have at least one chronic health condition, with approximately 15 million people living with multiple chronic health conditions.[30]

The CDC recommends four ways to prevent chronic conditions and maintain good physical health. Recommended healthy behaviors include stopping or refraining from smoking, eating low fat, whole-food diets, exercising moderately for at least 150 minutes a week, and limiting or refraining from consuming alcohol.[31] Annual physicals with a primary care provider are also necessary to help prevent or treat chronic health conditions. Yearly screenings can allow providers to identify any warning signs for developing conditions and enable patients to correct or develop healthy behaviors to avoid developing a physical health condition. A CDC study noted that one-third of visits to health centers in 2020 were for preventive care.[32] For those living with chronic conditions, the CDC recommends some general steps people can take to manage their diseases. These include taking medications as prescribed by a provider, self-monitoring symptoms as needed (such as conducting home blood sugar checks), and regularly seeing a provider for check-ups.

As the population in North Carolina and the individual counties continues to collectively age, the prevalence of chronic disease grows. In fact, eight out of the top 10 deaths in North Carolina are related to a chronic health condition[33], accounting for at least two-thirds (50,000) of all annual deaths.[34] Additionally, the population of North Carolina is largely rural, which hinders access to clinical care for these conditions. Finding ways to utilize existing resources to help community members learn about and manage their chronic health conditions is key to improving health outcomes in these areas.

Secondary Data Findings

Secondary data collected through the CHNA process identified heart disease and high blood pressure as significant health concerns for residents of Johnston County. As displayed in the table below, Johnston

[29] Source: CDC (2024). *National Center for Chronic Disease Prevention and Health Promotion*. Retrieved September 10th, 2024, from: https://www.cdc.gov/chronic-disease/about/index.html .

[30] Source: Ansah, J.P. & Chiu, T.C., (2022). Projecting the chronic disease burden among the adult population in the United States using a multi-state population model. *Frontiers in Public Health*. Retrieved September 10th, 2024, from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9881650/.

[31] Source: CDC (2024). *Preventing chronic diseases: What you can do now.* Retrieved September 10th, 2024 from https://www.cdc.gov/chronic-disease/prevention/index.html

[32] Source: CDC (2022). *Characteristics of visits to health centers: United States, 2020*. Retrieved September 10th, 2024, from https://www.cdc.gov/nchs/products/databriefs/db438.htm.

[33] Source: CDC (2022). *North Carolina.* Retrieved October 3, 2024, from https://www.cdc.gov/nchs/pressroom/states/northcarolina/nc.htm

[34] Source: NCDHHS. (2023). *Chronic disease and injury.* Retrieved October 3, 2024, from https://www.dph.ncdhhs.gov/programs/chronic-disease-and-—— injury#:~:text=Chronic%20diseases%20and%20injuries%20are,of%20death%20in%20North%20Carolina.

County performed worse on several cardiovascular health indicators compared to state and national values.

Table 18: Cardiovascular Health

Indicator	Johnston County	North Carolina	United States
Adults (Age 18+) Ever Diagnosed with Coronary Heart Disease	5.6%	5.5%	5.2%
Adults (Age 18+) with High Blood Pressure	32.9%	32.1%	29.6%
Adults (Age 18+) with High Cholesterol	30.5%	31.4%	31.0%
Adults (Age 18+) Ever Having a Stroke	3.0%	3.1%	2.8%
Adults with BMI > 30.0 (Obese)	36.7%	29.7%	30.1%
Percent Reporting Poor or Fair Health	15.3%	14.4%	-

The percentage of adults ever diagnosed with coronary heart disease in Johnston County (5.6%) is slightly higher than both the state (5.5%) and national (5.2%) averages. The percentage of adults with high blood pressure in the county (32.9%) also slightly exceeds both the state (32.1%) and national (29.6%) figures.

Hospitalization rates for cardiovascular conditions in Johnston County also indicate cause for concern. The rate of cardiovascular disease hospitalizations (13.4 per 1,000 population) is higher than both the state (11.7) and national (10.4). Similarly, the rate of ischemic stroke hospitalizations (11.0 per 1,000 population) exceeds both state (9.5) and national (8.0) figures.

Table 19: Cardiovascular Disease and Stroke Hospitalization Rates

Indicator	Johnston County	North Carolina	United States
Emergency Room Visits (Rate per 1,000 Population)	611	563	535
Cardiovascular Disease Hospitalizations (Rate per 1,000 Population)	13.4	11.7	10.4
Ischemic Stroke Hospitalizations (Rate per 1,000 Population)	11.0	9.5	8.0

Several related health factors and behaviors that contribute to heart disease and high blood pressure were also identified as areas of concern for Johnston County. The percentage of adults with a BMI > 30.0 (obese) in Johnston County is 36.7%, which is significantly higher than both the state (29.7%) and national (30.1%) averages. Johnston County also has a higher percentage of physically inactive adults (23.8%) compared to the state average (21.6%). This is compounded by a lower level of access to exercise opportunities, with only 70% of the population having access compared to 73% at the state level and 84% nationally.

Table 20: Physical Activity and Exercise Access

Indicator	Johnston County	North Carolina	United States
Recreation and Fitness Facility Establishments, (Rate per 100,000 Population)	11.6	13.1	14.7
Walkability Index Score	6	7	10
% Physically Inactive	23.8	21.6	-
Percentage of Population with Access to Exercise Opportunities	70%	73%	84%

Johnston County also faces challenges related to food security and access to healthy foods. The food insecurity rate in the county (10.5%) is lower than the state average (11.4%) but higher than the national average (10%). However, the child food insecurity rate (13%) is lower than both state (15%) and national (13%) figures.

The county has a lower percentage of low-income population with low food access (8%) compared to state (21%) and national (19%) averages. However, the food environment presents challenges, with a lower rate of grocery stores (16.7 per 100,000 population) compared to state averages (77.4 and 18.7, respectively). However, the county has a lower rate of fast food restaurants (61.1 per 100,000 population) compared to the state or nation.

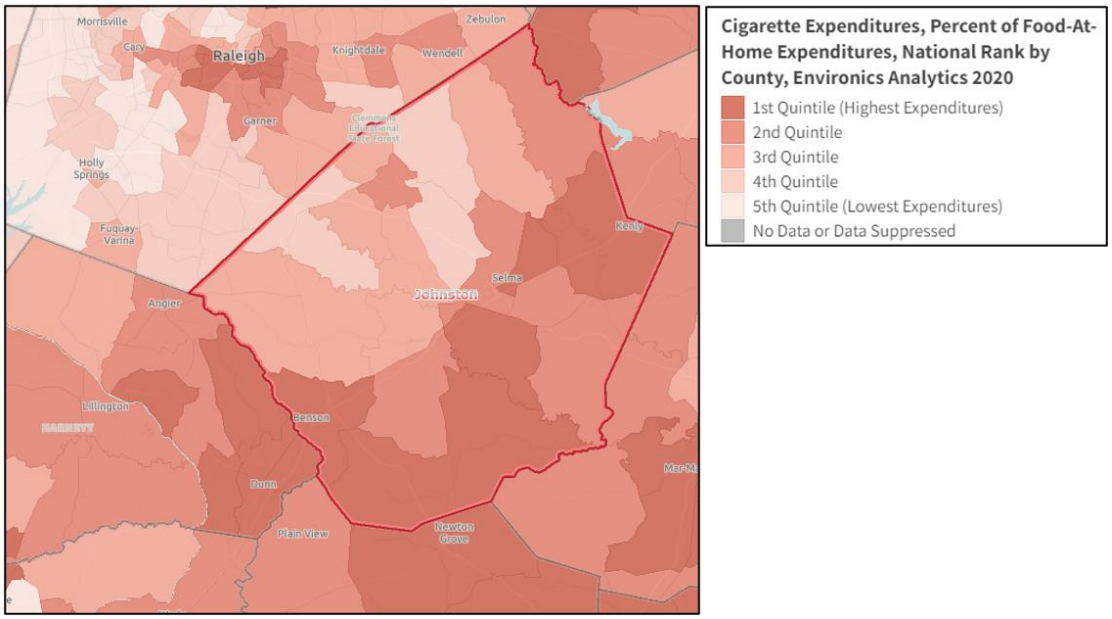
Table 21: Food Security and Food Environment

Indicator	Johnston County	North Carolina	United States
Food Insecurity Rate	10.5%	11.4%	10%
Child Food Insecurity Rate	13%	15%	13%
Percent Low-Income Population with Low Food Access	8%	21%	19%
Food Environment - Fast Food Restaurants Establishments (Rate per 100,000 Population)	61.1	77.4	96.2
Food Environment - Grocery Stores Establishments (Rate per 100,000 Population)	16.7	18.7	23.4

The percentage of adults reporting currently smoking in Johnston County (16.5%) is higher than the state average (15.0%), which may contribute to increased risk of heart disease and high blood pressure. As shown in the map below (**Figure 30**), large portions of the county fall into the category associated with

the highest expenditure on cigarettes, underscoring both the extent of smoking within the community and its impact on household spending.

Figure 30: Cigarette Expenditures



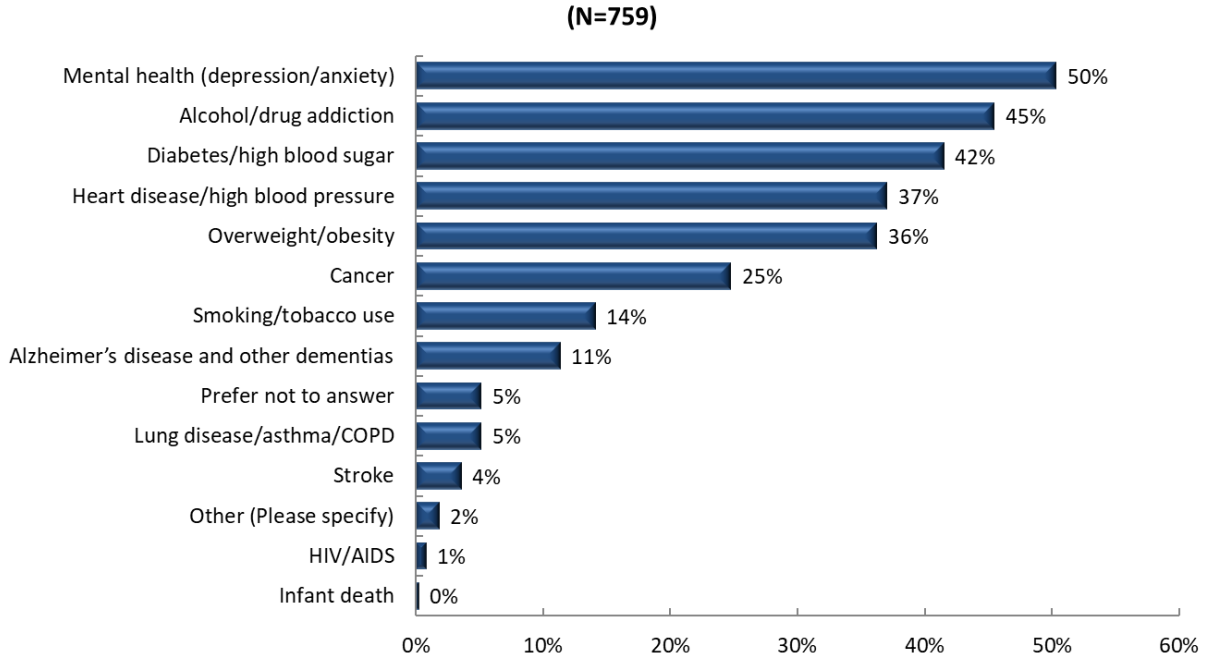
These data suggest that while Johnston County performs better than state averages on some indicators related to heart disease and high blood pressure, there are still significant concerns, particularly regarding obesity rates, physical inactivity, and hospitalizations for cardiovascular conditions. The food environment and higher smoking rates also present challenges that may contribute to the risk of heart disease and high blood pressure in the community.

For additional detail on secondary data findings, see **Appendix 3**.

Primary Data Findings – Community Member Web Survey

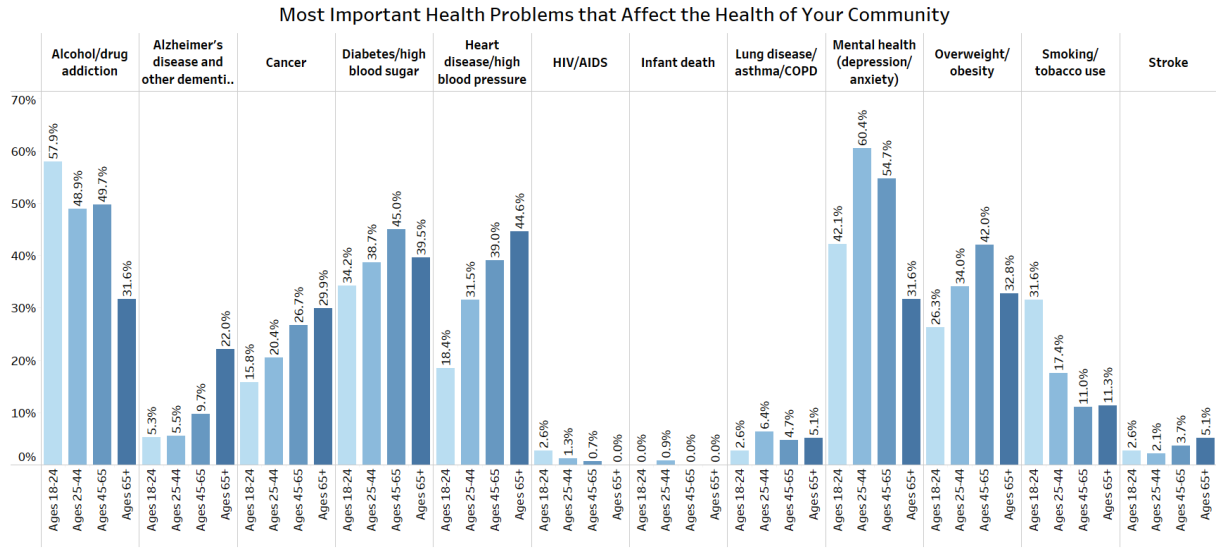
Johnston County residents identified several chronic health conditions of concern in the community in the web survey. In fact, six out of the top 10 most frequently identified community health needs were chronic health conditions, with 37% of respondents identifying heart disease/high blood pressure as an important community health problem.

Figure 31: What are the three most important health problems that affect the health of your community? Please select up to three.



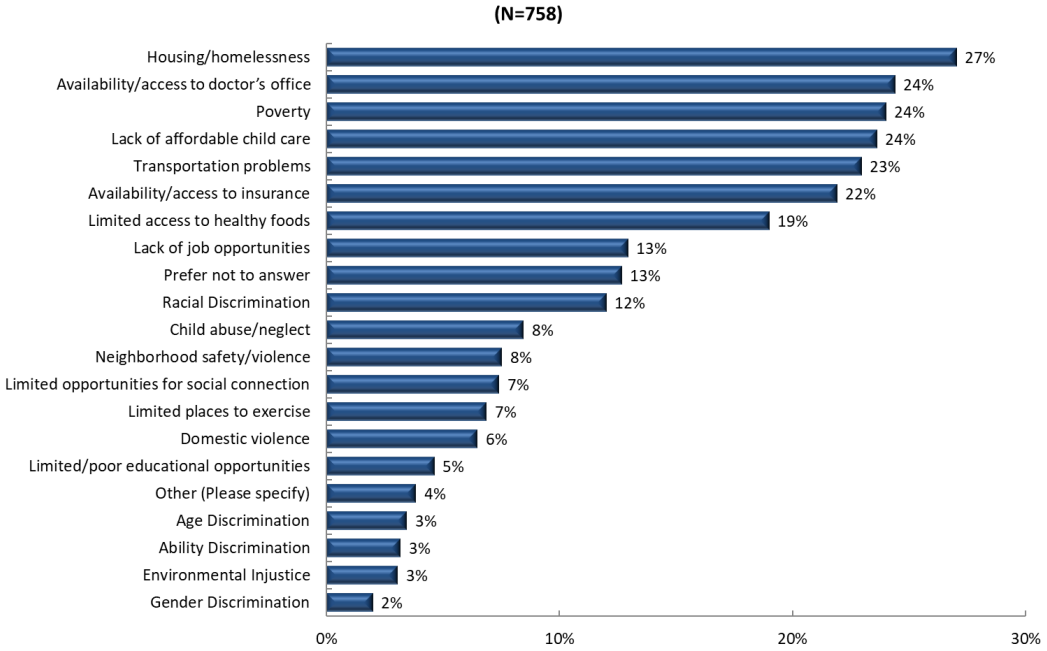
When these results were examined by various demographics of the respondents, responses varied. Older adults viewed heart disease as a more significant problem than younger respondents, as displayed in **Figure 32** below. Respondents identifying as all other races and Black or African American identified heart disease/high blood pressure more frequently than respondents identifying as White or with other racial identities. Men were also more likely to identify heart disease as an important community health problem than women. Considering these differences in targeted efforts to address specific community health indicators may be important.

Figure 32: What are the three most important health problems that affect the health of your community? Please select up to three. (By race)



In terms of community perspectives on health behaviors and food security, 19% of Johnston County respondents viewed limited access to healthy foods as an important social or environmental problem in the community and 7% as limited places to exercise. When examined by gender, women were more likely to view limited places to exercise (7% compared to 6%) and limited access to healthy foods (20% compared to 17%) as major concerns.

Figure 33: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three.



For additional details on survey findings, see **Appendix 5**.

Primary Data Findings – Key Informant Interviews

While mental health and access to care were more frequently mentioned, several key informants did highlight concerns related to heart disease and high blood pressure:

1. Chronic disease prevalence: Emergency services reported an increase in community care referrals from hospitals, primarily for patients with conditions like congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), and diabetes. Local pharmacies also noted an uptick in these patients.
2. Demographic shifts: Key informants noted that younger people are presenting in medical settings with strokes and heart attacks, indicating a potential shift in the age distribution of these conditions.
3. Lifestyle factors: Low-income residents were identified as unable to prioritize exercise and healthy habits over meeting their basic needs for food and shelter, potentially contributing to higher rates of heart disease and high blood pressure.
4. Cultural factors: Diabetes, which is a risk factor for heart disease, was noted as a particular concern for the Hispanic/Latino community due to cultural diet factors and language barriers that make it challenging to access care.
5. Preventive care gaps: FQHCs reported seeing increasing numbers of chronic disease patients who have neglected their care and have not received routine care. This trend was noted as particularly acute as the population continues to age.

Demographic groups identified as being particularly impacted by heart disease and high blood pressure included low-income residents, the Hispanic/Latino community, and, increasingly, younger adults.

Suggestions from key informants included increasing community education about heart health, expanding mobile health screenings for blood pressure and heart health, and addressing underlying factors like obesity and lack of access to healthy foods.

For a more detailed description of key informant interviews, see **Appendix 5**.

Primary Data Findings – Focus Groups

While heart disease and high blood pressure were not explicitly mentioned as top concerns in the focus group summaries, several related issues were discussed that could contribute to these health problems. The Faith Network group mentioned that generational diet habits in the county are unhealthy, which could contribute to heart disease and high blood pressure. This group also noted that residents need education about how to live healthy lives, and the lack of affordable options for physical activity (like gym memberships) was mentioned as a barrier to health. The focus group with Faith Network also discussed that the county is building too fast, which is impacting air quality. Poor air quality can contribute to heart and lung problems.

For a more detailed description of focus group findings, see **Appendix 5**.

PRIORITY NEED: MENTAL HEALTH

Context and National Perspective

The definition of behavioral health often describes conditions related to both mental health and substance use.[35] Mental health is defined as an emotional, psychological, and social state of well-being. Mental health impacts every stage of life and affects how one is able to handle their relationships, daily stressors, and health behaviors.[36] After evaluating data from a variety of sources including surveys and focus groups conducted throughout the assessment process, the Steering Committee identified mental health to be an area of urgent need within Johnston County.

Mental illnesses are common in the United States: in 2021, an estimated 57.8 million U.S. adults – nearly one in five – were living with a mental illness.[37] There is a risk for developing a mental illness across the lifespan, with over one in five children and adults in the U.S. reported to have a mental illness and nearly one in twenty-five adults currently coping with a serious mental illness (SMI) such as major depression, schizophrenia or bipolar disorder.[36]

Mental illness can occur due to multiple different factors, such as genetics, drug and/or alcohol usage, isolation, adverse childhood experiences, and chronic health conditions. Additionally, mental illness can act like other chronic health conditions in that it can worsen or improve depending on the environment. Mental health services have evolved in the past five years, especially during the COVID-19 pandemic. However, accessing mental health care services can be challenging. According to the National Institute of Mental Health, less than half (47.2%) of adults with a common mental illness received any mental health services in 2021. Those who had an SMI were more likely (65.4%) to have received mental health services that same year.[37] While access to telehealth mental health services has increased, those living in rural areas may still find it difficult to access care. This is a particular concern among those who are low-income or experiencing homelessness, two groups at high risk for developing an acute or chronic mental health condition. As of 2023, over seven million people in the U.S. who reported having a mental illness lived in a rural area.[38]

Mental illness is a prevalent concern in North Carolina, with nearly 1.5 million adults reported to have a mental health condition in 2023. Additionally, that same year, 1 in 7 individuals who were identified as homeless also were living with an SMI. Access to mental health care in North Carolina is changing; however, it is still unavailable to many. Specifically, over 452,000 individuals did not seek care in 2023, with 44.8% citing cost as the main reason. Additionally, those who live in North Carolina are seven times more likely to be pushed out- of- network with their behavioral health providers than compared to their primary care providers, furthering costs and potentially being a cause for stopping treatment.[39]

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[35] Source: American Medical Association (2022). *What is behavioral health?* Retrieved September 13th, 2023, from https://www.ama-assn.org/delivering-care/public-health/what-behavioral-health.

[36] Source: CDC. (2024). About mental health. Retrieved October 1, 2024, from: https://www.cdc.gov/mentalhealth/learn/index.htm

[37] Source: National Institute of Mental Health (2023). *Mental Illness*. Retrieved September 13th, 2023, from https://www.nimh.nih.gov/health/statistics/mental-illness.

[38] RHI Hub. (2023). Rural mental health. Retrieved October 1, 2024 from: https://www.ruralhealthinfo.org/topics/mental-health

[39] Source: NAMI (2023). *Mental Health in North Carolina.* Retrieved October 10, 2024, from https://www.nami.org/wp-content/uploads/2023/07/NorthCarolinaStateFactSheet.pdf

Access to services that address mental health is an ongoing challenge across the U.S. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), in 2021, less than half (47.2%) of U.S. adults who reported having a mental illness utilized any type of mental health services, including inpatient, outpatient or telehealth services or prescription drug therapies. Demand for mental health services, particularly anxiety and depression treatment, remains high across the nation, while the prevalence of stress- and trauma-related disorders, along with substance use disorders, continues to grow. The American Psychological Association reports that the percentage of psychologists in the U.S. seeing more patients than they did before the pandemic increased from 15% in 2020 to 38% in 2021 to 43% in 2022. Further, 60% of psychologists reported having no openings for new patients, and 38% maintained a waitlist for their services.

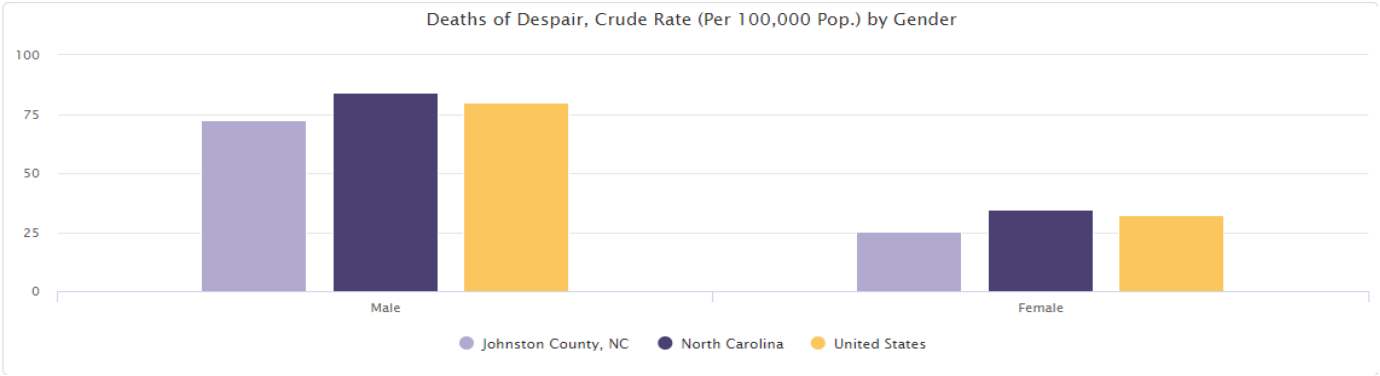
Secondary Data Findings

Secondary data collected through the CHNA process identified mental health as an area of concern for residents of Johnston County. The average number of poor mental health days per month reported by Johnston County residents (4.8) was slightly higher than those reported for the state (4.6) and nation (4.9). However, the rates of suicide and deaths of despair were both lower than state or national figures. Despite this, there was a notable gender disparity for deaths of despair, with the death rate significantly higher among men compared to women in Johnston County, as seen in **Figure 34** below.

Table 22: Mental Health Indicators

Indicator	Johnston County	North Carolina	United States
Deaths of Despair (Crude Rate per 100,000 Population)	48.4	58.7	55.9
Suicide (Crude Rate per 100,000 Population)	13.6	14.0	14.5
Average Number of Poor Mental Health Days (per Month)	4.8	4.6	4.9

Figure 34: Crude Rate of Deaths of Despair by Gender



Access to mental health care providers is a significant concern in Johnston County. The rate of mental health providers per 100,000 population in the county (72.7) is substantially lower than both the state (155.7) and national (178.7) averages. This disparity suggests that residents of Johnston County may face challenges in accessing mental health care services, a circumstance which reflects the broader concerns about availability previously described in the Access to Care priority need.

The lower availability of mental health providers, combined with higher rates of poor mental health days, indicates a significant need for improved mental health resources and access in Johnston County. The gender disparity in deaths of despair also highlights an area that may require targeted interventions, particularly for men in the community. These data suggest that while Johnston County performs better than state averages on some mental health indicators, there are still significant concerns, underscoring the importance of addressing mental health as a priority need in the county.

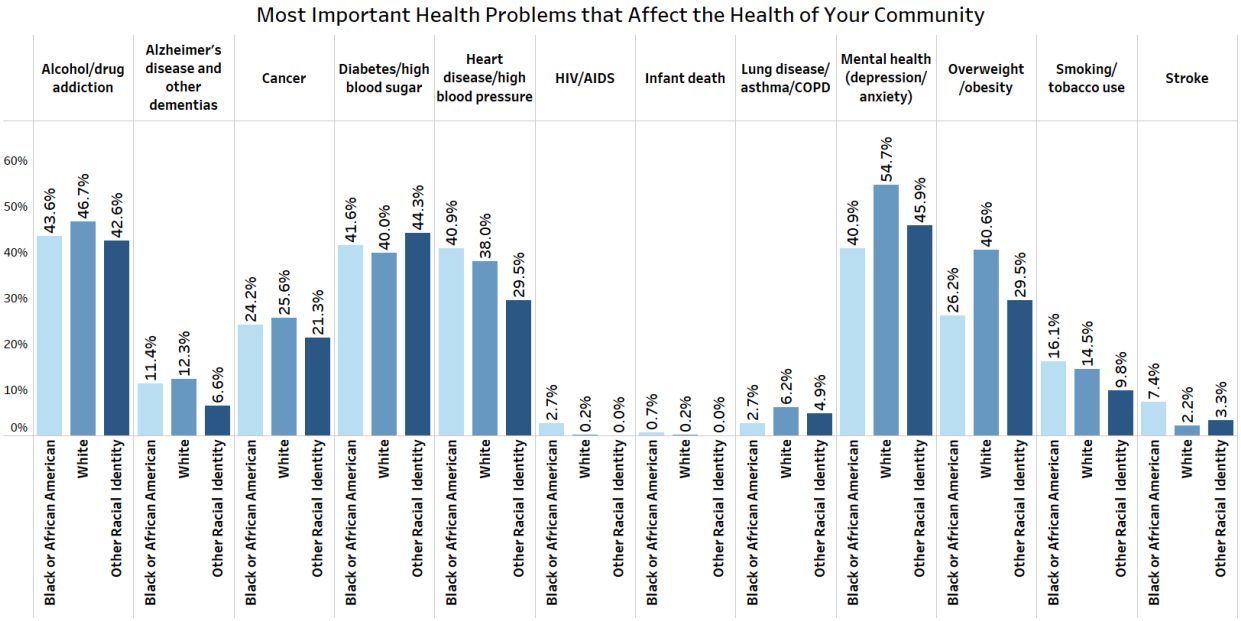
For additional detail on secondary data findings, see **Appendix 3**.

Primary Data Findings – Community Member Web Survey

Johnston County residents highlighted different aspects of mental health as areas of community concern in the web-based survey. When asked to identify the most important community health needs, 50% of respondents identified mental health (depression/anxiety), and 45% of respondents identified alcohol/drug addiction. These were the most frequently and second most frequently identified of all community health needs, respectively.

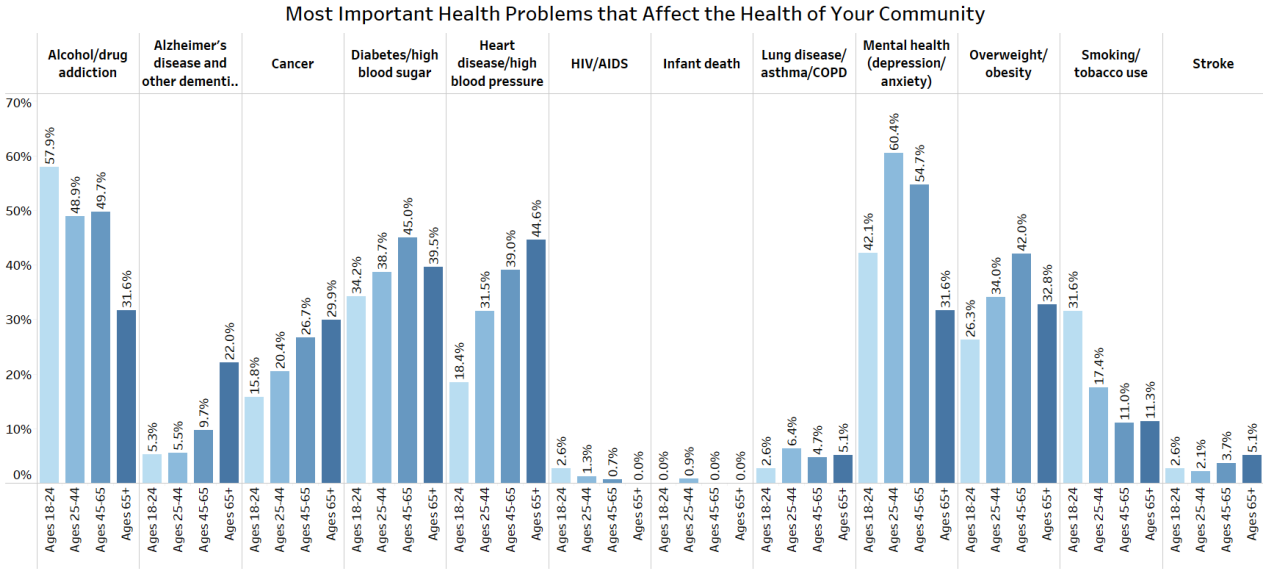
However, when these data were examined by the race of community member respondents, differences emerged. Those who identified as White (55%) selected mental health as an important community health need more frequently than those who identified as Black or African American (41%) and all other races (46%), as displayed in the figure below. A slightly higher percentage of respondents identifying as White selected alcohol/drug addiction as a top community health need (47%), while a lower percentage of those identifying as Black or African Americans (44%) or with other racial identities (43%) selected this as a top need.

Figure 35: What are the three most important health problems that affect the health of your community? Please select up to three. (By race)



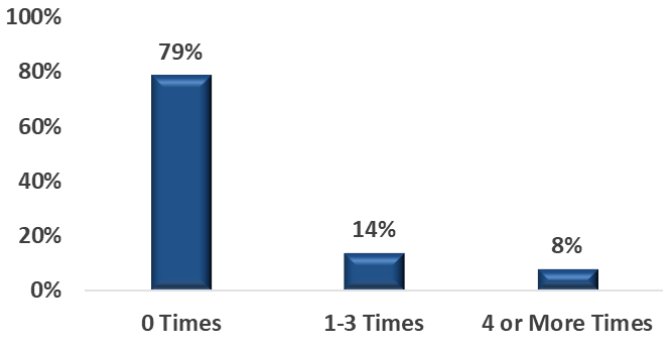
Similarly, there were differences in responses across age groups. Younger people identified alcohol/drug addiction as more significant than older respondents, however, middle-aged adults were most likely to identify mental health as a major problem affecting the health of the community. These perceived differences by demographic characteristics may be important in planning efforts to address mental health in the community.

Figure 36: What are the three most important health problems that affect the health of your community? Please select up to three. (By age group)



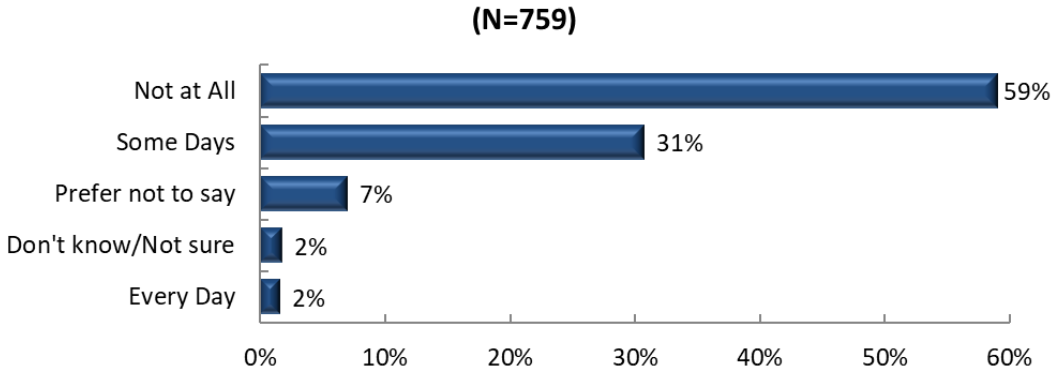
When respondents were asked about their own substance use, one-quarter of respondents reported drinking enough to meet the definition of "binge drinking" at least once in the past 30 days, with an average of one occasion of binge drinking in the past month among all respondents.

Figure 37: Considering all types of alcoholic beverages, how many times during the past 30 days did you have 4 (females)/ 5 (males) or more drinks on an occasion?



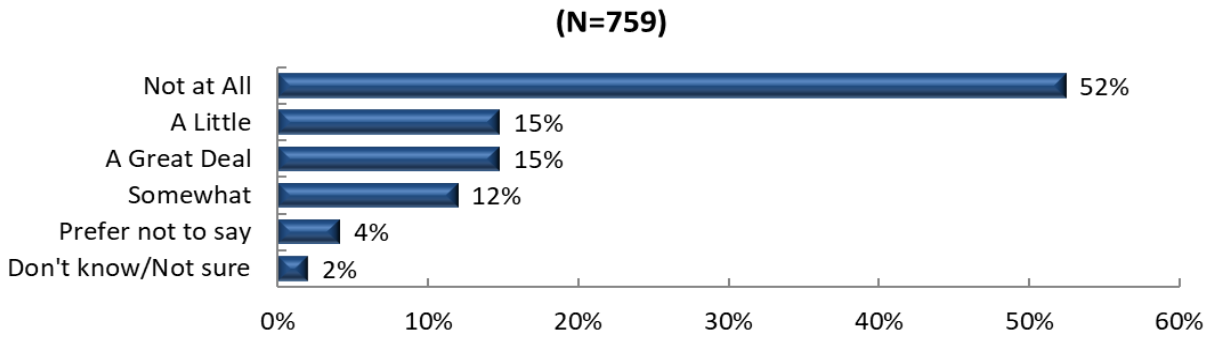
Among respondents who reported some consumption of alcoholic products, one-third indicated that they consumed alcohol "some days".

Figure 38: How often do you consume any kind of alcohol product, including beer, wine or hard liquor?



Over 90% of community member respondents reported no personal or household misuse of prescription drugs. However, when asked the degree to which their own or someone else's substance abuse negatively impacted their life, 15% selected "a little," 15% selected "a great deal," and 12% selected "somewhat," highlighting the impact of substance use issues in the community.

Figure 39: To what degree has your life been negatively affected by your own or someone else's substance abuse issues, including alcohol, prescription, and other drugs?



For additional details on survey findings, see **Appendix 5**.

Primary Data Findings – Key Informant Interviews

Mental health was identified as a significant concern by nine out of ten key informants interviewed, underscoring its importance as a priority need in Johnston County.

Several key themes emerged from these interviews:

1. Lack of providers: Many interviewees noted that while there are mental health providers in the county, they are concentrated in areas like Clayton and Smithfield, leaving rural areas underserved.
2. Insurance and cost barriers: Many residents do not know how to find mental health care that is covered by their insurance, and the overall cost of care was cited as a significant barrier.
3. Youth mental health: Multiple informants expressed concern about mental health issues among young people in the county, noting that these problems have worsened since the COVID-19 pandemic. There is a perception that people, especially youth, no longer have appropriate coping mechanisms following the pandemic.
4. Cultural barriers: For new immigrants, trauma from fleeing their home countries was noted as a concern. Cultural attitudes, particularly among older generations, make it challenging to seek help for mental health issues.
5. Cultural barriers: For new immigrants, trauma from fleeing their home countries was noted as a concern. Cultural attitudes, particularly among older generations, make it challenging to seek help for mental health issues.
6. Increasing demand: Federally Qualified Health Centers (FQHCs) reported a significant increase in behavioral health referrals from medical and dental providers, with a particular need for pediatric providers.

Demographic groups identified as being particularly impacted by mental health issues included young people, the elderly (especially those living alone), veterans, and new immigrants.

Several informants suggested expanding mental health services, particularly for students and young people, and reducing the wait times for appointments. They also recommended increasing awareness of available mental health resources and working to de-stigmatize mental health treatment within the community.

For a more detailed description of key informant interviews, see **Appendix 5**.

Primary Data Findings – Focus Groups

Mental health emerged as a significant concern across all three focus groups conducted in Johnston County. Participants in the Faith Network group identified mental health stigma as a barrier to seeking treatment. They noted that this stigma is particularly prevalent in the county's culture, making it challenging for individuals to acknowledge mental health issues and seek help.

The Public Library of Smithfield & Johnston County focus group highlighted several specific mental health concerns. Isolation and loneliness were identified as issues across all age groups, particularly among the elderly who live alone, and depression was noted as a widespread concern in the community. Post-Traumatic Stress Disorder (PTSD) was also mentioned as a specific concern for veterans in the county.

Participants in this group also emphasized the need for support groups for various diagnoses and suggested improving patient-provider communication to address mental health issues more effectively.

For a more detailed description of focus group findings, see **Appendix 5**.

CHAPTER 4 | HEALTH RESOURCE INVENTORY

NCLHDA requirements for local health departments and IRS requirements for nonprofit hospitals require the CHNA report to include a description of the resources available in a county to address the significant health needs identified in the assessment. This section includes information about local organizations in Johnston County that provide resources to address general community health needs, as well as the county's 2024 priority need areas: Access to Healthcare, Heart Disease & High Blood Pressure, and Mental Health.

Category	Organization Name
County Resource Directories	• NCCARE360 • Community Resource Guide (www.bit.ly/JCPHDResourceGuide)
Healthcare Facilities	• UNC Health Johnston (Clayton and Smithfield) ○ Project Access of Johnston and Harnett Counties/UNC Charity Care • Johnston County Public Health Dept. • CommWell Health • Benson Health • Eastern Carolina Medical Center
Home-Based Health Services	• Johnston County Community Paramedic Program • Community and Senior Services Home Delivered meals and Congregate meals
Other Healthcare Services	• Carter Clinic • Johnston Recovery • Restoration Family Services
Community Services	• Community & Senior Services of Johnston County • East Triangle YMCA • Food Pantries (in Community Resource Guide) • Johnston-Lee-Harnett Community Action • Partnership for Children
Priority Need: Access to Healthcare	• Johnston County Public Health Department (JCPHD) • Dream Center Homeless Outreach • UNC Health Johnston Mobile Primary Care • DSS / Medicaid Expansion • Lion's Club • Johnston County Safety Net • CommWell • Benson Health • Alliance Health

	• Project Access of Johnston and Harnett Counties • JCATS/ Quick Ride • Division of Services for Deaf and Hard of Hearing • NCCARE360
Priority Need: Heart Disease and High Blood Pressure	• JCPHD-WiseWoman • JCPHD • UNC Health Johnston • CommWell • Benson Health • Quitline
Priority Need: Mental Health	• JCPHD Behavioral Health • UNC Health Johnston • School-based Mental Health • Case Solace • Alliance Health • MORES Kidspeace Mobile Outreach & Response Engagement Stabilization Call 484-215-6756 • 988 • Johnston County Suicide Prevention Task Force • Johnston County Opioid Task Force • CommWell (BH services)

CHAPTER 5 | NEXT STEPS

The CHNA findings are used to develop effective community health improvement strategies to address the priority needs identified throughout the process. The next and final step in the CHNA process is to develop community-based health improvement strategies and action plans to address the priorities identified in this assessment. Health leaders in Johnston County will leverage information from this CHNA to develop implementation and action plans for their local community, while also working together with other community partners to ensure the priority areas are being addressed in the most efficient and effective way. Johnston County leaders recognize that the most effective strategies will be those that have the collaborative support of community organizations and residents. The strategies developed will include measurable objectives through which progress can be measured.

APPENDIX 1 | STATE OF THE COUNTY HEALTH REPORT

Results-Based Accountability Framework

To meet North Carolina accreditation requirements, LHDs are required to track progress on their implementation plans by publishing an annual State of the County Health Report (SOTCH). The SOTCH is guided by the Clear Impact Results-Based Accountability (RBA) Framework™ and demonstrates that the LHD is tracking priority issues identified in the community health (needs) assessment process, identifying emerging issues, and implementing any relevant new initiatives to address community concerns.[40]

RBA provides a disciplined way of thinking about – and acting upon – complex social issues, with the goal of improving the lives of all members of the community. The framework is organized to recognize two distinct types of accountability: population and performance. Population accountability refers to the well-being of entire populations, and RBA recognizes that it is challenging, if not impossible, to hold individual organizations accountable for solving systemic problems. Conversely, performance accountability recognizes that individual organizations are accountable for the outcomes and impact of their programs, policies, and practices as they relate to their client populations.

In the CHIP process, RBA asks three key questions: how much did we do, how well did we do it, and is anyone better off? To answer these questions more effectively and develop measurable strategies to address community health concerns, North Carolina LHDs use a software called Clear Impact Scorecard to develop their SOTCH and track progress against their goals. Clear Impact Scorecard is performance management and reporting software used by non-profit and government agencies to efficiently and effectively explain the impact of their work. The scorecard mirrors RBA and links results with indicators and programs with performance measures. Johnston County's most recent SOTCH is presented on the following pages.

[40] Clear Impact (2022). *Results-Based Accountability™: A Framework to Help Communities Get From Talk to Action*. Retrieved from: https://clearimpact.com/wp-content/uploads/2022/02/Clear-Impact-Results-Based-Accountability-Brochure-2022.pdf. Note: Clear Impact has exclusive and worldwide rights to use Results-Based Accountability™ (RBA), including all of proprietary and intellectual property rights represented by RBA. RBA intellectual property is free for use (with attribution) by government and nonprofit or voluntary sector organizations, as well as small consulting firms representing the interests of these organizations.

State of the County Health Report

Johnston County CHIP 2022-2024

This scorecard will be used to identify programs and services that impact selected priorities, implement programs and services, and measure the impact on the overall health of the Johnston County community. Our priority areas are Access to Primary Care, Substance Use, and Transportation.

Community Health Assessment Reports

2021 Community Health Needs Assessment

	Time Period	Current Actual Value	Current Trend	Baseline % Change

Access to Primary Care

All people in Johnston County have access to comprehensive, high quality, and affordable healthcare by clinicians that identify with people they serve.

	Time Period	Current Actual Value	Current Trend	Baseline % Change
NCDPH HNC2030 Uninsured: % of North Carolina population under age 65 without health insurance (Total) - SAHIE	2022	11.2%	↘ 3	-26% ↘
NCDPH HNC2030 Primary Care Clinicians: Number of NC counties with a (full-time equivalent) "primary care workforce" to "county population" ratio of 1:1,500	2017	62:1	→ 0	0% →
Johnston Health Population for whom poverty status is determined in Johnston County	2020	12.2%	↘ 1	-26% ↘
Johnston Health Ratio of Johnston county population to primary care physicians	2022	3,610:1	↘ 1	11% ↗

Mobile Telehealth Program

Johnston Health How Much # of events	2024	48	↗ 2	118% ↗
Johnston Health How Well % of referrals to Project Access	2024	100.0%	→ 2	0% →
Johnston Health Better Off % of referrals enrolled in Project Access	2024	77.0%	↘ 1	54% ↗

Substance Use Disorders

All people in Johnston County with a Substance Use Disorder have access to equitable substance use resources.

	Time Period	Current Actual Value	Current Trend	Baseline % Change
NCDPH HNC2030 Percent of Adults Using Tobacco in North Carolina (Total)	2022	21.6%	↗ 1	-10% ↘

NCDPH HNC2030	Life Expectancy (Total) in North Carolina: Average number of years of life remaining for people who have attained a given age.	2022	76.2	↗ 1	-2% ↘
NCDPH HNC2030	Drug Poisoning Death Rate by in NC by gender (Female)	2022	26.2	↗ 3	134% ↗
NCDPH HNC2030	Drug Poisoning Death Rate by in NC by gender (Male)	2022	58.3	↗ 4	255% ↗
NCDPH HNC2030	Drug Overdose Death Rate in North Carolina: Drug Poisoning Deaths (Total) per 100,000 population	2022	42.1	↗ 4	205% ↗
	Drug Poisoning Death Rates in Johnston County (per 100,000 population)	2021	32.2	↗ 3	254% ↗

Narcan Distribution

		Time Period	Current Actual Value	Current Trend	Baseline % Change
How Much	Number of Narcan doses distributed	2023	3,125	↗ 3	2198% ↗
How Much	Number of people trained on Narcan administration	2023	8	↘ 1	-85% ↘
How Well	Number of doses of Narcan administered in Johnston County	2023	340	↗ 4	113% ↗
Better off	Total number of patients to receive Narcan prior to EMS arrival	2023	127	↘ 1	958% ↗

Peer Support Specialist Training

		Time Period	Current Actual Value	Current Trend	Baseline % Change
How Much	Number of Certified Peer Support Specialists	2024	52	↗ 1	18% ↗

Quitline

		Time Period	Current Actual Value	Current Trend	Baseline % Change
How Much	Total number of QuitlineNC fax referrals from Johnston County	2022	6	↘ 2	-33% ↘
How Much	Number of Johnston County residents accessing Quitline	2022	75	↘ 2	-61% ↘

Smoking Cessation Class (Freedom From Smoking)

		Time Period	Current Actual Value	Current Trend	Baseline % Change
How Much	Number of Evidence Based Smoking Cessation classes held	2024	1	↘ 2	0% →
Better off	% of participants that complete the program and quit smoking at end of 8 weeks	2024	0	→ 1	0% →

Transportation

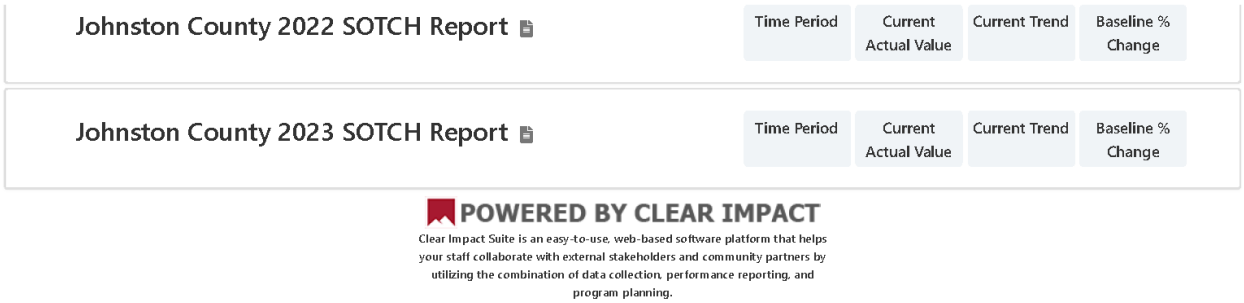
Johnston County residents have access to public transportation to access health care, recreation, employment, education, and shopping.

		Time Period	Current Actual Value	Current Trend	Baseline % Change
NCDPH HNC2030	Life Expectancy (Total) in North Carolina: Average number of years of life remaining for people who have attained a given age.	2022	76.2	↗ 1	-2% ↘
	Percentage of population who lack adequate access to food.	2022	12%	↘ 1	0% →

JCATS

		Time Period	Current Actual Value	Current Trend	Baseline % Change
How Much	Number of JCATS rides for General Transport	2022	34,874	↗ 1	13% ↗
How Much	Number of JCATS rides for Medical Transport	2022	51,218	↗ 1	28% ↗

SOTCH REPORTS


Johnston County 2022 SOTCH Report
Time Period
Current Actual Value
Current Trend
Baseline % Change
Johnston County 2023 SOTCH Report
Time Period
Current Actual Value
Current Trend
Baseline % Change
POWERED BY CLEAR IMPACT
Clear Impact Suite is an easy-to-use, web-based software platform that helps your staff collaborate with external stakeholders and community partners by utilizing the combination of data collection, performance reporting, and program planning.

APPENDIX 2 | SECONDARY DATA METHODOLOGY AND SOURCES

Many individual secondary data measures were analyzed as part of the CHNA process. This data provides detailed insight into the health status and health-related behavior of residents in the county. These secondary data are based on statistics of actual occurrences, such as the incidence of certain diseases, as well as statistics related to SDoH.

Methodology

All individual secondary data measures were grouped into 6 categories and 20 corresponding focus areas based on "common themes." In order to draw conclusions about the secondary data for Johnston County, its performance on each data measure was compared to targets/benchmarks. If Johnston County's performance was more than five percent worse than the comparative benchmark, it was concluded that improvements could be needed to better the health of the community. Conversely, if an area performed more than five percent better than the benchmark, it was concluded that while a need is still present, the significance of that need relative to others is likely less acute. The most recently available data were compared to these targets/benchmarks in the following order (as applicable):

- For all available data sources, state and national averages were compared.

The following methodology was used to assign a priority level to each individual secondary data measure:

- If the data were more than 5 percent worse = High need
- If the data were within or equal to 5 percent (better or worse) = Medium need
- If the data were more than 5 percent better = Low need

These measures are noted with an asterisk.

Additionally, data measures were also viewed with regard to performance over time and whether the measure has improved or worsened compared to the prior CHNA timeframe.

Data Sources

The following tables are organized by each of the twenty focus areas and contain information related to the secondary data measures analyzed including a description of each measure, the data source, and the most recent data time periods.

Table 23: Access to Care

Measure	Description	Data Source	Most Recent Data Year(s)
Primary Care Providers (per 100,000 population)	Number of providers with a CMS National Provider Identifier (NPI) that specialize in primary care. Primary health providers include practicing physicians specializing in general practice medicine, family medicine, internal medicine, and pediatrics.	Centers for Medicare and Medicaid Services (CMS) – National Plan and Provider Enumeration System (NPPES). Data accessed via the North Carolina Data Portal, June 2024.	2024

Measure	Description	Data Source	Most Recent Data Year(s)
Mental Health Providers (per 100,000 population)	Number of providers with a CMS National Provider Identifier (NPI) that specialize in mental health. Mental health providers include licensed clinical social workers and other credentialed professionals specializing in psychiatry, psychology, counseling, or child, adolescent, or adult mental health.	CMS –NPPES. Data accessed via the North Carolina Data Portal, June 2024.	2024
Addiction/Substance Abuse Providers (per 100,000 population)	Number of providers who specialize in addiction or substance abuse treatment, rehabilitation, addiction medicine, or providing methadone. The providers include Doctors of Medicine (MDs), Doctors of Osteopathic Medicine (DOs), and other credentialed professionals with a Center for Medicare and Medicaid Services and a valid National Provider Identifier (NPI).	CMS –NPPES. Data accessed via the North Carolina Data Portal, June 2024.	2024
Buprenorphine Providers (per 100,000 population)	Number of providers authorized to treat opioid dependency with buprenorphine. Buprenorphine is the first medication to treat opioid dependency that is permitted to be prescribed or dispensed in physician offices, significantly increasing treatment access. Qualified physicians are required to acquire and maintain certifications to legally dispense or prescribe opioid dependency medications.	U.S. Department of Health and Human Services (DHHS), Substance Abuse and Mental Health Services Administration. Data accessed via the North Carolina Data Portal, June 2024.	2023
Dental Health Providers (per 100,000)	Number of oral health providers with a CMS National Provider Identifier (NPI). Providers included are those who list dentist, general practice dentist, or pediatric dentistry as their primary practice classification, regardless of sub-specialty.	CMS – NPPES. Data accessed via the North Carolina Data Portal, June 2024.	2024
Health Professional Shortage Areas - Dental Care	Percentage of the population that is living in a geographic area designated as a “Health Professional Shortage Area” (HSPA), defined as having a shortage of dental health professionals. This indicator is relevant because a shortage of health professionals contributes to access and health status issues.	U.S. Census Bureau, American Community Survey (ACS). Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Measure	Description	Data Source	Most Recent Data Year(s)
Federally Qualified Health Centers (FQHCs)	Number of Federally Qualified Health Centers (FQHCs) in the community. This indicator is relevant because FQHCs are community assets that provide health care to vulnerable populations; they receive extra funding from the federal government to promote access to ambulatory care in areas designated as medically underserved.	U.S. DHHS, CMS, Provider of Services File. Data accessed via the North Carolina Data Portal, June 2024.	2023
Population Receiving Medicaid	Percentage of the population with insurance enrolled in Medicaid (or other means-tested public health insurance). This indicator is relevant because it assesses vulnerable populations that are more likely to have multiple health access, health status, and social support needs; when combined with poverty data, providers can use this measure to identify gaps in eligibility and enrollment.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Uninsured Population (SAHIE)	Percentage of adults under age 65 without health insurance coverage. This indicator is relevant because lack of health insurance is a primary barrier to healthcare access including regular primary care, specialty care, and other health services, which contribute to poor health status. The lack of health insurance is considered a *key driver* of health status.	U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE). Data accessed via the North Carolina Data Portal, June 2024.	2022

Table 24: Built Environment

Measure	Description	Data Source	Most Recent Data Year(s)
Broadband Access (Access to DL Speeds >= 25MBPS and UL Speeds >= 3 MBPS)	Percentage of population with access to high-speed internet. Data are based on the reported service area of providers offering download speeds of 25 MBPS or more and upload speeds of 3 MBPS or more. These data represent both wireline and fixed/terrestrial wireless internet providers. Cellular internet providers are not included.	Federal Communications Commission (FCC) FABRIC Data. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2023
Broadband Access (Access to DL Speeds >=	Percentage of population with access to high-speed internet. Data are	FCC FABRIC Data. Additional data analysis	2023

Measure	Description	Data Source	Most Recent Data Year(s)
100MBPS and UL Speeds >= 20 MBPS)	based on the reported service area of providers offering download speeds of 100 MBPS or more and upload speeds of 20 MBPS or more. These data represent both wireline and fixed/terrestrial wireless internet providers. Cellular internet providers are not included.	by CARES. Data accessed via the North Carolina Data Portal, June 2024.	
Households with No Computer	Percentage of households who don't own or use any type of computer, including desktop or laptop, smartphone, tablet, or other portable wireless computer, and some other type of computer, based on the 2018-2022 American Community Survey estimates.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Households with No or Slow Internet	Percentage of households who either use dial-up as their only way of internet connection or have internet access but don't pay for the service, or have no internet access in their home, based on the 2018-2022 American Community Survey estimates.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Liquor Stores	Number of liquor stores per 100,000 population provides a measure of environmental influences on dietary behaviors and the accessibility of healthy foods. Note this data excludes establishments preparing and serving alcohol for consumption on premises (including bars and restaurants) or which sell alcohol as a secondary retail product (including gas stations and grocery stores).	U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2022
Adverse Childhood Experiences (ACEs)	Percentage of children in North Carolina (total) with two or more ACEs. ACEs are potentially traumatic events that occur in childhood (0-17 years), including experiencing violence, abuse, or neglect; witnessing violence in the home or community; and having a family member attempt or die by suicide. Also included are aspects of the child's environment that can undermine their sense of safety, stability, and bonding, such as substance abuse problems, mental		2022

Measure	Description	Data Source	Most Recent Data Year(s)
	health problems, instability due to parental separation, and instability due to household members being in jail or prison. Other traumatic experiences that impact health and well-being may include not having enough food to eat, experiencing homelessness or unstable housing, or experiencing discrimination. ACEs can have lasting effects on health and well-being in childhood and life opportunities well into adulthood, for example, education and job potential. These experiences can increase the risks of injury, sexually transmitted infections, teen pregnancy, suicide, and a range of chronic diseases including cancer, diabetes, and heart disease.	Clear Impact Healthy North Carolina (HNC) 2030 Scorecard, 2021-2024. Data accessed June 2024.	

Table 25: Diet and Exercise

Measure	Description	Data Source	Most Recent Data Year(s)
Physical inactivity (percent of adults that report no leisure time physical activity)	Percentage of adults ages 20 and over reporting no leisure-time physical activity in the past month. Examples of physical activities include running, calisthenics, golf, gardening, or walking for exercise. The method for calculating Physical Inactivity changed. Data for Physical Inactivity are provided by the CDC Interactive Diabetes Atlas, which combines 3 years of survey data to provide county-level estimates. In 2011, BRFSS changed their methodology to include cell phone and landline participants. Previously, only landlines were used to collect data. Physical Inactivity is created using statistical modeling.	Behavioral Risk Factor Surveillance System. Data accessed via Robert Wood Johnson Foundation & University of Wisconsin Population Health Institute County Health Rankings & Roadmaps, June 2024.	2021
Community Design - Walkability Index Score	The National Walkability Index (2021) is a nationwide index score developed by the Environmental Protection Agency (EPA) that ranks block groups according to their relative walkability using selected	EPA – Smart Location Database. Data accessed via the North Carolina Data Portal, June 2024.	2021

Measure	Description	Data Source	Most Recent Data Year(s)
	variables on density, diversity of land uses, and proximity to transit from the Smart Location Database. The block groups are assigned their final National Walkability Index scores on a scale of 1 to 20 where the higher the score, the more walkable the community is.		
Access to Exercise Opportunities	Percentage of individuals in the county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. The numerator is the 2020 total population living in census blocks with adequate access to at least one location for physical activity (adequate access is defined as census blocks where the border is a half-mile or less from a park, 1 mile or less from a recreational facility in an urban area, or 3 miles or less from a recreational facility in a rural area) and the denominator is the 2020 resident county population. This indicator is used in the 2024 County Health Rankings.	ArcGIS Business Analyst and Living Atlas of the World, YMCA & U.S. Census Tigerline Files. Data accessed via the North Carolina Data Portal, June 2024.	2023
Recreation and Fitness Facility Access (per 100,000 population)	Number of establishments primarily engaged in operating fitness and recreational sports facilities featuring exercise and other active physical fitness conditioning or recreational sports activities, such as swimming, skating, or racquet sports. Access to recreation and fitness facilities encourages physical activity and other healthy behaviors.	U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2022
Sugar-Sweetened Beverage (SSB) Consumption Among Adults	Percentage of total adults reporting consumption of one or more SSBs per day.	Clear Impact. HNC2030 Scorecard, 2021-2024. Data accessed June 2024.	2022

Table 26: Education

Measure	Description	Data Source	Most Recent Data Year(s)
Population with Limited English Proficiency	Percentage of the population aged 5 and older who speak a language	U.S. Census Bureau, ACS. Data accessed via the	2018-2022

Measure	Description	Data Source	Most Recent Data Year(s)
	other than English at home and speak English less than "very well". This indicator is relevant because an inability to speak English well creates barriers to healthcare access, provider communications, and health literacy/education.	North Carolina Data Portal, June 2024.	
High School Graduation Rate	Percentage of high school students who graduate within four years. The adjusted cohort graduation rate (ACGR) is a graduation metric that follows a "cohort" of first-time 9th graders in a particular school year and adjusts this number by adding any students who transfer into the cohort after 9th grade and subtracting any students who transfer out, emigrate to another county, or pass away.	U.S. Department of Education, EDFacts. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2020-2021
No High School Diploma	Percentage of the population aged 25 and older without a high school diploma (or equivalency) or higher. This indicator is relevant because educational attainment is linked to positive health outcomes.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Student Math Proficiency (4th Grade)	Percentage of 4th grade students testing below the "proficient" level on the Math portion of state-specific standardized tests.	U.S. Department of Education, EDFacts. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2020-2021
Student Reading Proficiency (4th Grade)	Percentage of 4th grade students testing below the "proficient" level on the English Language Arts portion of state-specific standardized tests.	U.S. Department of Education, EDFacts. Additional data analysis by CARES. Data accessed via the North Carolina Data Portal, June 2024.	2020-2021
School Funding Adequacy	The average gap in dollars between actual and required spending per pupil among public school districts. Required spending is an estimate of dollars needed to achieve U.S. average test scores in each district.	School Finance Indicators Database. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2021
School Funding Adequacy – Spending per Pupil	Actual spending per pupil among public school districts.	School Finance Indicators Database. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2021

Table 27: Employment

Measure	Description	Data Source	Most Recent Data Year(s)
Unemployment Rate (percent of population age 16+ but unemployed)	Percentage of the civilian non-institutionalized population age 16 and older (non-seasonally adjusted) that is unemployed but seeking work. This indicator is relevant because unemployment creates financial instability and barriers to access, including insurance coverage, health services, healthy food, and other necessities that contribute to poor health status.	U.S. Department of Labor, Bureau of Labor Statistics. Data accessed via the North Carolina Data Portal, June 2024.	2024
Average Annual Unemployment Rate, 2013-2023	Average yearly percentage across the given time period of the civilian non-institutionalized population age 16 and older (non-seasonally adjusted) that is unemployed but seeking work. This indicator is relevant because unemployment creates financial instability and barriers to access, including insurance coverage, health services, healthy food, and other necessities that contribute to poor health status.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2024

Table 28: Environmental Quality

Measure	Description	Data Source	Most Recent Data Year(s)
Climate and Health – Flood Vulnerability	Estimated number of housing units within the special flood hazard area (SFHA) per county. The SFHAs have a 1% annual chance of coastal or riverine flooding.	Federal Emergency Management Agency (FEMA), National Flood Hazard Layer. Data accessed via the North Carolina Data Portal, June 2024.	2011
Air and Water Quality – Drinking Water Safety	Number of drinking water violations recorded in a two-year period. Health-based violations include incidents where either the amount of contaminant exceeded the maximum contaminant level (MCL) safety standard, or where water was not treated properly. In cases where a water system serves multiple counties and has a violation, each county served by the system is given a violation.	EPA. Data accessed via the North Carolina Data Portal, June 2024.	2023

Table 29: Family, Community, and Social Support

Measure	Description	Data Source	Most Recent Data Year(s)
Childcare Cost Burden	Childcare costs for a median-income household with two children as a percentage of household income. Data are included as part of the 2024 County Health Rankings.	The Living Wage Calculator, Small Area Income and Poverty Estimates. Data accessed via the North Carolina Data Portal, June 2024.	2023
Young People Not in School and Not Working	Percentage of youth ages 16-19 who are not currently enrolled in school and who are not employed.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Table 30: Food Security

Measure	Description	Data Source	Most Recent Data Year(s)
Food Insecurity Rate	Estimated percentage of the population that experienced food insecurity at some point during the report year. Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food.	Feeding America. Data accessed via the North Carolina Data Portal, June 2024.	2021
Food Insecure Children	Estimated percentage of the population under age 18 that experienced food insecurity at some point during the report year. Food insecurity is the household-level economic and social condition of limited or uncertain access to adequate food.	Feeding America. Data accessed via the North Carolina Data Portal, June 2024.	2021
Low-Income and Low Food Access	Percentage of the low-income population with low food access. Low food access is defined as living more than 1 mile (urban) or 10 miles (rural) from the nearest supermarket, supercenter, or large grocery store. Data are from the April 2021 Food Access Research Atlas dataset. This indicator is relevant because it highlights populations and geographies facing food insecurity.	U.S. Department of Agriculture (USDA), Economic Research Service, USDA – Food Access Research Atlas. 2019. Data accessed via the North Carolina Data Portal, June 2024.	2019
Limited access to healthy foods	Percentage of population who are low-income and do not live close to a grocery store.	USDA Food Environment Atlas. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2019

Measure	Description	Data Source	Most Recent Data Year(s)
Food Environment - Fast Food Restaurants (per 100,000 population)	Number of fast food restaurants per 100,000 population. The prevalence of fast food restaurants provides a measure of both access to healthy food and environmental influences on dietary behaviors. Fast food restaurants are defined as limited-service establishments primarily engaged in providing food services (except snack and nonalcoholic beverage bars) where patrons generally order or select items and pay before eating.	U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES. 2022. Data accessed via the North Carolina Data Portal, June 2024.	2022
Food Environment - Grocery Stores (per 100,000 population)	Number of grocery establishments per 100,000 population. Grocery stores are defined as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Delicatessen-type establishments are also included. Convenience stores and large general merchandise stores that also retail food, such as supercenters and warehouse club stores, are excluded. Healthy dietary behaviors are supported by access to healthy foods, and grocery stores are a major provider of these foods.	U.S. Census Bureau, County Business Patterns. Additional data analysis by CARES. 2022. Data accessed via the North Carolina Data Portal, June 2024.	2022

Table 31: Housing and Homelessness

Measure	Description	Data Source	Most Recent Data Year(s)
Renter Costs – Average Gross Rent	Average gross rent is the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid by the renter (or paid for the renter by someone else). Gross rent provides information on the monthly housing cost expenses for renters. When the data is used in conjunction with income data, the information offers an excellent	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Measure	Description	Data Source	Most Recent Data Year(s)
	measure of housing affordability and excessive shelter costs. The data also serve to aid in the development of housing programs to meet the needs of people at different economic levels and to provide assistance to agencies in determining policies on fair rent.		
Housing Cost Burden, Severe (50%)	Percentage of the households where housing costs are 50% or more of total household income. This indicator provides information on the cost of monthly housing expenses for owners and renters. The information offers a measure of housing affordability and excessive shelter costs. The data also serve to aid in the development of housing programs to meet the needs of people at different economic levels.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Housing & Urban Development (HUD)-Assisted Housing Units (per 10,000 households)	Number of HUD-funded assisted housing units available to eligible renters as well as the unit rate (per 10,000 total households).	U.S. Department of HUD. Data accessed via the North Carolina Data Portal, June 2024.	2017-2021
Substandard Housing, Severe	Percentage of owner- and renter-occupied housing units having at least one of the following conditions: 1) lacking complete plumbing facilities, 2) lacking complete kitchen facilities, 3) with 1.51 or more occupants per room, 4) selected monthly owner costs as a percentage of household income greater than 50%, and 5) gross rent as a percentage of household income greater than 50%. Selected conditions provide information in assessing the quality of the housing inventory and its occupants. This data is used to easily identify homes where the quality of living and housing can be considered substandard.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2011-2015
Homeless Children and Youth	Number of homeless children and youth enrolled in the public school system during the school year 2019-2020. According to the data source definitions, homelessness is defined as lacking a fixed, regular, and	U.S. Department of Education, EDFacts. Additional data analysis by CARES. 2019-2020. Data accessed via the	2019-2020

Measure	Description	Data Source	Most Recent Data Year(s)
	adequate nighttime residence. Those who are homeless may be sharing the housing of other persons, living in motels, hotels, or camping grounds, in emergency transitional shelters, or unsheltered. Data are aggregated to the report-area level based on school-district summaries where three or more homeless children are counted.	North Carolina Data Portal, June 2024.	

Table 32: Income

Measure	Description	Data Source	Most Recent Data Year(s)
Median Family Income	Median family income based on the latest 5-year American Community Survey estimates. A family household is any housing unit in which the householder is living with one or more individuals related to him or her by birth, marriage, or adoption. Family income includes the incomes of all family members ages 15 and older.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Gender Pay Gap	Ratio of women's median earnings to men's median earnings for all full-time, year-round workers is presented as "cents on the dollar." Data are acquired from the 2018-2022 ACS and are used in the 2024 County Health Rankings.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Population Below 100% Federal Poverty Level (FPL)	Percentage of population living in households with income below the FPL. This indicator is relevant because poverty creates barriers to access, including health services, healthy food, and other necessities that contribute to poor health status.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2022
Population Below 200% FPL	Percentage of population living in households with income below 200% of the FPL. This indicator is relevant because poverty creates barriers to access, including health services, healthy food, and other necessities that contribute to poor health status.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Children Below 200% FPL	Percentage of children living in households with income below 200% of the FPL. This indicator is relevant	U.S. Census Bureau, ACS. Data accessed via the	2018-2022

Measure	Description	Data Source	Most Recent Data Year(s)
	because poverty creates barriers to access, including health services, healthy food, and other necessities that contribute to poor health status.	North Carolina Data Portal, June 2024.	
Population Receiving SNAP (SAIPE)	Average percentage of the population receiving SNAP benefits during the month of June during the most recent report year. The Supplemental Nutrition Assistance Program, or SNAP, is a federal program that provides nutrition benefits to low-income individuals and families that are used at stores to purchase food.	U.S. Census Bureau, Small Area Income and Poverty Estimates. Data accessed via the North Carolina Data Portal, June 2024.	2021
Children Eligible for Free/Reduced Price Lunch	Percentage of public school students eligible for the free or reduced price lunch program in the latest report year. Free or reduced price lunches are served to qualifying students in families with income between 185 percent (free lunch) and or 130 percent (reduced price) of the US federal poverty threshold as part of the federal National School Lunch Program (NSLP).	National Center for Education Statistics (NCES) – Common Core of Data. Data accessed via the North Carolina Data Portal, June 2024.	2022-2023

Table 33: Length of Life

Measure	Description	Data Source	Most Recent Data Year(s)
Premature Death (years of potential life lost before age 75 per 100,000 population age-adjusted)	Number of events (i.e., deaths, births, etc.) in a given time period (three-year period) divided by the average number of people at risk during that period. Years of potential life lost measures mortality by giving more weight to deaths at earlier ages than deaths at later ages. Premature deaths are deaths before age 75. All of the years of potential life lost in a county during a three-year period are summed and divided by the total population of the county during that same time period. This value is then multiplied by 100,000 to calculate the years of potential life lost under age 75 per 100,000 people. These are age-adjusted.	National Center for Health Statistics – Natality and Mortality Files; Census Population Estimates Program. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2019-2021

Measure	Description	Data Source	Most Recent Data Year(s)
Premature Age-Adjusted Mortality	Number of deaths among residents under age 75 per 100,000 population (age-adjusted).	National Center for Health Statistics – Natality and Mortality Files; Census Population Estimates Program. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2019-2021
Life expectancy	Average life expectancy at birth (age-adjusted to 2000 standard). Data were from the National Center for Health Statistics - Mortality Files (2019-2021) and are used for the 2024 County Health Rankings.	National Center for Health Statistics – Natality and Mortality Files; Census Population Estimates Program. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2019-2021

Table 34: Maternal and Infant Health

Measure	Description	Data Source	Most Recent Data Year(s)
Births with no or late prenatal care	Percentage of women who did not obtain prenatal care until the 7th month (or later) of pregnancy or who didn't have any prenatal care, as of all who gave birth during the three-year period from 2017 to 2019. This indicator is relevant because engaging in prenatal care decreases the likelihood of maternal and infant health risks. This indicator can also highlight a lack of access to preventive care, a lack of health knowledge, insufficient provider outreach, and/or social barriers preventing utilization of services.	CDC – National Vital Statistics System (NVSS). CDC WONDER. CDC, Wide-Ranging Online Data for Epidemiologic Research. Data accessed via the North Carolina Data Portal, June 2024.	2017-2019
Low birthweight (percent of live births with birthweight < 2500 grams)	Percentage of live births where the infant weighed less than 2,500 grams (approximately 5 lbs., 8 oz.). The numerator is the number of low birthweight infants born over a 7-year time span, while the denominator is the total number of births in a county during the same time.	National Center for Health Statistics – Natality Files. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2016-2022
Infant Mortality	Number of all infant deaths (within 1 year) per 1,000 live births. Data were	National Center for Health Statistics –	2015-2021

Measure	Description	Data Source	Most Recent Data Year(s)
	from the National Center for Health Statistics - Mortality Files (2015-2021) and are used for the 2024 County Health Rankings.	Natality and Mortality Files. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	

Table 35: Mental Health

Measure	Description	Data Source	Most Recent Data Year(s)
Poor Mental Health Days	Average number of self-reported mentally unhealthy days in the past 30 days among adults (age-adjusted to the 2000 standard). Data are included as part of the 2024 County Health Rankings.	CDC, Behavioral Risk Factor Surveillance System (BRFSS). Data accessed via the North Carolina Data Portal, June 2024.	2021
Deaths of Despair (Suicide and Drug/Alcohol Poisoning) (per 100,000 population)	Average rate of death due to intentional self-harm (suicide), alcohol-related disease, and drug overdose, also known as "deaths of despair", per 100,000 population. Figures are reported as crude rates. Rates are re-summarized for report areas from county-level data, only where data is available. This indicator is relevant because death of despair is an indicator of poor mental health.	CDC – NVSS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Suicide (per 100,000 population)	Five-year average rate of death due to intentional self-harm (suicide) per 100,000 population from 2018 to 2022. Figures are reported as crude rates. Rates are re-summarized for report areas from county-level data, only where data is available. This indicator is relevant because suicide is an indicator of poor mental health.	CDC – NVSS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Table 36: Physical Health

Measure	Description	Data Source	Most Recent Data Year(s)
Poor or fair health (percent of adults reporting fair or poor health age-adjusted)	Percentage of adults in a county who consider themselves to be in poor or fair health. This measure is based on responses to the BRFSS question: “In general, would you say that your health is excellent, very good, good, fair, or poor?” The value reported in the County Health Rankings is the	Behavioral Risk Factor Surveillance System. Data accessed via RWJF & UWPHI County Health Rankings & Roadmaps, June 2024.	2021

Measure	Description	Data Source	Most Recent Data Year(s)
	percentage of respondents who rated their health "fair" or "poor." Poor or Fair Health is age-adjusted. Poor or Fair Health estimates are created using statistical modeling.		
Asthma Prevalence (Adult)	Percentage of adults ages 18 and older who answer "yes" to both of the following questions: "Have you ever been told by a doctor, nurse, or other health professional that you have asthma?" and the question "Do you still have asthma?"	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2022
Heart Disease (Adult)	Percentage of adults ages 18 and older who report ever having been told by a doctor, nurse, or other health professional that they had angina or coronary heart disease.	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2022
High Blood Pressure (Adult)	Percentage of adults ages 18 and older who report ever having been told by a doctor, nurse, or other health professional that they have high blood pressure (HTN). Women who were told high blood pressure only during pregnancy and those who were told they had borderline high blood pressure were not included.	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2021
High Cholesterol (Adult)	Percentage of adults ages 18 and older who report having been told by a doctor, nurse, or other health professional that they had high cholesterol.	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2021
Diabetes Prevalence (Adult)	Percentage of adults ages 20 and older who have ever been told by a doctor that they have diabetes. This indicator is relevant because diabetes is a prevalent problem in the U.S.; it may indicate an unhealthy lifestyle and puts individuals at risk for further health issues.	CDC, National Center for Chronic Disease Prevention and Health Promotion. Data accessed via the North Carolina Data Portal, June 2024.	2021
Kidney Disease (Adult)	Percentage of adults ages 18 and older who report ever having been told by a doctor, nurse, or other health professional that they have kidney disease.	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2021
Stroke (Adult)	Percentage of adults ages 18 and older who report ever having been told by a doctor, nurse, or other	CDC, BRFSS. Data accessed via the North	2022

Measure	Description	Data Source	Most Recent Data Year(s)
	health professional that they have had a stroke.	Carolina Data Portal, June 2024.	
Obesity	Percentage of adults ages 20 and older self-report having a Body Mass Index (BMI) greater than 30.0 (obese). Respondents were considered obese if their BMI was 30 or greater. BMI (weight [kg]/height [m]2) was derived from a self-report of height and weight. Excess weight may indicate an unhealthy lifestyle and put individuals at risk for further health issues.	CDC, National Center for Chronic Disease Prevention and Health Promotion. Data accessed via the North Carolina Data Portal, June 2024.	2021
Poor Dental Health – Teeth Loss	Percentage of adults ages 18 and older who report having lost all of their natural teeth because of tooth decay or gum disease.	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2022
Cancer Incidence – All Sites (per 100,000 population)	Age-adjusted incidence rate (cases per 100,000 population per year) of cancer (all sites) adjusted to 2000 U.S. standard population age groups (Under age 1, 1-4, 5-9, ..., 80-84, 85 and older).	State Cancer Profiles. Data accessed via the North Carolina Data Portal, June 2024.	2016-2020
Emergency Room (ER) Visits (per 100,000 Medicare beneficiaries)	Rate of ER visits among Medicare beneficiaries age 65 and older (per 100,000 beneficiaries). This indicator is relevant because ER visits are "high intensity" services that can burden both health care systems and patients. High rates of ER visits "may indicate poor care management, inadequate access to care or poor patient choices, resulting in ER visits that could be prevented."	CMS – Geographic Variation Public Use File. Data accessed via the North Carolina Data Portal, June 2024.	2022
Hospitalizations – Heart Disease (per 1,000 Medicare beneficiaries)	Hospitalization rate for coronary heart disease among Medicare beneficiaries ages 65 and older for hospital stays occurring between 2018 and 2020.	CDC – Atlas of Heart Disease and Stroke. Data accessed via the North Carolina Data Portal, June 2024.	2018-2020
Hospitalizations – Stroke (per 1,000 Medicare beneficiaries)	Hospitalization rate for Ischemic stroke among Medicare beneficiaries ages 65 and older for hospital stays occurring between 2018 and 2020.	CDC – Atlas of Heart Disease and Stroke. Data accessed via the North Carolina Data Portal, June 2024.	2018-2020

Table 37: Quality of Care

Measure	Description	Data Source	Most Recent Data Year(s)
Seasonal Influenza Vaccine	Percentage of adults ages 18 and older who reported receiving an influenza vaccination in the past 12 months. These data are derived from responses to the 2019 BRFSS.	CDC – FluVaxView. Data accessed via the North Carolina Data Portal, June 2024.	2019
Hospitalizations – Preventable Conditions (per 100,000 Medicare beneficiaries)	Preventable hospitalization rate among Medicare beneficiaries for the latest reporting period. Preventable hospitalizations include hospital admissions for one or more of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, high blood pressure, heart failure, bacterial pneumonia, or urinary tract infection. Rate is presented per 100,000 beneficiaries.	CMS, Mapping Medicare Disparities Tool. Data accessed via the North Carolina Data Portal, June 2024.	2021
Readmissions – All Cause (Medicare Population)	Rate of 30-day hospital readmissions among Medicare beneficiaries ages 65 and older. Hospital readmissions are unplanned visits to an acute care hospital within 30 days after discharge from a hospitalization. Patients may have unplanned readmissions for any reason; however readmissions within 30 days are often related to the care received in the hospital, whereas readmissions over a longer time period have more to do with other complicating illnesses, patients' own behavior, or care provided to patients after hospital discharge.	CMS – Geographic Variation Public Use File. Data accessed via the North Carolina Data Portal, June 2024.	2022

Table 38: Safety

Measure	Description	Data Source	Most Recent Data Year(s)
Incarceration Rate	Percentage of individuals born in each census tract who were incarcerated at the time of the 2010 Census as estimated by Opportunity Atlas data.	Opportunity Insights. Data accessed via the North Carolina Data Portal, June 2024.	2018

Measure	Description	Data Source	Most Recent Data Year(s)
Juvenile Arrest Rate (per 1,000 juveniles)	Rate of delinquency cases per 1,000 juveniles. Data are acquired from the 2021 Easy Access to State and County Juvenile Court Case Counts (EZACO) and are used in the 2024 County Health Rankings.	Office of Juvenile Justice and Delinquency Department, Easy Access to State and County Juvenile Court Case Counts (EZACO). Data accessed via the North Carolina Data Portal, June 2024.	2021
Violent Crime (per 100,000 people)	Annual rate of reported violent crimes per 100,000 people during the three-year period of 2015-2017. Violent crime includes homicide, rape, robbery, and aggravated assault.	Federal Bureau of Investigation (FBI), FBI Uniform Crime Reports. Additional analysis by the National Archive of Criminal Justice Data. Data accessed via the North Carolina Data Portal, June 2024.	2015-2017
Mortality – Firearm (per 100,000 population)	Five-year average rate of death due to firearm wounds per 100,000 population, which includes gunshot wounds from powder-charged handguns, shotguns, and rifles. Figures are reported as crude rates for the time period of 2018 to 2022. This indicator is relevant because firearm deaths are preventable and are a cause of premature death.	CDC – National Vital Statistics System. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Mortality – Poisoning (per 100,000 population)	Five-year average rate of death due to poisoning (including drug overdose) per 100,000 population. Figures are reported as crude rates for the time period of 2018 to 2022. Rates are re-summarized for report areas from county-level data, only where data is available. This indicator is relevant because poisoning deaths, especially from drug overdose, are a national public health emergency.	CDC – National Vital Statistics System. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Table 39: Sexual Health

Measure	Description	Data Source	Most Recent Data Year(s)
Sexually transmitted infections (chlamydia rate per 100,000 population)	Number of newly diagnosed chlamydia cases per 100,000 population	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Data accessed via RWJF & UWPHI County Health	2021

Measure	Description	Data Source	Most Recent Data Year(s)
		Rankings & Roadmaps, June 2024.	
HIV Incidence (rate per 100,000 population)	Incidence rate of HIV infection or infection classified as state 3 (AIDS) per 100,000 population. Incidence refers to the number of confirmed diagnoses during a given time period, in this case, January 1st and December 31st of the latest reporting year.	CDC, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Data accessed via the North Carolina Data Portal, June 2024.	2022
Teen Births (per 1,000 female population age 15-19)	Seven-year average number of births per 1,000 female population age 15-19. Data were from the National Center for Health Statistics - Natality files (2016-2022) and are used for the 2024 County Health Rankings.	CDC – National Vital Statistics System. Data accessed via the North Carolina Data Portal, June 2024.	2016-2022

Table 40: Substance Use Disorders

Measure	Description	Data Source	Most Recent Data Year(s)
Excessive Drinking – Heavy Alcohol Consumption	Percentage of adults that self-report excessive drinking in the last 30 days. Data for this indicator were based on survey responses to the 2021 Behavioral Risk Factor Surveillance System (BRFSS) annual survey and are used for the 2024 County Health Rankings. Excessive drinking is defined as the percentage of the population who report at least one binge drinking episode involving five or more drinks for men and four or more for women over the past 30 days, or heavy drinking involving more than two drinks per day for men and more than one per day for women, over the same time period. Alcohol use is a behavioral health issue that is also a risk factor for a number of negative health outcomes, including: physical injuries related to motor vehicle accidents, stroke, chronic diseases such as heart disease and cancer, and mental health conditions such as depression and suicide. There are a number of evidence-based interventions that may reduce	CDC, BRFSS. Data accessed via the North Carolina Data Portal, June 2024.	2021

Measure	Description	Data Source	Most Recent Data Year(s)
	excessive/binge drinking; examples include raising taxes on alcoholic beverages, restricting access to alcohol by limiting days and hours of retail sales, and screening and counseling for alcohol abuse.		
Mortality - Motor Vehicle Crash – Alcohol-Involved (annual rate per 100,000 population)	Crude rate of persons killed in motor vehicle crashes involving alcohol as an annual rate per 100,000 population. Fatality counts are based on the location of the crash and not the decedent's residence. Motor vehicle crash deaths are preventable and are a leading cause of death among young persons.	U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Opioid Use Disorder (per 100,000 Medicare beneficiaries)	Rate of emergency department utilization for opioid use and opioid use disorder among the Medicare population. Figures are reported as age-adjusted to the year 2000 standard. Rates are re-summarized for report areas from county-level data, only where data is available. This indicator is relevant because mental health and substance use is an indicator of poor health.	CMS, Mapping Medicare Disparities Tool. Data accessed via the North Carolina Data Portal, June 2024.	2021
Mortality – Opioid Overdose (per 100,000 population)	Five-year average rate of death due to opioid drug overdose per 100,000 population. Figures are reported as crude rates for the time period of 2018 to 2022. Rates are re-summarized for report areas from county-level data, only where data is available. This indicator is relevant because opioid drug overdose is the leading cause of injury deaths in the United States, and they have increased dramatically in recent years.	CDC – NVSS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022

Table 41: Tobacco Use

Measure	Description	Data Source	Most Recent Data Year(s)
Adult smoking	Percentage of the adult population that currently smokes every day or most days and has smoked at least 100 cigarettes in their lifetime. Adult	Behavioral Risk Factor Surveillance System. Data accessed via RWJF & UWPHI County Health	2021

Measure	Description	Data Source	Most Recent Data Year(s)
	Smoking estimates are created using statistical modeling.	Rankings & Roadmaps, June 2024.	

Table 42: Transportation Options and Transit

Measure	Description	Data Source	Most Recent Data Year(s)
Households with No Motor Vehicle	Percentage of households with no motor vehicle based on the latest 5-year American Community Survey estimates.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Commuter Travel Patterns - Public Transportation	Percentage of population using public transportation as their primary means of commuting to work. Public transportation includes buses or trolley buses, streetcars or trolley cars, subway or elevated rails, and ferryboats.	U.S. Census Bureau, ACS. Data accessed via the North Carolina Data Portal, June 2024.	2018-2022
Community Design – Distance to Public Transit	Proportion of the population living within 0.5 miles of a GTFS (General Transit Feed Specification) or fixed-guideway transit stop. Transit data is available from over 200 transit agencies across the United States, as well as all existing fixed-guideway transit services in the U.S. This includes rail, streetcars, ferries, trolleys, and some bus rapid transit systems.	EPA – Smart Location Database. Data accessed via the North Carolina Data Portal, June 2024.	2021

APPENDIX 3 | SECONDARY DATA COMPARISONS

Description of Focus Area Comparisons

When viewing the secondary data summary tables, please note that the following color shadings have been included to identify how Johnston County compares to North Carolina and the national benchmark. If both statewide North Carolina and national data were available, North Carolina data was preferentially used as the target/benchmark value.

Secondary Data Summary Table Color Comparisons

Color Shading	Priority Level	Johnston County Description
	Low	Represents measures in which Johnston County scores are **more than five percent better** than the most applicable target/benchmark and for which a low priority level was assigned.
	Medium	Represents measures in which Johnston County scores are comparable to the most applicable target/benchmark scoring **within or equal to five percent**, and for which a medium priority level was assigned.
	High	Represents measures in which Johnston County scores are **more than five percent worse** than the most applicable target/benchmark and for which a high priority level was assigned.

Note: Please see the methodology section of this report for more information on assigning need levels to the secondary data.

Please note that to categorize each metric in this manner and identify the priority level, the Johnston County value was compared to the benchmark by calculating the percentage difference between the values, relative to the benchmark value:

(Johnston Co Value – Benchmark Value)/(Benchmark) x 100 = % Difference Used to Identify Priority Level

For example, for the % Limited Access to Healthy Foods metric, the following calculation was completed:

(2.9-7.5)/(7.5) x 100% = -61.3% = Displayed as **Low Priority Level**, Shaded in Green

This metric indicates that the percentage of the population with limited access to healthy foods in Johnston County is 61.3 percent better (or, in this case, lower) than the percentage of the population with limited access to healthy foods in the state of North Carolina.

Detailed Focus Area Benchmarks

Table 43: Access to Care

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Primary Care Providers Ratio	112.4	101.1	44.4	2024	High
Mental Health Providers Ratio	178.7	155.7	72.7	2024	High
Addiction/Substance Abuse Providers Ratio	27.9	25.0	15.3	2024	High
Buprenorphine Providers Ratio	15.5	15.2	3.3	2023	High
Dental Health Providers Ratio	39.1	31.5	18.5	2024	High
% Living in Health Professional Shortage Areas (HPSAs) – Dental Care	17.8%	34.0%	30.3%	2018-2022	Low
Federally Qualified Health Centers (FQHCs)	3.5	4.1	2.3	2023	High
% Receiving Medicaid	22.3%	20.2%	20.1%	2018-2022	Medium
% Uninsured	10.2%	12.5%	12.9%	2022	Medium

Table 44: Built Environment

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Broadband Access (Access to DL Speeds >= 25MBPS and UL Speeds >= 3 MBPS)	93.8%	93.6%	91.2%	2023	Medium
Broadband Access (Access to DL Speeds >= 100MBPS and UL Speeds >= 20 MBPS)	91.2%	90.4%	88.9%	2023	Medium
Households with No Computer	6.1%	6.9%	5.7%	2018-2022	Low

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Households with No or Slow Internet	11.7%	13.0%	16.6%	2018-2022	High
Liquor Stores	13.3	6.2	3.2	2022	Low
Adverse Childhood Experiences (ACEs)	N/A	N/A	Suppressed	2022	N/A

Table 45: Diet and Exercise

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Physically Inactive	N/A	21.6%	23.8%	2021	High
Walkability Index Score	10	7	6	2021	High
% with Access to Exercise Opportunities	84.1%	73.0%	70.0%	2023	Medium
Recreation and Fitness Facility Access	14.8	13.1	11.6	2022	High
Sugar-Sweetened Beverage (SSB) Consumption	N/A	N/A	Suppressed	2022	N/A

Table 46: Education

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Limited English Proficiency	8.2%	4.6%	5.1%	2018-2022	High
High School Graduation Rate	81.1%	87.6%	91.0%	2020-2021	Medium
% with No High School Diploma	10.9%	10.6%	10.5%	2018-2022	Medium
Student Math Proficiency	63.9%	65.8%	67.2%	2020-2021	Medium
Student Reading Proficiency	60.1%	59.5%	63.2%	2020-2021	High
School Funding Adequacy	N/A	-$4,742	-$4,410	2021	Low
School Funding Adequacy –	N/A	$10,655	$9,681	2021	High

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Spending per pupil					

Table 47: Employment

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Unemployment Rate	3.9%	3.7%	3.0%	2024	Low
Average Annual Unemployment Rate, 2013-2023	3.6%	3.5%	3.2%	2024	Low

Table 48: Environmental Quality

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Flood Vulnerability	6.5%	4.9%	2.0%	2011	Low
Drinking Water Safety	16,107	194	18	2023	Low

Table 49: Family, Community and Social Support

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Children Cost Burden	28.8%	27.0%	24.0%	2023	Low
% Young People Not in School or Working	6.9%	7.5%	7.9%	2018-2022	High

Table 50: Food Security

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Food Insecure	10.3%	11.4%	10.5%	2021	Low
% Food Insecure Children	13.3%	15.3%	12.9%	2021	Low
% Low-Income and with Low Food Access	19.4%	21.3%	8.5%	2019	Low
% Limited Access to Healthy Foods	N/A	7.5%	2.9%	2019	Low
Fast Food Restaurants	96.2	77.4	61.1	2022	Low
Grocery Stores	23.4	18.7	16.7	2022	High

Table 51: Housing and Homelessness

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Renter Costs – Average Gross Rent	$1,366	$1,090	$969	2018-2022	Low
% Severe Housing Cost Burden	14.1%	12.2%	9.8%	2018-2022	Low
Assisted Housing Units	413.9	319.2	245.9	2017-2021	Low
% Severe Substandard Housing	18.5%	16.1%	14.6%	2011-2015	Low
% Homeless Children	2.8%	1.9%	1.0%	2019-2020	Low

Table 52: Income

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Median Family Income	$92,646	$82,890	$93,151	2018-2022	Low
Gender Pay Gap	81.0%	83.0%	82.0%	2018-2022	Medium
% Living Below 100% FPL	12.5%	13.3%	10.7%	2022	Low
% Living Below 200% FPL	28.8%	31.6%	28.9%	2018-2022	Low
% Children Living Below 200% FPL	37.2%	41.1%	36.4%	2018-2022	Low
% Receiving SNAP	12.4%	15.7%	13.8%	2021	Low
Children Eligible for Free/Reduced Price Lunch	51.7%	50.8%	35.0%	2022-2023	Low

Table 53: Length of Life

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Years of Potential Life Lost Rate	N/A	8,853	8,007	2019-2021	Low
Premature Age-Adjusted Mortality	N/A	420	398	2019-2021	Low
Life Expectancy	77.6	76.6	76.6	2019-2021	Medium

Table 54: Maternal and Infant Health

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Births with Late or No Prenatal Care	6.1%	6.9%	4.8%	2019	High
Low Birthweight	N/A	9.4%	8.3%	2016-2022	Low
Infant Mortality Rate	5.7	7.0	6.0	2015-2021	Low

Table 55: Mental Health

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Poor Mental Health Days	4.9	4.6	4.8	2021	Medium
Deaths of Despair Rate	55.9	58.7	48.4	2018-2022	Low
Suicide Death Rate	14.5	14.0	13.6	2018-2022	Medium

Table 56: Physical Health

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Poor or Fair Health	N/A	14.4%	15.3%	2021	High
% Adults with Asthma	9.7%	9.8%	9.7%	2022	Medium
% Adults with Heart Disease	5.2%	5.5%	5.6%	2022	Medium
% Adults with High Blood Pressure	29.6%	32.1%	32.9%	2021	Medium
% Adults with High Cholesterol	31.0%	31.4%	30.5%	2021	Medium
Diabetes Prevalence	8.9%	9.0%	10.3%	2021	High
% Adults with Kidney Disease	2.7%	2.9%	2.9%	2021	Medium
% Stroke	2.8%	3.1%	3.0%	2022	Medium
Obesity	30.1%	29.7%	36.7%	2021	High
% Teeth Loss	13.9%	12.0%	12.6%	2022	Medium
Cancer Incidence Rate	442.3	464.4	479.6	2016-2020	Medium
Emergency Room Visits	535	563	611	2022	High

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Heart Disease Hospitalization Rate	10.4	11.7	13.4	2018-2020	High
Stroke Hospitalization Rate	8.0	9.5	11.0	2018-2020	High

Table 57: Quality of Care

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Children/adults vaccinated annually against seasonal influenza	44.5%	45.6%	36.9%	2021	High
Preventable Hospital Rate	2,752	2,957	3,396	2021	High
Readmissions Rate	18.1%	17.6%	18.7%	2022	High

Table 58: Safety

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Incarceration Rate	1.3%	1.5%	1.1%	2018	Low
Juvenile Arrest Rate	13.8	16.0	16.0	2021	Medium
Violent Crime	416.0	365.7	183.9	2015-2017	Low
Firearm Death Rate	13.4	15.5	13.1	2018-2022	Low
Poisoning Death Rate	28.5	31.5	24.3	2018-2022	Low

Table 59: Sexual Health

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
Chlamydia Rate	495.0	603.3	407.9	2021	Low
HIV Incidence Rate	12.7	15.5	8.0	2022	Low
Teen Births	16.6	18.2	17.1	2016-2022	Low

Table 60: Substance Use Disorders

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Excessive Drinking	18.1%	18.2%	17.8%	2021	Medium
% Driving Deaths with Alcohol	2.3	2.9	4.1	2018-2022	High
Opioid Use Disorder Rate	41.0	43.0	53.0	2021	High
Opioid Drug Overdose Deaths	N/A	25.1	18.4	2018-2022	Low

Table 61: Tobacco Use

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Smokers	14.5%	15.0%	16.5%	2021	High

Table 62: Transportation Options and Transit

Measure	National Benchmark	North Carolina Benchmark	Johnston County Data	Most Recent Data Year	Johnston County Need
% Households with No Motor Vehicle	8.3%	5.4%	4.1%	2018-2022	Low
% Public Transit	3.8%	0.8%	0.1%	2018-2022	High
% Living Near Public Transit	34.8%	10.9%	0.0%	2021	High

APPENDIX 4 | PRIMARY DATA METHODOLOGY AND SOURCES

Primary data was collected through focus groups, which were conducted in-person or in a virtual format, and a web-based Community Member survey.

Methodologies

The methodologies varied based on the type of primary data being analyzed. The following section describes the various methodologies used to analyze the primary data, along with key findings.

Focus Groups

The following three focus groups were conducted virtually or in person between May 9th and June 19th, 2024. These groups included representation from key leaders, non-profit partners, and community members, with over 25 participants providing responses.

- Faith Network
- Public Library of Smithfield and Johnston County
- Johnston County Public Health Department

Input was gathered on the following topics:

- Community health concerns
- Social and environmental concerns that may impact health
- Access to care
- Other topics of concern for Johnston County

The majority (88%) of participants identified as female, and nearly half of the group was white (48%), and non-Hispanic/Latino (68%). Participants represented a wide range of ages, with over a quarter (28%) of the group between the ages of 50 and 64.

The focus group discussion guide questions are below:

FACILITATOR INTRODUCTION:

"Thank you for being a part of today's focus group! My name is [NAME], and I'm here on behalf of [ORGANIZATION]. We are conducting a community health needs assessment to find out more about some of the health and social issues facing residents in [COUNTY NAME]. The results of this focus group will be used to help health leaders throughout [COUNTY NAME] develop programs and services to address some of the issues we'll be talking about today. We may record today's discussion to assist with notetaking, but we will not be using any identifying information, like participant names, in our results. We would also like to ask you to fill out this demographic form so we can understand a little bit more about who is participating in this focus group."

PARTICIPANT INTRODUCTIONS

1. Please tell us your first name, how long you've lived in [COUNTY NAME], and something you like about living here.

HEALTH AND WELLNESS

2. What are some of the issues that keep residents in [COUNTY NAME] from living healthy lives?
3. What are the most serious health problems facing people who live in [COUNTY NAME]?
    a. Are there particular groups of people (i.e., race, ethnicity, age, LGBTQ+, etc.) who are more affected by these problems than others?
    b. Are there particular areas in the county that are more affected by these problems than others?
4. Thinking about the health problems you described, what do you think could be done to address these issues?

SOCIAL DETERMINANTS OF HEALTH

5. What are some of the environmental and/or social conditions that affect quality of life for people living in [COUNTY NAME]?
    a. Examples of social and environmental issues that negatively impact health: availability or access to health insurance, domestic violence, housing problems, homelessness, lack of job opportunities, lack of affordable childcare, limited access to healthy food, neighborhood safety/ street violence, poverty, racial/ethnic discrimination, limited/poor educational opportunities.
6. Thinking about the social and environmental issues you described, how do you think these issues could be addressed?

ACCESS TO CARE

7. What are some reasons people in [COUNTY NAME] do not get health care when they need it? How can these issues be addressed?
8. What do you think about the health-related services that are available in your community, including medical care, dental care and behavioral health care?
    a. Are there enough locations providing these types of care for people who need it?
    b. Can you find medical, dental or behavioral health care within a reasonable timeframe when you need it?

c. Are your experiences with providers (doctors, dentists, nurses, therapists, emergency personnel, etc.) more positive or negative, and why?

SUGGESTIONS

9. What are some of the strengths or community assets in [COUNTY NAME] that can help residents live healthier lives?
10. What do you think local health leaders should do to improve health and quality of life in [COUNTY NAME]? What do you want local health leaders to know?
11. What actions can local residents take to help improve the health of the community?

Key Informant Interviews

In May and June 2024, ten key informant interviews were conducted with individuals representing organizations across Johnston County to gain perspective on the health and well-being of residents. Participants provided insights into various aspects of healthcare and community life.

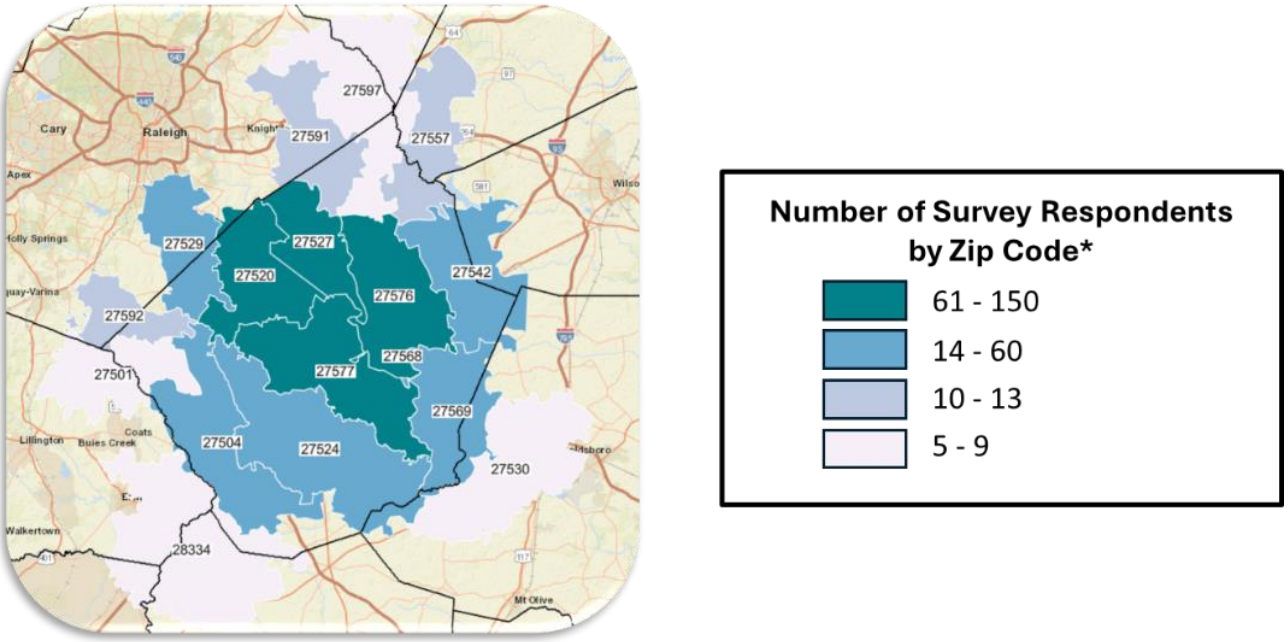
Participating organizations included:

- Benson Health
- CommWell Health
- Carroll Pharmacy
- Harbor, Inc.
- JLH Community Action
- Johnston Community College
- Johnston County Emergency Services
- Johnston County Public Schools
- Latinos Activate JoCo
- UNC Health Johnston – Project Access of Johnston and Harnett Counties

Community Member Web Survey

760 surveys were completed by individuals living, working, or receiving healthcare in the Johnston County community. The survey was available in both English and Spanish, and approximately 7% were completed in Spanish. Consistent with one of the survey process goals, survey community member respondents were representative of a broad geographic area encompassing areas throughout the county. The map below provides additional information on the survey respondents' ZIP code of residence.

Figure 40: Respondent Zip Code of Residence[41]



In general, survey questions focused on:

- Community health problems and concerns
- Community social/environmental problems and concerns
- Specific topics of interest to Johnston County:
    - Access to care
    - Substance use disorders
    - Transportation and transit

The key findings from the Community Survey are detailed below:

- Mental health (e.g., depression and anxiety), alcohol/drug addiction, and diabetes/high blood sugar were identified as the top three health problems affecting the community. Over one-third of respondents also identified heart disease/high blood pressure and overweight/obesity as important health problems.
- Cost, not having insurance, and lack of transportation were the top three barriers to receiving health care identified by the community.
- Housing/homelessness, availability and access to doctor's offices, and poverty were identified as the top three most important social or environmental problems that affect the health of the community. Almost one in four respondents also identified lack of affordable childcare, transportation, and insurance.

[41] Zip codes with fewer than 5 respondents were not displayed for privacy reasons.

Information describing the respondents to the Community Member Survey is displayed below:

Figure 41: Respondents by Race

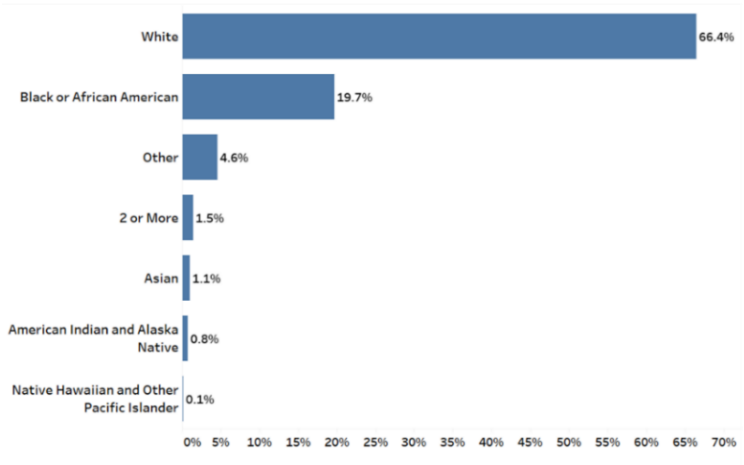


Figure 42: Respondents by Ethnicity

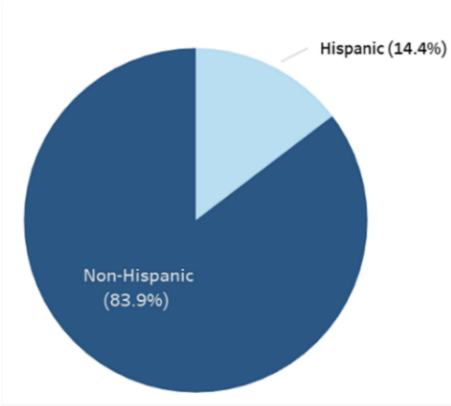


Figure 43: Respondents by Age Group

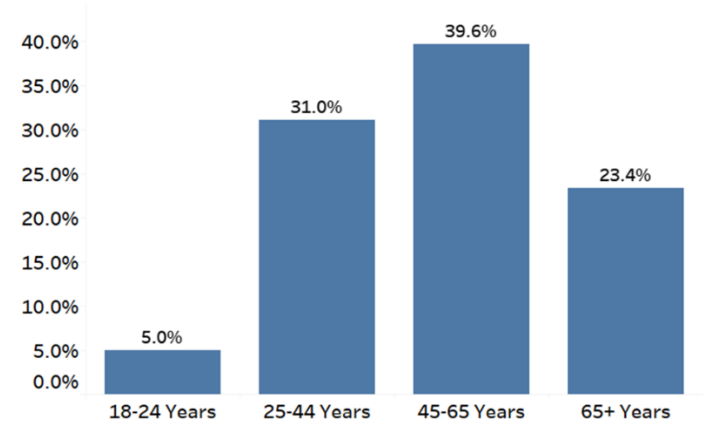
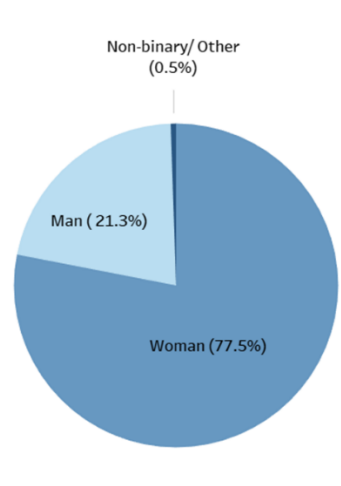


Figure 44: Respondents by Gender



The questions administered via the Community Member Survey instrument are below. The survey instrument was also available in Spanish, and a copy of the Spanish language survey instrument is available on request.

Dear Community Member,

We invite you to participate in your county's Community Health Needs Survey.

Your responses to this optional survey are anonymous and will inform how hospitals and agencies work to improve health in your county. This is not a research survey. It will take less than 10 minutes to complete.

Instructions: You must be 18 years or older to complete this survey. Please answer all questions and return the survey as indicated.

For questions about this survey, contact Ascendient Healthcare Advisors: emilymccallum@ascendient.com

Thank you for your time and participation!

Topic: Demographics

1. What is the zip code where you currently live? _____

2. What is your age group?
   □ 18-24
   □ 25-44
   □ 45-65
   □ 65+
   □ Don't know/ Not sure
   □ Prefer not to say

3. Which of the following best describes your gender? *Select all that apply:*
   □ Man
   □ Woman
   □ Non-binary, genderqueer, or gender nonconforming
   □ Additional gender category: _____
   □ Prefer not to say

4. How would you describe your race? *Select all that apply:*
   □ American Indian and Alaska Native
   □ Asian
   □ Black or African American
   □ Native Hawaiian and Other Pacific Islander

□ White
□ Other race: _____
□ Don't know/Not sure
□ Prefer not to say

5. Are you of Hispanic or Latino origin, or is your family originally from a Spanish speaking country?[42]

□ Yes
□ No
□ Don't know/Not sure
□ Prefer not to say

6. What is the highest grade or year of school you completed?

□ Less than 9th grade
□ 9-12th grade, no diploma
□ High school graduate (or GED/equivalent)
□ Some college (no degree)
□ Associate's degree or vocational training
□ Bachelor's degree
□ Graduate or professional degree
□ Don't know/Not sure
□ Prefer not to say

7. Which language is most often spoken in your home? *Select one:*

□ English
□ Spanish
□ Other, please specify: _____
□ Don't know/Not sure
□ Prefer not to say

[42] The U.S. Census Bureau defines "Hispanic or Latino" as "a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race."

8. For employment, are you currently...*Select all that apply:*

□ Employed full-time (40+ hours per week)
□ Employed part-time (under 40 hours per week)
□ Retired
□ Student
□ Armed forces/military
□ Self-employed
□ Homemaker
□ Temporarily unable to work due to illness or injury
□ Unemployed for less than one year
□ Unemployed for more than one year
□ Permanently unable to work
□ Prefer not to answer

9. Which category best describes your yearly household income before taxes? Do not give the dollar amount, just give the category. Include all income received from employment, social security, support from family, welfare, Aid to Families with Dependent Children (AFDC), bank interest, retirement accounts, rental property, investments, etc.

□ Less than $15,000
□ $15,000 - $24,999
□ $25,000 - $34,999
□ $35,000 - $49,999
□ $50,000 - $74,999
□ $75,000 - $99,999
□ $100,000 - $149,999
□ $150,000 - $199,999
□ $200,000 or more
□ Prefer not to say

Topic: Community Health Opinion Questions

10. What are the **three** most important health problems that affect the health of your community? *Please select up to three:*

□ Alcohol/drug addiction
□ Alzheimer's disease and other dementias
□ Mental health (depression/anxiety)
□ Cancer
□ Diabetes/high blood sugar
□ Heart disease/high blood pressure
□ HIV/AIDS
□ Infant death
□ Lung disease/asthma/COPD
□ Stroke
□ Smoking/tobacco use
□ Overweight/obesity
□ Other (please specify): _____
□ Prefer not to answer

11. What are the **three** most important social or environmental problems that affect the health of your community? *Please select up to three:*

□ Availability/access to doctor's office
□ Availability/access to insurance
□ Child abuse/neglect
□ Age Discrimination
□ Ability Discrimination
□ Gender Discrimination
□ Racial Discrimination
□ Domestic violence
□ Housing/homelessness
□ Lack of affordable childcare
□ Lack of job opportunities
□ Limited access to healthy foods
□ Limited places to exercise
□ Neighborhood safety/violence
□ Limited opportunities for social connection
□ Poverty
□ Limited/poor educational opportunities
□ Transportation problems
□ Environmental injustice
□ Other (please specify): _____
□ Prefer not to answer

12. What are the **three** most important reasons people in your community do not get health care? *Please select up to three:*

□ Cost – too expensive/can't pay
□ Wait is too long
□ No health insurance
□ No doctor nearby
□ Lack of transportation
□ Insurance not accepted
□ Language barriers
□ Cultural/religious beliefs
□ Other (please specify): _____
□ Prefer not to answer

Topic: Access to Care

13. DURING THE PAST 12 MONTHS, were you told by a health care provider or doctor's office that they did not accept your health care coverage?

□ Yes
□ No
□ Don't know
□ Prefer not to answer

14. Where do you USUALLY go when you are sick or need advice about your health? *Select all that apply:*

□ Doctor's office, clinic or health center
□ Urgent care or minute clinic
□ Hospital emergency room
□ Some other place [please specify]: _____
□ Don't go to one place most often
□ Don't know
□ Prefer not to answer

15. There are many reasons people delay getting medical care. Have you delayed getting care for any of the following reasons in the PAST 12 MONTHS? *Select all that apply:*

□ Didn't have transportation
□ You live in a rural area where distance to the health care provider is too far
□ You were nervous about seeing a health care provider
□ Couldn't get time off work
□ Couldn't get childcare
□ You provide care to an adult and could not leave him/her
□ Couldn't afford the copay
□ Your deductible was too high/could not afford the deductible
□ You had to pay out of pocket for some or all of the visit/procedure
□ I did not delay care for any reason
□ Other *(please specify)*: _____
□ Prefer not to answer

16. DURING THE PAST 12 MONTHS, was there any time when you needed any of the following, but didn't get it because you couldn't afford it? *Select all that apply:*

□ Prescription medicines
□ Mental health care or counseling
□ Emergency care
□ Dental care (including checkups)
□ Eyeglasses
□ To see a regular doctor or general health provider (in primary care, general practice, internal medicine, family medicine)
□ To see a specialist
□ Follow-up care
□ None of the above
□ Prefer not to answer

17. If you get sick or have an accident, how worried are you that you will be able to pay your medical bills?

□ Very worried
□ Somewhat worried
□ Not at all worried
□ Don't know
□ Prefer not to answer

18. How much do you agree or disagree with the following statements about telehealth? Telehealth means connecting virtually with a medical provider using a smartphone, tablet or computer. 1 = Strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree

	1	2	3	4	5	Don't know	Prefer not to say
a. I have access to the resources I need to access telehealth (internet, smartphone, tablet, computer, etc.)	□	□	□	□	□	□	□
b. I have used telehealth to access care from my doctor or other provider in the past	□	□	□	□	□	□	□
c. I am open to using telehealth to access medical care in the future	□	□	□	□	□	□	□
d. I am comfortable using a phone, tablet or computer to communicate with my doctor or other provider	□	□	□	□	□	□	□
e. I am comfortable using an online patient portal (i.e. MyChart, My CarolinaEast Care, myOMH, etc.) to communicate with my doctor or other provider	□	□	□	□	□	□	□

Topic: Substance Use Disorders

19. Considering all types of alcoholic beverages, how many times during the past 30 days did you have 4 (females)/ 5 (males) or more drinks on an occasion?

□ Number of drinks: _____

20. How often do you consume any kind of alcohol product, including beer, wine or hard liquor?

□ Every Day
□ Some Days
□ Not at all
□ Don't know/not sure
□ Prefer not to say

21. In the past year, have you or a member of your household intentionally misused any form of prescription drugs (e.g. used without a prescription, used more than prescribed, used more often than prescribed, or used for any reason other than a doctor's instructions)?

    □ Yes
    □ No
    □ Don't know/not sure
    □ Prefer not to say

22. To what degree has your life been negatively affected by YOUR OWN or SOMEONE ELSE's substance abuse issues, including alcohol, prescription, and other drugs? Would you say:
    □ A Great Deal
    □ Somewhat
    □ A Little
    □ Not at All
    □ Don't know/Not sure
    □ Prefer not to say

Topic: Transportation and Transit

23. In a typical week, what kinds of transportation do you use the most? *Select all that apply:*

    □ Car
    □ Bus
    □ Walk
    □ Taxi, Uber, or Lyft
    □ Ride with someone
    □ Bike
    □ Motorcycle
    □ Paying for rides from family or friends
    □ Other, please specify: _____
    □ Prefer not to say

24. In the past 12 months has lack of transportation kept you from medical appointments, meetings, work, or getting things for daily living? *Select all that apply:*

    □ Yes, it has kept me from medical appointments or getting medications
    □ Yes, it has kept me from non-medical meetings, appointments, work, or getting things that I need
    □ No
    □ Prefer not to say

25. Do you put off or neglect going to the doctor because of distance or transportation?

    □ Yes
    □ No
    □ Don't know/not sure
    □ Prefer not to say

Insights: Faith Network

Twelve community members participated in a focus group at the Faith Network. Nearly all (11) of the participants identified as female. Six of the participants identified as white, five identified as African American, and one identified as multi-racial. Nearly all (11) participants identified as non-Hispanic. All participants were over the age of 18. Participants in the Faith Network group identified several key health concerns and barriers to care. Environmental quality was a significant concern, particularly related to rapid county development impacting air quality and flooding. The group also identified family, community, and social support as areas of concern, noting limited spiritual opportunities and a perception that churches could do more for their communities. Food access and security were other important topics, with participants highlighting the high cost of healthy food and the need for nutrition education. Housing and homelessness were also significant issues, including the lack of affordable housing and problems with housing quality. Additionally, mental health, physical health, and tobacco use were identified as concerns.

Participants had several suggestions for how to address these health concerns and barriers to care in their community. They recommended including transportation for medical centers in the county budget, stopping the neglect of existing infrastructure in favor of new development, providing free meals for kids in schools, and offering resources for health and financial literacy.

Focus Group 2 Unique Insights: Public Library of Smithfield & Johnston County

Six community members participated in a focus group at the public library in Smithfield. Over half (4) of the participants identified as female, and two identified as male. Four of the participants identified as African American, and two identified as white. All six participants identified as non-Hispanic. All participants were over the age of 30. The public library focus group identified health equity as a concern, specifically mentioning discrimination as having an impact on community health and well-being. Housing

and homelessness were also important issues, with participants noting that rent is sometimes more expensive than a mortgage and that there are poor housing opportunities for those with no or bad credit. Mental health was a significant concern, with participants mentioning isolation, loneliness, depression, and PTSD among veterans. Physical health issues, particularly cancer, were also highlighted. Substance use and tobacco use, especially vaping among young people, were identified as prevalent issues in the county.

When asked what they would like local health leaders in Johnston County to do to improve well-being, participants suggested creating support groups for various diagnoses, developing more networks of care, improving patient and provider communication, and educating the community about available resources.

Focus Group 3 Unique Insights: Spanish Language at Johnston County Public Health Department

Seven community members participated in a focus group at the Johnston County Public Health Department. All of the participants identified as female. Half (4) of the participants identified as white, one participant identified as African American, and two identified as other. All participants identified as Hispanic. All participants were over the age of 18. The Spanish language focus group at Johnston County Public Health Department identified several unique health and social issues. Community safety was a concern, with domestic violence specifically mentioned. Food access and security were highlighted, with participants noting the need for better nutrition education and the income-dependent nature of access to healthy foods. Health equity was a significant issue, with participants emphasizing the severe lack of Spanish-language providers to meet the growing needs of the community. Transportation and transit were also identified as major barriers, with participants noting the lack of public transportation options such as bus stops.

To address these concerns, the participants suggested that local health leaders attend schools, fairs, and other events to raise awareness of resources. They also recommended offering more sports activities for the Hispanic community, providing more information about mobile outreach programs, and expanding Quick Ride services to more rural communities.

Key Informant Interviews

The interviews identified several common strengths and challenges in Johnston County. Major challenges centered around healthcare access and quality, housing and homelessness, mental health, physical health, and transportation issues. Additionally, interviewees noted long wait times for appointments, shortage of specialty care, and lack of affordable housing as significant concerns.

Interviewees highlighted several service gaps in Johnston County, including the need for better mental health services, more affordable housing options, and increased specialty medical care. They also noted changes in healthcare access over time, with significant population growth straining existing resources and creating longer wait times for services.

The interviews revealed several barriers to accessing healthcare services in Johnston County. Financial constraints were identified as a significant obstacle, along with transportation issues, language barriers, and lack of information about available services. To overcome these barriers, suggestions included developing more affordable care options, improving assistance for navigating available services, and addressing the high costs of housing and healthcare.

Key health concerns in Johnston County centered around mental health issues, chronic diseases such as diabetes and heart disease, and substance abuse. Potential causes for these issues included limited resources, workforce shortages, and economic challenges. Interviewees suggested investing more in mental health programs, addressing homelessness and drug abuse, and expanding affordable healthcare options as potential solutions.

Overall, the key informant interviews provided valuable insights into the health and social challenges facing Johnston County, as well as potential strategies for improving the well-being of its residents. The findings highlight the need for improved healthcare access, more affordable housing, better mental health services, and improved transportation options to address the diverse needs of the growing population.

The sections below outline an individual summary of each of the ten key informant interviews. Each individual interview highlighted specific health and social concerns attributed to their specific perspective, as well as the barriers to care that they might encounter. Specific suggestions are also highlighted aligning with their specific industry.

Key Informant Interview 1: CommWell Health

Significant Health and Social Concerns

Four health concerns were identified as significant, specifically primary screenings of chronic health conditions, such as diabetes, high blood pressure, heart disease, and obesity. Dental services were noted as a significant need, with many practices overbooked and many underinsured or uninsured patients unable to access providers due to cost, particularly with pediatric dental providers. The third significant concern was behavioral health access, with the informant reporting a high number of incoming referrals from other providers, and a lack of staff to support increased behavioral health services, particularly for children and substance use disorders. Finally, the fourth concern was an increase in STI's, specifically syphilis and then HIV, specifically in younger African American gay men. Children were identified as a target population for behavioral health resources. The interview identified a need for culturally competent care, particularly among the Spanish- speaking population, with not only increased diversity in providers but also a need for providers with different cultural experiences.

Barriers to Care and Suggestions

Various SDoH were identified as barriers to care, such as food insecurity, specifically with general lack of access to food and housing, notably affordable housing and individuals not able to afford rent and experiencing homelessness, particularly with minorities being affected by SDoH factors. Transportation was also noted as a global concern within all populations in Johnston County, with individuals needing access to public transportation and low-cost rideshare services. The key informant also identified a need for access to social services, particularly among those who are 65 and older.

Multiple suggestions for improving the health of Johnston County were made, such as continuing to collaborate with other non-profit organizations and healthcare facilities to ensure greater access to care and bringing in smaller organizations such as faith-based organizations, to help with health education and assisting individuals with accessing care. Additionally, a need for more communication was noted, ensuring that organizations are speaking to each other and to community members.

Key Informant Interview 2: Johnston County Emergency Services

Significant Health and Social Concerns

The most significant concern noted by the key informants was transportation. While a low-cost ($6 one-way) program has been developed in Johnston County to allow low-income residents to access ride- share services, the program is only accessible in two communities. For those who do not have access to the program, there is a general cost barrier to rideshare services, namely in rural areas and those within the Medicaid gap. Other health concerns were identified, such as an increase in referrals for those with chronic health conditions, namely diabetes, heart disease, and COPD. Additionally, when considering impacted populations, the concern was noted as shifting towards those with lower education levels being impacted at a higher rate. The interview identified that those with less education were more likely to be readmitted post- discharge, mainly due to a lack of insurance and access to transportation, and therefore not being able to see a primary care provider for follow -up care. Those who live in rural areas were also noted as having a higher impact, particularly those who live in areas that are more than 20 minutes away from a grocery store.

Barriers to Care and Suggestions

Food insecurity was noted as a barrier to care, with informants identifying that, organizations such as Meals on Wheels were working to address the concern but were over capacity and short- staffed. Housing was noted as a barrier to care, namely with reaching a patient to provide care, and with delivering health education. Informants noted that treating a patient in a wealthier neighborhood required a different level of health literacy and thought to accessing the home, than it did accessing homes in a lesser condition and who may have a lower level of health literacy. Lastly, the establishment of current providers was noted as a barrier. Specifically, many providers have existing patients and aren't receiving new patients, lowering access to primary care services and forcing both the informants and patients to drive further for primary care. Suggestions included continuing to utilize the Johnston County Public Health Department, which was noted as being exceptional for its health education and organizing resources. However, a need was identified for a rehabilitation center for substance use disorders that is also available to low-income individuals. Another suggestion was for health leaders to promote free delivery of prescriptions and groceries.

Key Informant Interview 3: Benson Health

Significant Health and Social Concerns

Mental health was identified as a general major concern, followed by chronic disease conditions. The specific concern surrounding chronic disease is the lack of treatment given to patients who are coping with these diseases, and ties with the third concern of continuity of care. The informant noted the difficulty in being able to follow up with individuals who have chronic health conditions, get care once, and then do not show up again or as often. The fourth concern noted was the lack of health literacy in the community. Additionally, the migrant farmer worker population was noted as an at-risk population, due to the lack of the ability to establish continuity of care with the individuals and ensure access to specialists as needed.

Barriers to Care and Suggestions

SDoH was noted as a general barrier to care, due to the growing population in the county and the inflating housing market, which in turn has increased rent costs. Affordable housing in good condition has become a concern for the community. A need for better social support was also mentioned, based on a perception

that many adolescents and young adults have mental health concerns that may be impacted by a lack of social interaction. A particular sub population of this was those who identified as LGBTQ and their perceived acceptance in the community. Finally, transportation was also noted as a barrier, namely as a challenge for those who live alone, and that lack of timeliness with public transportation, making it difficult to arrive at appointments on time.

Suggestions for health leaders included adjusting clinic hours to accommodate evening appointments for those who may not be able to take off work for an appointment. Another suggestion was that health leaders should work to increase health literacy in the community, especially among those with lower levels of education. Finally, health leaders should work to reduce the stigma surrounding Medicaid and subsidized insurance plans, focusing more on access to health insurance enrollment.

Key Informant Interview 4: JLH Community Action

Significant Health and Social Concerns

The interview yielded several major health concerns in Johnston County. The first was housing, specifically with a lack of affordable housing and restrictions on eligibility. Transportation was a second major concern, with the perception of lack of access to public transportation options going from one city to another. A third major concern was the high cost of healthcare, specifically the cost of payment plans for medical bills. Employment was identified as a concern, namely the availability of well-paying jobs. The last major health concern was food insecurity, notably the increasing number of food banks and their struggle to keep up with the growing demand for help. Individuals experiencing homelessness and those who are unemployed or underemployed were noted as a highly impacted population due to the fast growth of Johnston County. Other populations, such as those over the age of 65, were noted as high risk for the increasing number of chronic health conditions; however, the informant did note that the population impacted by chronic health conditions was growing younger into those as young as 40 years of age. Finally, substance use was identified as a growing health concern, notably the rising use of fentanyl. Mental health was also identified.

Barriers to Care and Suggestions

The main SDoH noted as a barrier to care was social and community support. The informant identified that while Johnston County is growing, a majority of individuals moving in do not have family or friends in the area and lack a social support system. Additionally, it was noted that some of them are pregnant and do not have a social support system as well. Additionally, it was noted that while there are resources available, many of them are understaffed or under- supported, such as burnout of social services staff, a lack of funds, and a lack of available grants to apply for. Finally, other barriers to care that were noted were a lack of trust in healthcare providers (specifically among minorities), long wait times for care, the cost of healthcare and insurance, filling prescriptions, and the fear of going to the hospital.

Suggestions for health leaders included developing neighborhood health education workshops during the weekend or after work hours, convincing providers to take Medicaid and Medicare, increasing knowledge about the wealth of programs offered by Johnston County Health Department, and working with non-profit and faith-based organizations.

Key Informant Interview 5: UNC Health Johnston – Project Access of Johnston and Harnett Counties

Significant Health and Social Concerns

Access to care was identified as the most significant concern in the community. Notably, this concern entails a lack of health care providers in Johnston County, and even fewer who accept Medicaid and Medicare. The second significant concern was transportation, and how it impacts the number of individuals who make their appointments on time. There is a county -wide bus, but it is not timely, and often there are long wait times to board the bus. Diabetes was noted as a health concern, and how it impacts the Hispanic/Latino population and males at a higher rate due to diet, the individual's income, and the cost of medications. Finally, the perception of smoking was identified as a concern in the community.

Barriers to Care and Suggestions

Two SDoH were identified as barriers to care, food insecurity and employment. Food insecurity is specifically identified as a gap in access to assistance, namely those who do not qualify for food stamps but cannot afford groceries, diabetics who require special diets, and a lack of consistent aid offered through non-profits, especially for families with children. Employment was the second SDoH, with the lack of accessible jobs. Specifically, a lack of public transportation impacts access to better- paying jobs outside of the community, and the high cost of housing makes it difficult to live in an area where one may get a better job. Finally, the cost of healthcare was noted as a barrier, as well as the location of communities in Johnston and the lack of primary care practices in rural areas. Suggestions for health leaders included promoting resources of Project Access of Johnston and Harnett Counties, incentivizing healthcare providers to come to Johnston County, especially those who will accept Medicaid, and work with the community as it grows to promote access to equitable resources.

Key Informant Interview 6: Latinos Activate JoCo

Significant Health and Social Concerns

Chronic health conditions such as high blood pressure, obesity, and heart disease were identified as the most significant health concern, mainly due to factors from common diets eaten. It was also noted that this was a concern centralized around those 65 and older, with the younger generations wanting to see a change in the prevalence of these conditions; however, there is a lack of education and access to primary care in the area. Various SDoH were also noted as concerns, such as transportation, specifically with a lack of personal vehicles. Housing was also noted as a concern, due to the high cost of rent, overriding an individual's ability to pay for health care.

Barriers to Care and Suggestions

Multiple barriers to care were noted, especially regarding the stigma surrounding access to healthcare and being undocumented. Another barrier to care is the lack of translation and interpreting services in Johnston County, especially in schools, veterinary care, and medical facilities. Other barriers were noted as transportation, disability status, childcare needs, and stigma. Suggestions to health leaders included supporting the younger generation by helping their elders in achieving health goals and reassuring the Hispanic/Latino community that Johnston County is a safe space for healthcare, especially within the health department.

Key Informant Interview 7: Johnston County Public Schools

Significant Health and Social Concerns

Mental health was the most significant concern identified in the interview, specifically in anxiety and mental illness in adolescents. Additionally, it was noted that adolescents were becoming more anxious about social interaction due to seeing an increase in remote work and their parents leaving the house less. Substance use was also noted as a concern, with a notable increase in the perception of vaping and tobacco products being utilized. SDoH were also a concern, with multiple identified. The key informant noted that social media was a significant factor in violence in schools, coupled with adolescents maturing at a faster rate due to increased access to information and being around adults. Housing was identified as a concern, specifically with a lack of available housing compared to the needs of displaced children and families. Regarding food insecurity, there is a lack of fresh produce and foods in food banks, resulting in a reliance on non-perishable food for those who are food insecure. Transportation overall was noted as a concern, as well as beyond public transportation. This concern was specifically noted that if a child misses the school bus, they might not attend school because they have no other way to reach the classroom. Finally, the last concern noted was a regional lack of internet providers, which means some children could not do any homework online once school ended.

Barriers to Care and Suggestions

Multiple barriers to care were noted in the interview, such as long wait times, transportation to care, and the high cost of healthcare. The main suggestion for health leaders was to utilize the Johnston County Public Health Department more, as they had a significant number of resources available.

Key Informant Interview 8: Harbor, Inc.

Significant Health and Social Concerns

Housing was identified as the most significant concern in the interview, specifically surrounding a need for both affordable housing and those who fall within a “working gap” and need rental assistance. Additional concerns that were noted were an increase in behavioral health concerns and lack of appropriate outlets for coping, stigma surrounding domestic violence, and chronic health conditions. Another noted concern is a rise in high school-age adolescents seeking help with dating violence and education surrounding the prevention of entering these kinds of relationships.

Barriers to Care and Suggestions

Some SDoH were noted as barriers to care, such as transportation. Specifically, the current public transit system is not sufficient, and it can take multiple hours to pick up individuals, take them to the grocery store and appointments, and then transport them back home. The overall cost of living and inflation were noted as a barrier, preventing individuals from having the funds to pay medical bills versus living expenses. Food insecurity was also identified, and that nonperishable food was cheaper than attempting to travel to a grocery store and purchase fresh produce and meats. Finally, a lack of knowledge of existing resources and overall health education was noted as a barrier, especially when seeking access to primary health care services. Suggestions to health leaders included promoting existing resources like the UNC health Johnston medical bus, and continuing partnerships with the local hospitals.

Key Informant Interview 9: Johnston Community College

Significant Health and Social Concerns

Mental health was identified as the most significant health concern, specifically surrounding a lack of access to affordable mental health care providers. There is a need and a desire from young adults to seek mental health services, but not enough providers to support the demand. Additionally, many college students do not have health insurance, mainly due to the cost of premiums. Overall, access to care is another health care, with young adults and college students utilizing the Emergency Department (ED) for primary care services and a backlog of students trying to get in with local mental and behavioral health providers. Multiple SDoH were also identified as concerns, including the overall cost of living on campus, food insecurity, the increased use of the campus food pantry, and transportation concerns. Specifically, regarding transportation, students are not able to get from one city to another due to limitations of the county transit, which is also expensive to use. This has led to an increase in online learning, which also has an impact on social support. Access to childcare was also noted, and both the cost and the availability of daycare space mentioned. Finally, housing and access to internet were noted, both with limited options due to cost and county infrastructure.

Barriers to Care and Suggestions

The lack of affordable insurance and the high cost of medical care were noted as two main barriers to care, as well as transportation to appointments. Suggestions for health leaders were to first look into providing student accident insurance and increase access to preventative screenings and mobile clinics on campus. Other suggestions were to promote living and doing activities in Johnston County, rather than working and traveling to Wake County, and then living in Johnston County. Other suggestions were to expand UNC Health Johnston, promote college students entering healthcare degrees, and increase capacity to campus mental health services.

Key Informant Interview 10: Carroll Pharmacy

Significant Health and Social Concerns

Chronic disease conditions such as heart disease and smoking were noted as the most significant concern. It was also identified that getting to the pharmacy for medications without assistance was much more common among higher- income patients and that low-income patients who relied on delivery may still refuse medications due to the delivery cost. Those who were dual eligible for Medicaid and Medicare and homebound are the most impacted, and those who may be socially isolated and unable to drive. When regarding medication cost, other chronic health conditions were noted such as Diabetes, COPD and emphysema. Other SDoH were noted as health concerns, such as transportation and income, and social and community support. Social and community support was identified in two different contexts. The first were those who were socially isolated, were and were not living near any family or friends, and did not live with a partner or roommate, which prevented them from taking steps to achieve health goals. The second was those who are elderly and physically unable to leave their home. Both created difficulties in the individuals not only obtaining medication but also seeing other community members and interacting with health care providers.

Barriers to Care and Suggestions

The above healthcare concerns were also identified as barriers to care, especially the rising cost of medications and the social isolation of some individuals. Suggestions to health leaders include lobbying to expand primary care privileges to pharmacists. Additionally, the informant recommended that hospitals ensure continuity of care from admittance to discharge to follow-up, and understand the impact of hospitals expanding pharmacy delivery on independent pharmacies. Additionally, the informant suggested

that discharge planners receive existing resources in Johnston County and contact pharmacies to help ensure continuity of care.

Community Member Web Survey

Charts detailing key findings from the Community Member Survey are displayed below:

Additional Demographic Information

Figure 45: What is the highest grade or year of school you completed?

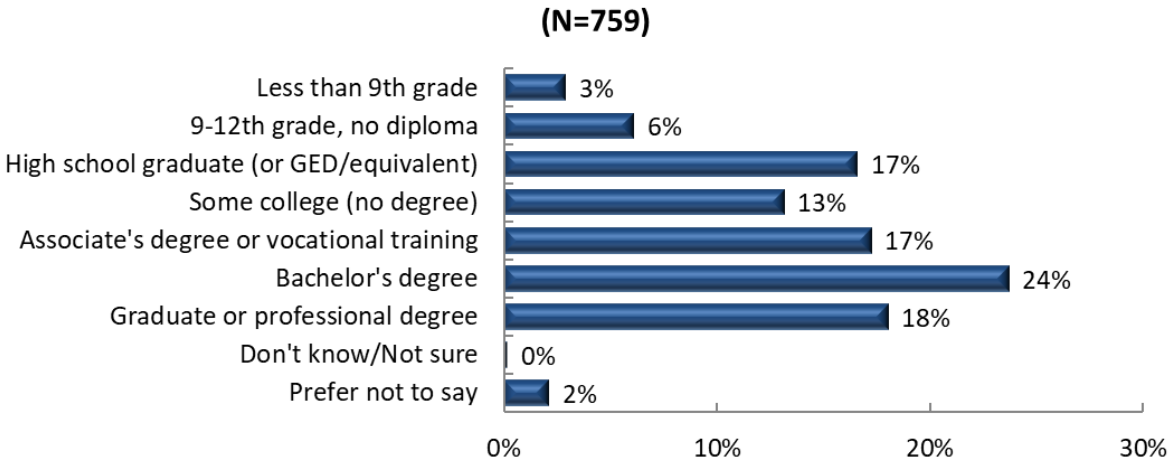
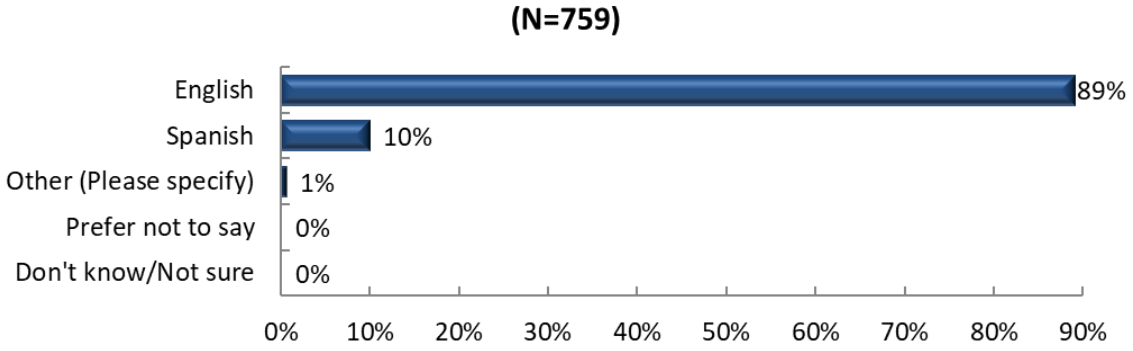


Figure 46: Which language is most often spoken in your home? (Choose one)



Other (please specify):

- "Spanish and English" (2 responses)
- "Chinese"
- "German"
- "English & Hindi"

Figure 47: For employment, are you currently... (Select all that apply.)

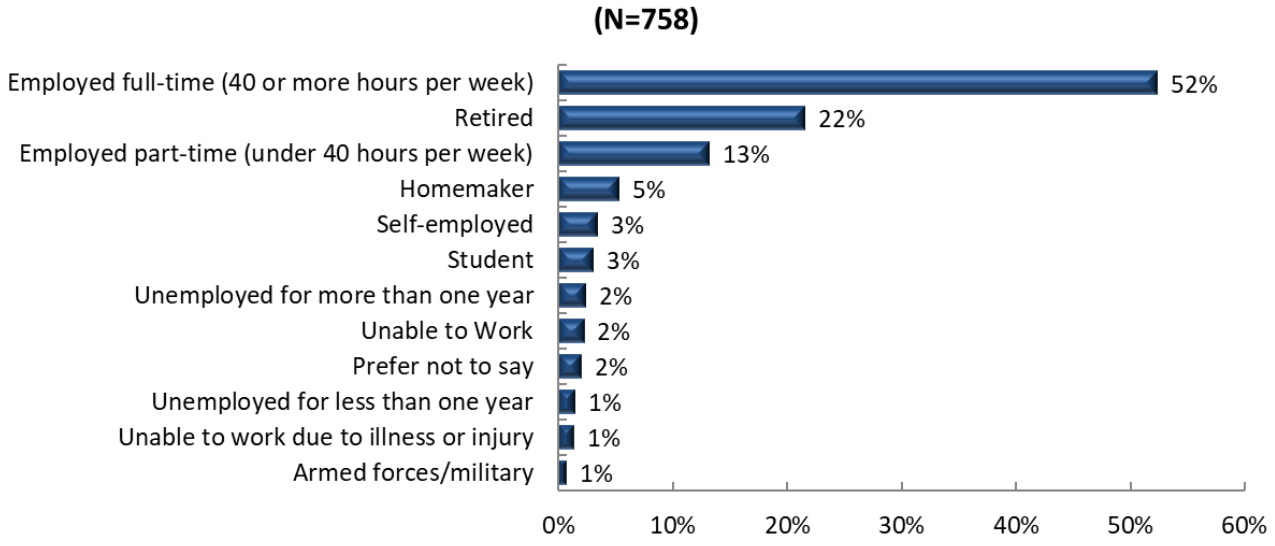
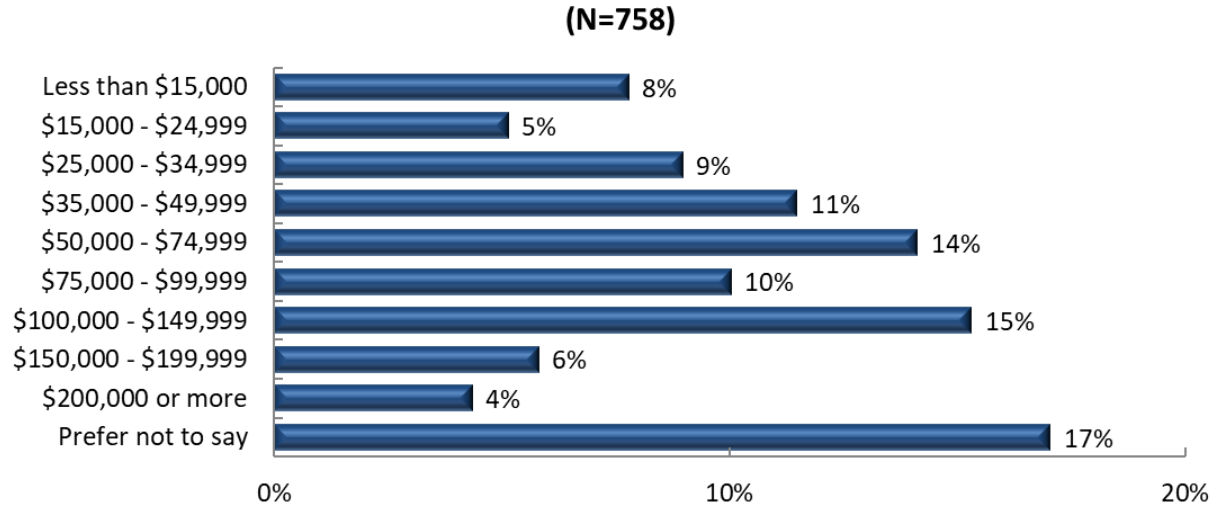


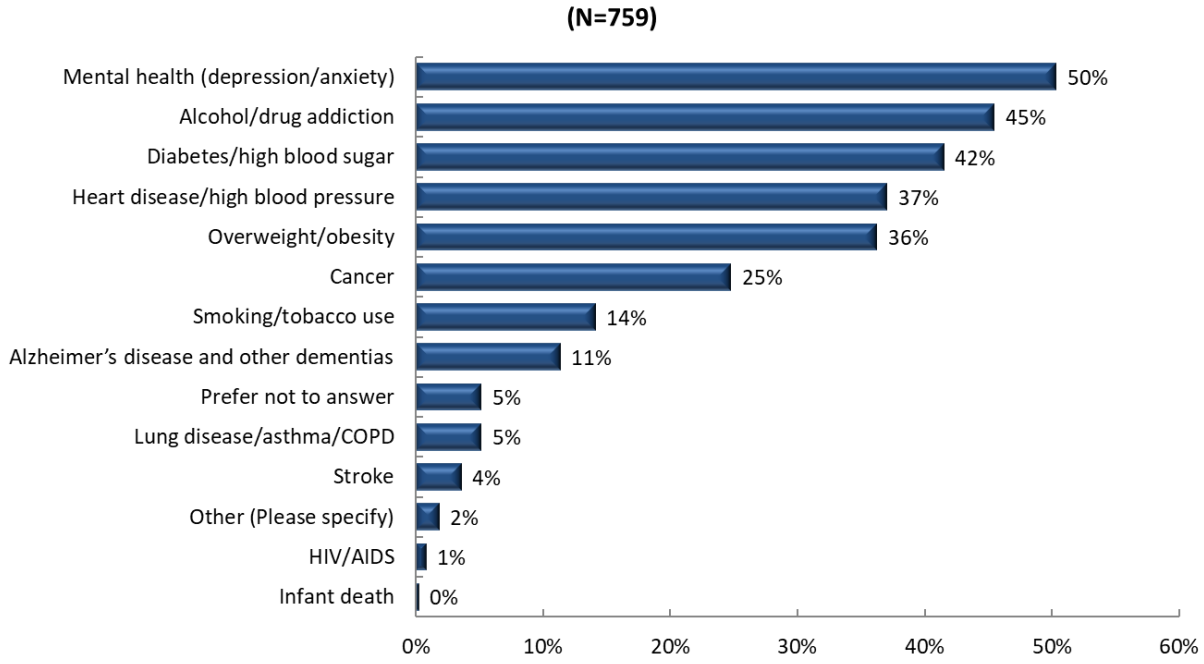
Figure 48: Which category best describes your yearly household income before taxes?

Do not give the dollar amount, just give the category. Include all income received from employment, social security, support from children or other family, welfare, Aid to Families with Dependent Children (AFDC), bank interest, retirement accounts, rental property, investments, etc.



Topic: Health Conditions, Social Determinants of Health, And Barriers to Care

Figure 49: What are the three most important health problems that affect the health of your community? Please select up to three.



Other (please specify):

- "Arthritis-Joint Replacements"
- "Autism/Special Needs"
- "Blood clots"
- "child health prevention services"
- "Elder Care"
- "No issues known to me appears "healthy""
- "Poor communication in all forms of health system: doctor, offices, hospitals, etc."
- "Poverty, food insecurity"

Figure 50: What are the three most important health problems that affect the health of your community? Please select up to three. (By age)

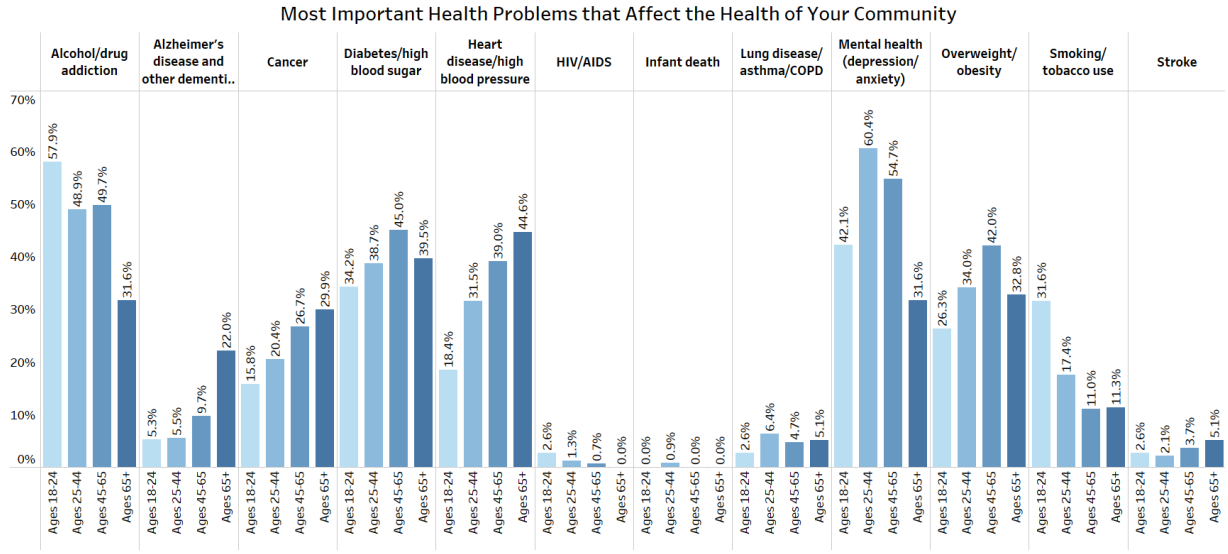


Figure 51: What are the three most important health problems that affect the health of your community? Please select up to three. (By gender)

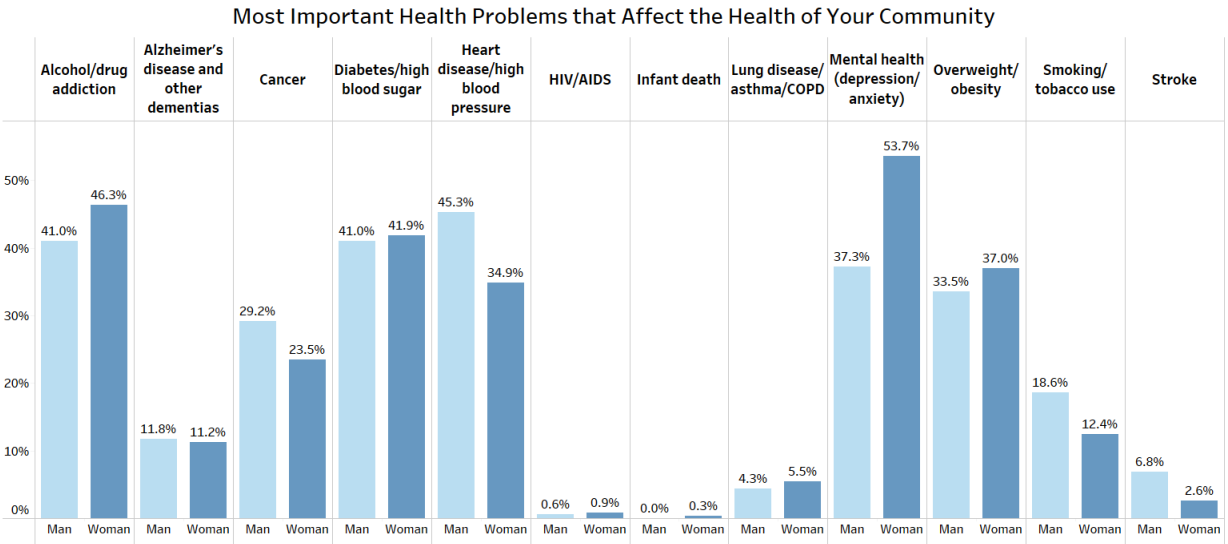


Figure 52: What are the three most important health problems that affect the health of your community? Please select up to three. (By race)

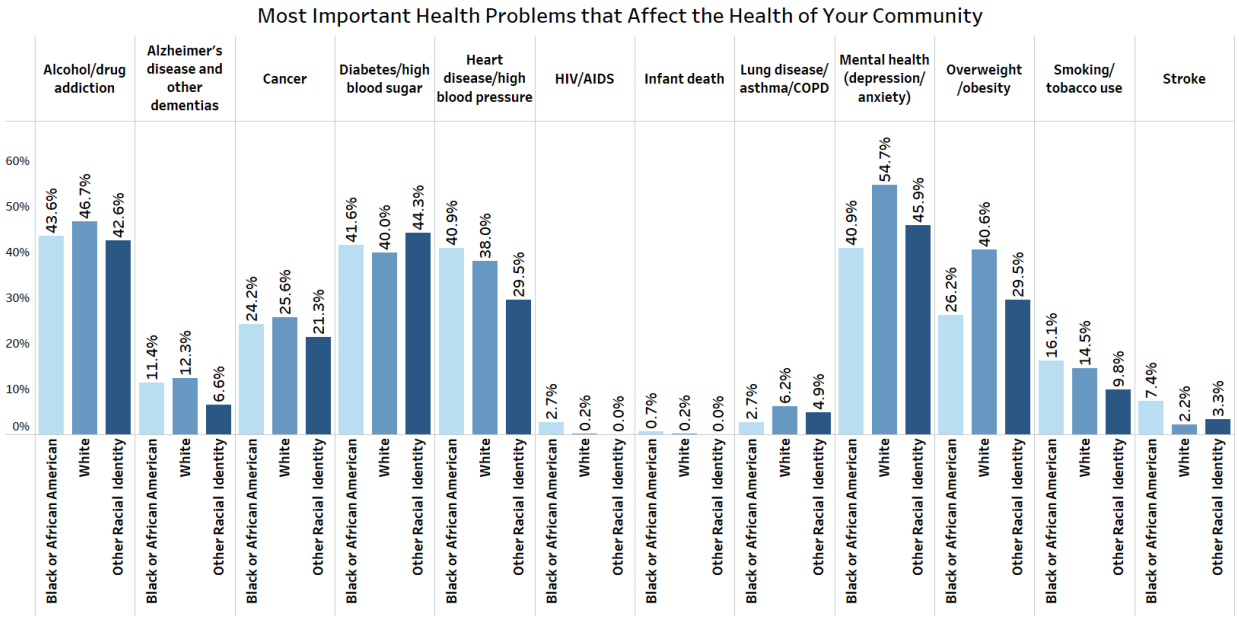


Figure 53: What are the three most important health problems that affect the health of your community? Please select up to three. (By ethnicity)

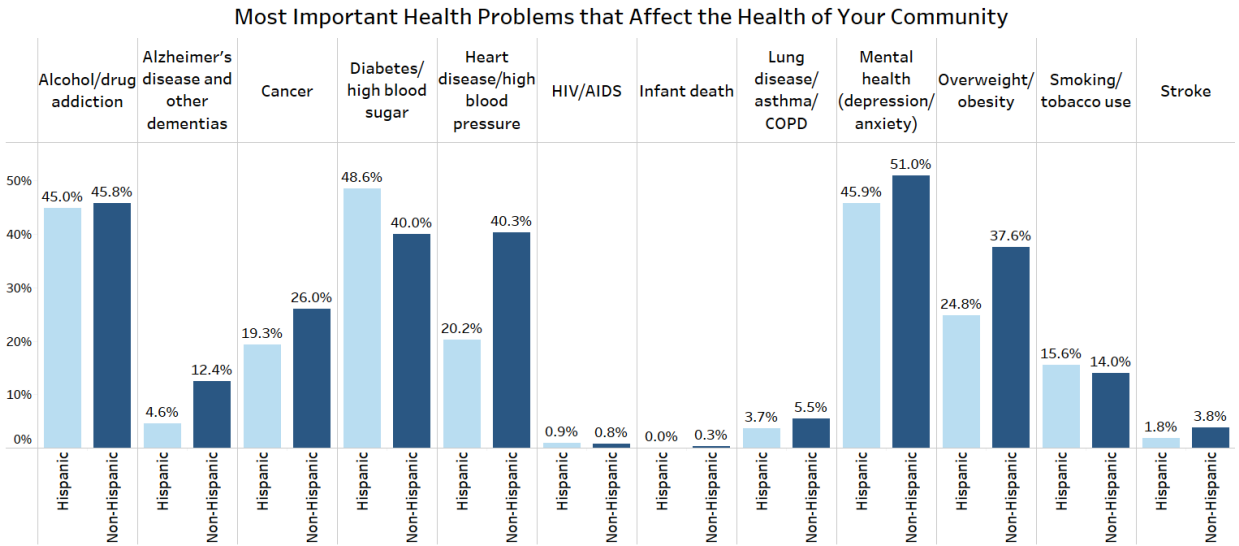
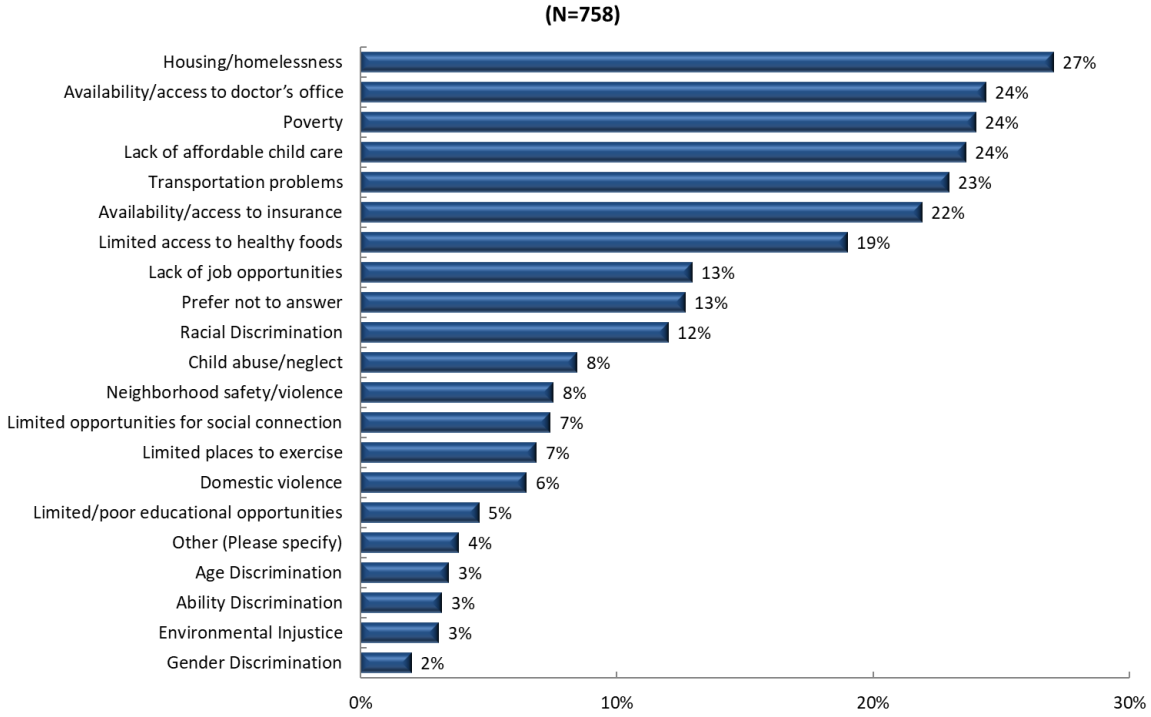


Figure 54: What are the three most important social or environmental problems that affect the health of your community? Please select up to three.



Other (please specify):

- "Access to public recreation opportunities such as parks & trails"
- "Adequate senior center"
- "Affordable housing to buy or rent"
- "Drugs are an issue and not tough enough penalties."
- "Elder care, immigrant discrimination"
- "Emergency care and elder care"
- "Everything is too expensive. Cost of living too high compared to paychecks."
- "Gender Discrimination"
- "High Insurance Deductibles" (2 responses)
- "High utility bills/light bill"
- "I believe there are lots of opportunities out there but people rather receive free handouts from the government, which is the taxes that people who work are forced to pay!"
- "I do not really feel that any of these social or environmental problems are the most important. To me the single most important problem for my family is the cost of healthcare. We have health insurance and still it is a struggle to afford to pay the copays, deductible, co-insurance, etc. The cost of healthcare is totally out of hand. Another problem is not the limited access to healthy foods, they are available but they are expensive. Healthy food is more expensive than unhealthy food and the result is that people eat convenient cheap food that is not healthy. Is this an access problem? I am not certain to me it is an inflation problem and a cost problem. The cost of living is outstripping our ability to afford the basic necessities that people need. I think perhaps the third greatest environmental problem is in population growth. The population growth is leading to less healthy environments. This is greatly affecting our children. Bullying is

rampant in our schools and that affects mental health of our children. Also the social pressures of social media and peers."

- "lack of affordable housing"
- "Lack of Space at the Senior Center"
- "Landlords keep raising rent and single hourly earners cannot afford to live"
- "Limited/poor educational opportunities for children"
- "Low healthcare literacy and advocates"
- "Need more Specialties Doctors"
- "No place for kids to meet and play"
- "People who refuse to work but can!"
- "Unwilling to maintain employment and healthy lifestyle"
- "Very poor public agencies who are supposed to help people and they do nothing. To help other than very low income, or if you know somebody"
- "Want the government to pay for everything - lazy"
- "We have a wonderful county and community, I am not aware of any negative social issues"

Figure 55: What are the three most important social or environmental problems that affect the health of your community? Please select up to three. (By age)

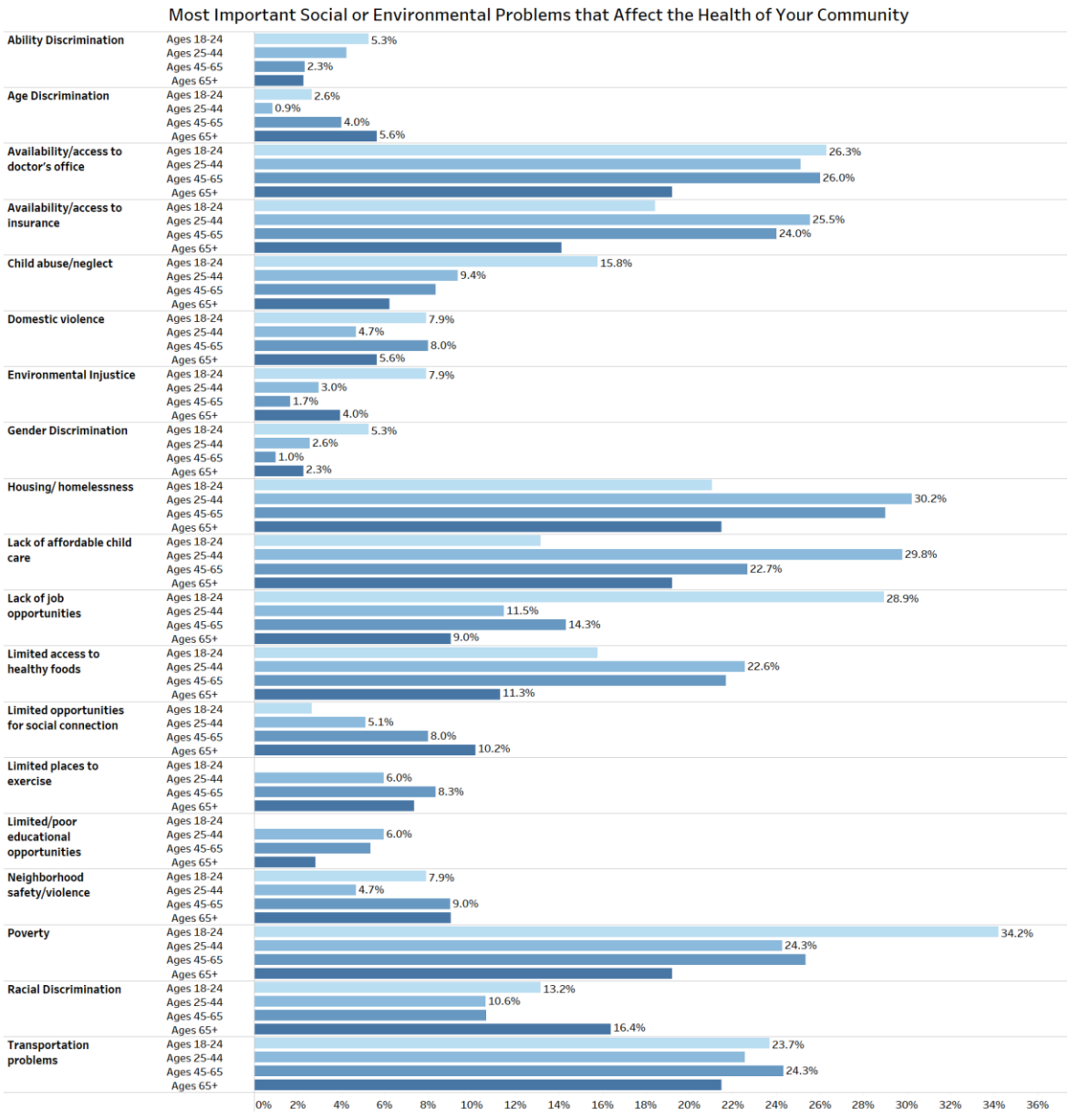


Figure 56: What are the three most important social or environmental problems that affect the health of your community? Please select up to three. (By gender)

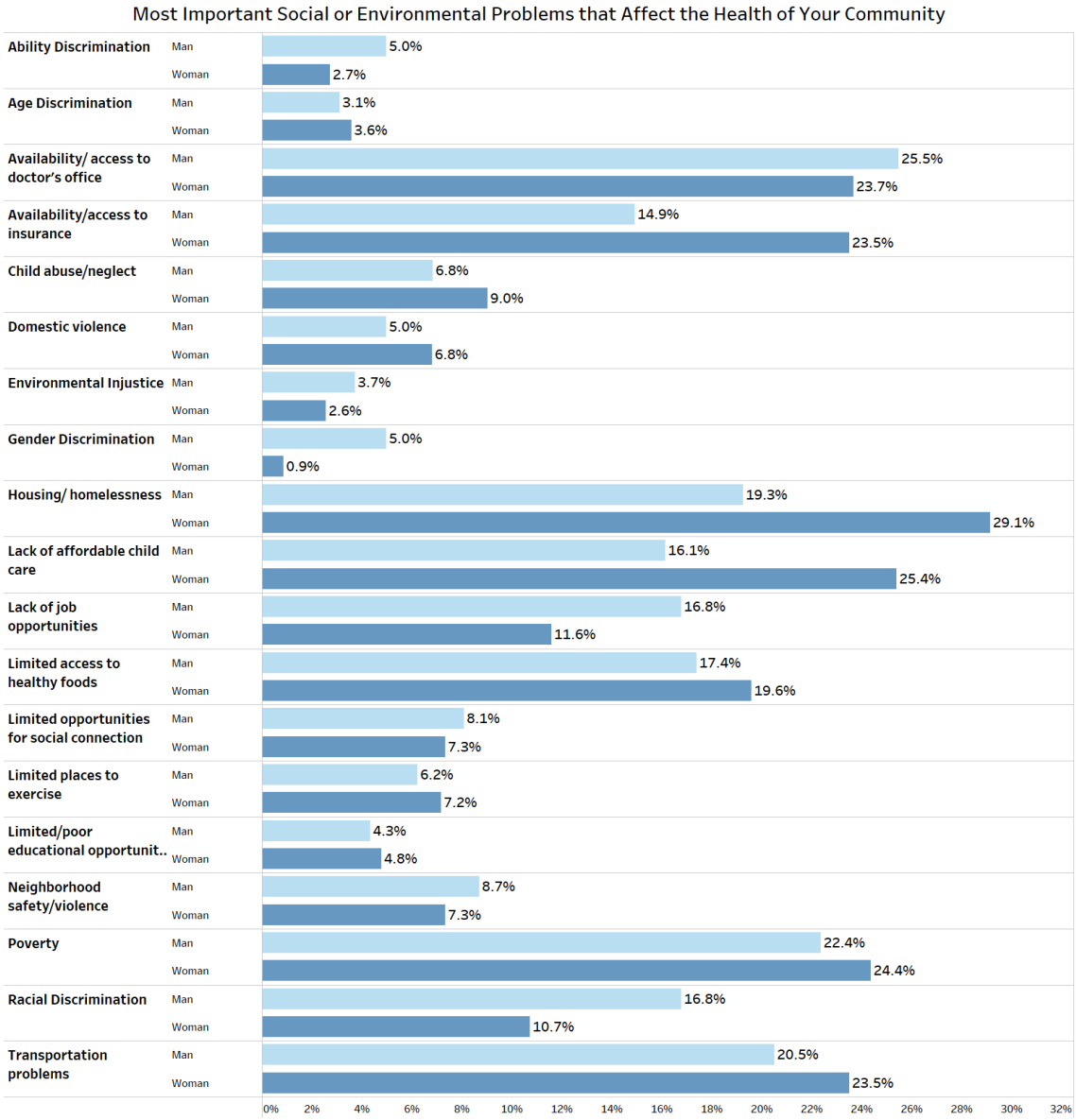


Figure 57: What are the three most important social or environmental problems that affect the health of your community? Please select up to three. (By race)

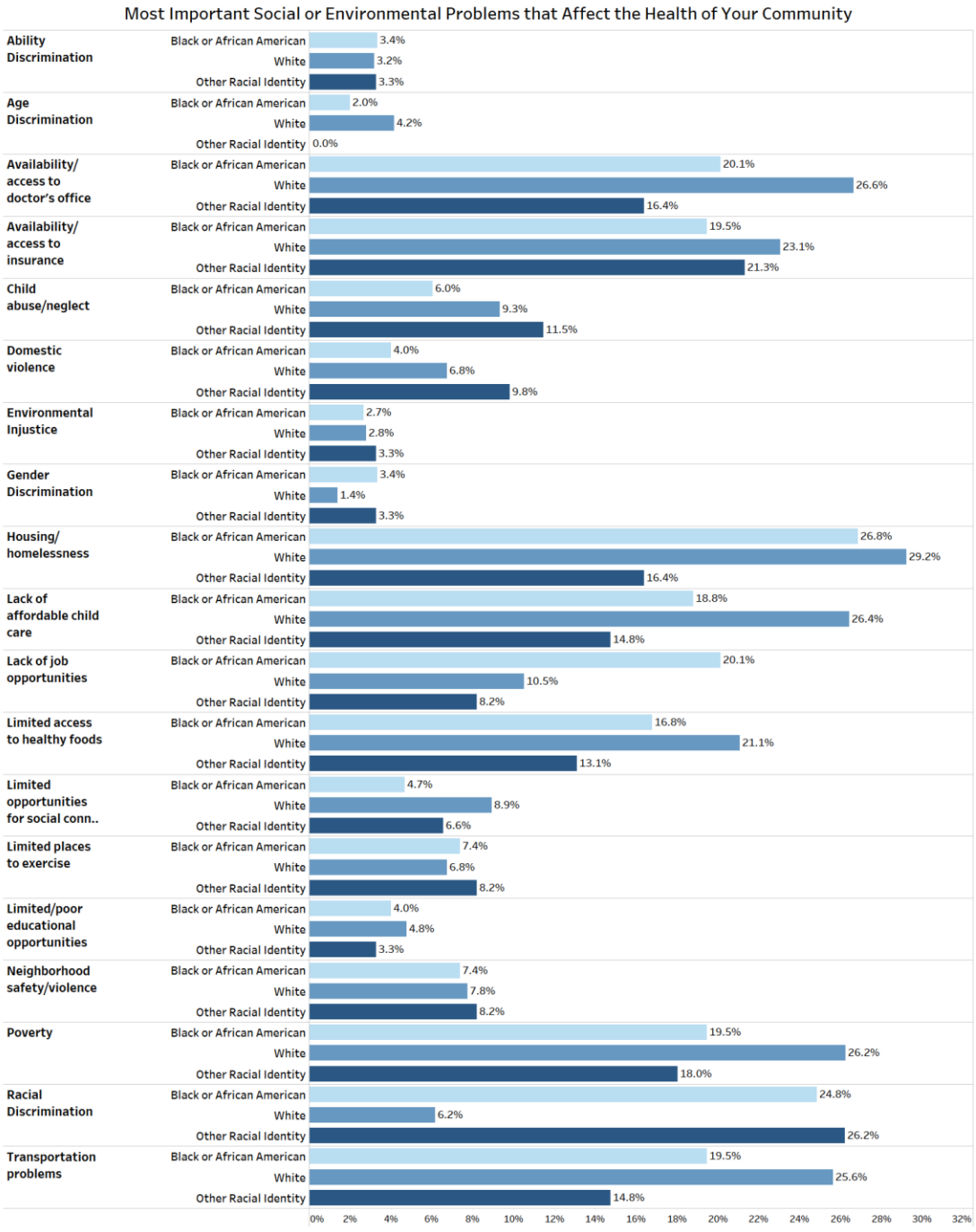


Figure 58: What are the three most important social or environmental problems that affect the health of your community? Please select up to three. (By ethnicity)

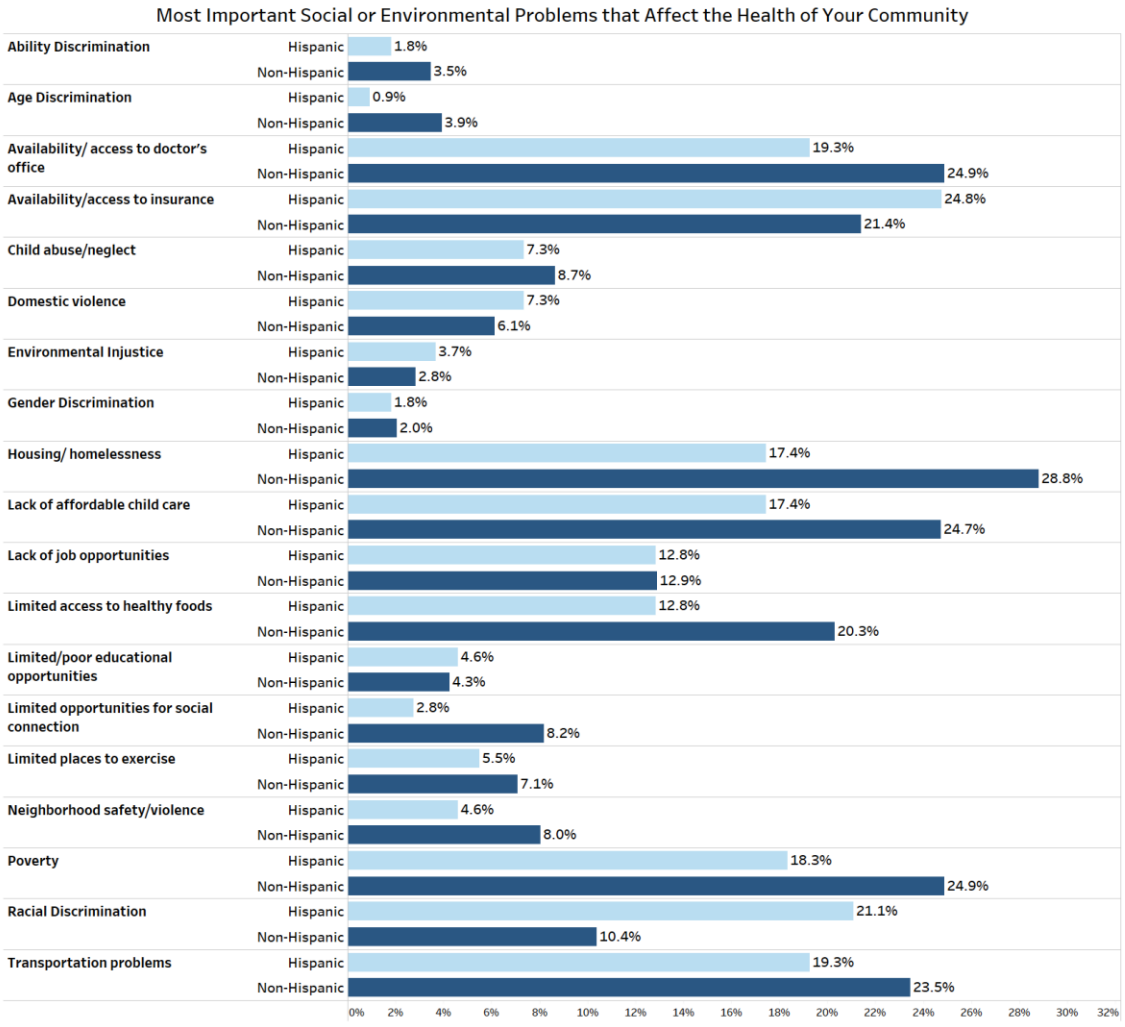
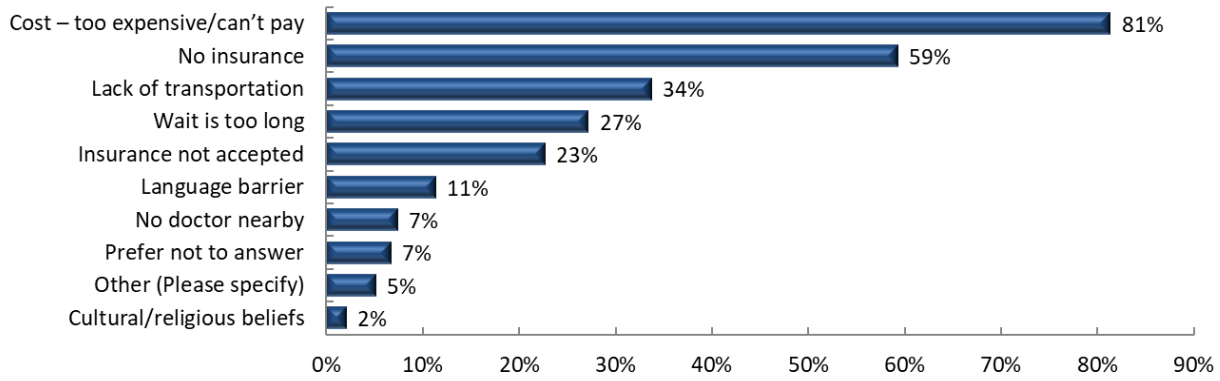


Figure 59: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three.

(N=759)



Other (please specify):

- "Afraid and or mistrust the health care systems"
- "all of these"
- "Can't miss work because need money"
- "Care for elderly people"
- "copay to high"
- "Cultural/Trauma Knowledge/Awareness lacking"
- "Don't understand insurance"
- "Don't care about themselves"
- "Don't care about themselves"
- "Don't know"
- "Don't want to go"
- "Few primary care PHYSICIANS. PA/NP are not an adequate substitute"
- "High insurance deductibles"
- "High Insurance Deductibles can't afford"
- "Insurance co-pay"
- "Insurance rates are going up and so is out of pocket cost"
- "It all revolves around cost and motivation. Many people are just reluctant to take the time to go to the doctor. I do not know if it is ignorance, anxiety, or what. People are just failing to take care of themselves."
- "Lack of education"
- "lack of effort to make an appointment"
- "lack of flexibility, judgment/difficulty being compliant"
- "Lack of good communication with health providers and staff"
- "Lack of knowledge"
- "Lack of quality care and not listening to patients. Poor communication with central appointment, offices, etc. also lack of feedback."
- "lack of quality providers"
- "Negligible thoughts on part of individuals!; Takes a long time to receive help!"
- "no driver's license"
- "Not taking new patients"
- "overcrowded and understaffed hospitals and emergency rooms"
- "Quality of Healthcare provided. We drive to clayton for a decent pediatrician"
- "Racial discrimination in healthcare and lack of specialty doctors for disabled individuals"
- "Spotty care quality leads people to delay/avoid to seeking treatment"
- "wait for appointment date is too long at the free/reduced clinics"
- "waiting lists for doctors"

Figure 60: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three. (By age)

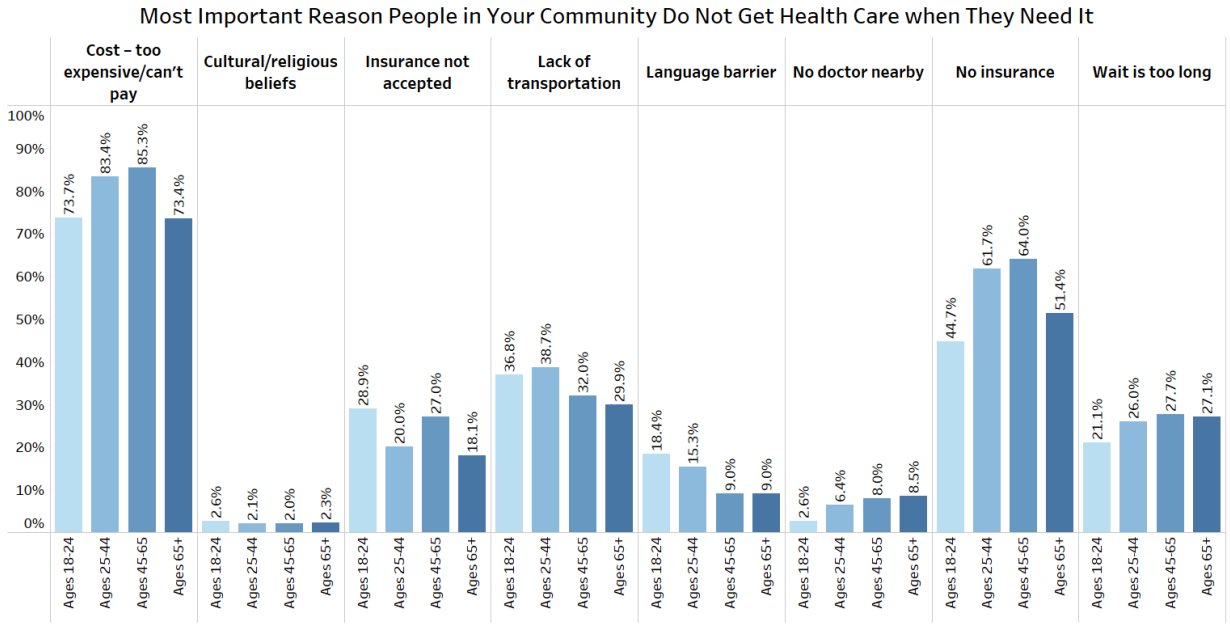


Figure 61: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three. (By gender)

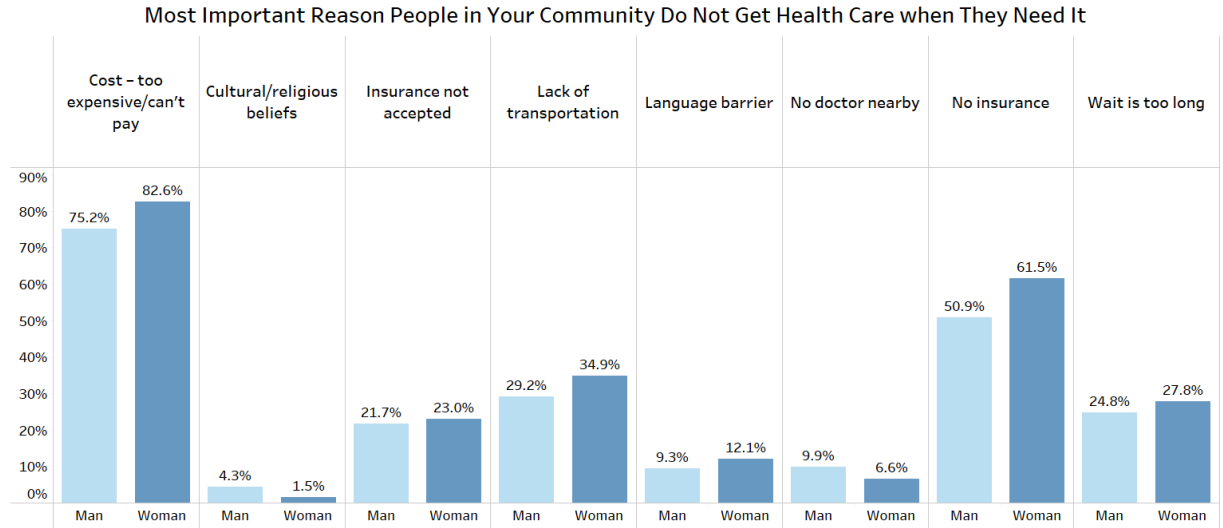


Figure 62: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three. (By race)

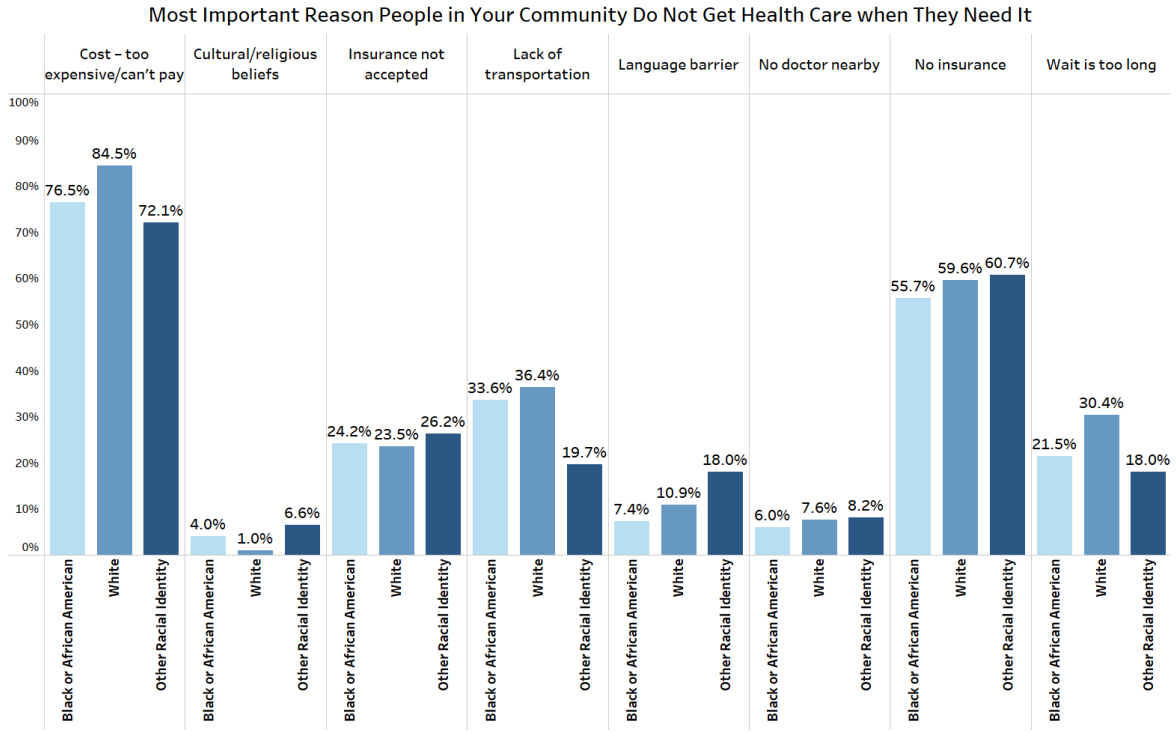
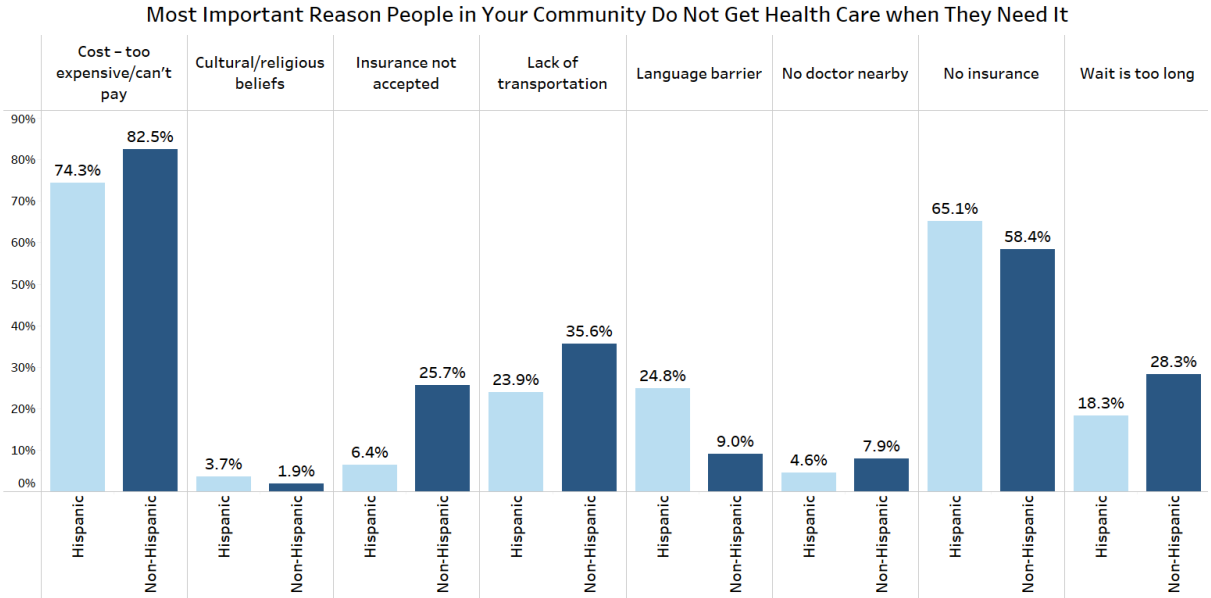


Figure 63: What are the three most important reasons people in your community do not get health care when they need it? Please select up to three. (By ethnicity)



Topic: Access To Care

Figure 64: DURING THE PAST 12 MONTHS, were you told by a health care provider or doctor's office that they did not accept your health care coverage?

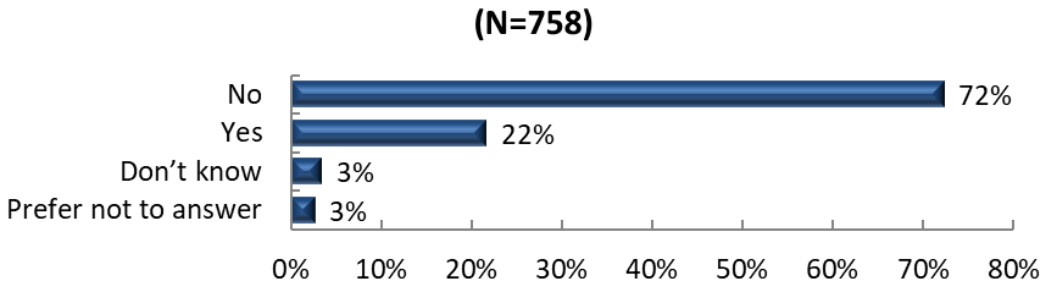
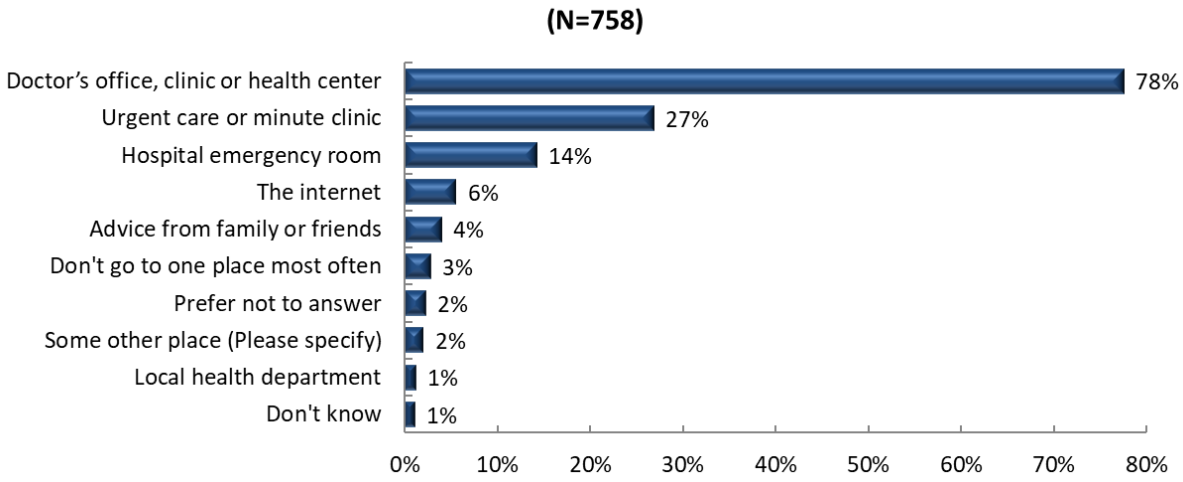


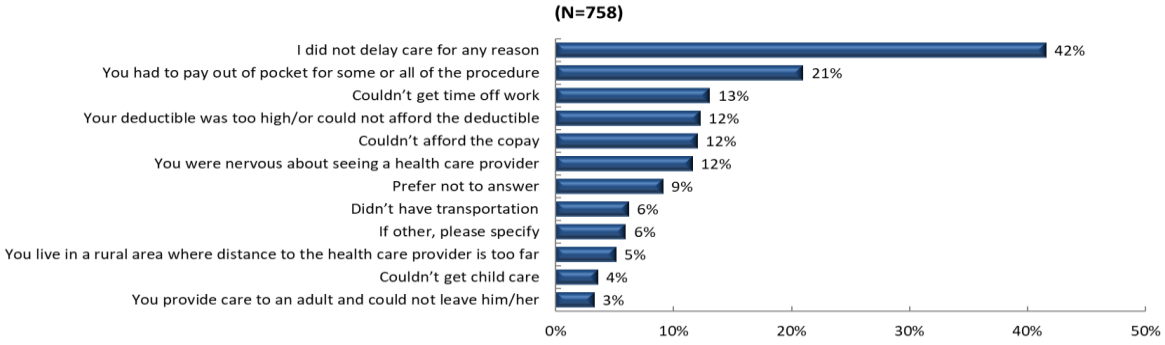
Figure 65: Where do you USUALLY go when you are sick or need advice about your health?



Other (please specify):

- "Cancer Center"
- "CVS"
- "Don't really go and fight it out at home"
- "Health Department"
- "Hospital"
- "I don't go"
- "Nurseline"
- "Pharmacy or county clinic"
- "pharmacist"
- "Teladoc" (3 responses)
- "The VA"
- "URC"

Figure 66: There are many reasons people delay getting medical care. Have you delayed getting care for any of the following reasons in the PAST 12 MONTHS?



Other (please specify):

- "Appointments are far out"
- "Assume I will get better"
- "Cannot afford to board my dog and nobody will take care of him for the length of time while I recover"
- "Cost of insurance"
- "Cost, no dental"
- "Docs not accepting new patients, waitlist several months long."
- "doctor's office doesn't have appointments"
- "Doctors schedules booked for months"
- "Don't feel heard, respected or valued by white doctors due to my race"
- "High deductibles for MRI and ED CT scans"
- "Hoping I would get better on my own"
- "I was going to be forced to see a NP, with only 5 min with a physician. NP are not physician substitutes"
- "Insurance denied dry's requests for tests"
- "It takes forever to hear back from a doctor's office. Call centers are ridiculous and located on the other end of the Earth! Too many different stories from all people you speak to at doctors' offices."
- "Just busy - no time"
- "Lack of late appointments"
- "Late reminder form the dr's office, couldn't get things together in time"
- "Limited options"
- "Live in a rural area, Health Care options are limited. Long scheduling delay for new pt appts."
- "No energy, did not feel like going."
- "No insurance" (4 responses)
- "No siempre easistrdo a consulto" (Translation: Not always available for consultation)
- "People are tired of being treated rudely, cost of medication's, poor staffing in most places"
- "Poor level of provider care"
- "Provider was booked months out"
- "Put it off"
- "Schedule very busy"
- "Sleep 3rd shift"
- "Takes too long to get an appointment"
- "Takes too long to get an appointment when you are sick"
- "THE DR OFFICE DID NOT HAVE A TIMELY APPT"
- "The facility had NO AVAILABLE appointments! Had to travel to another county to be seen which was a distance from my home."
- "The wait for an appointment was over a month some were 3 months"
- "unable to schedule for 6-9 months"
- "Uninsured"
- "Wait for an appt too long."
- "Wait too long"

- "Waiting list for new patients was long... over 6 months or told to call back."
- "Waiting to see if issue cleared up"

Figure 67: DURING THE PAST 12 MONTHS, was there any time when you needed any of the following, but didn't get it because you couldn't afford it?

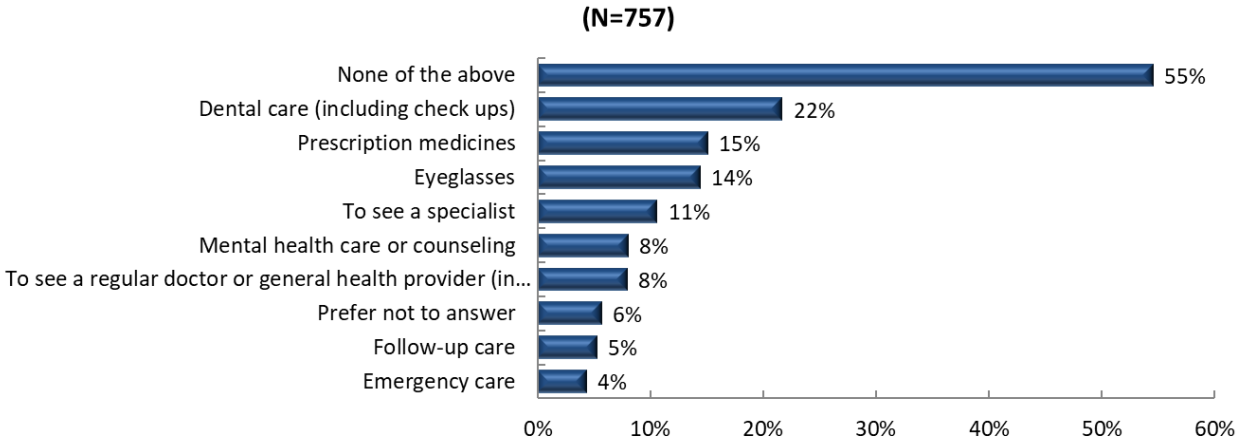


Figure 68: If you get sick or have an accident, how worried are you that you will be able to pay your medical bills?

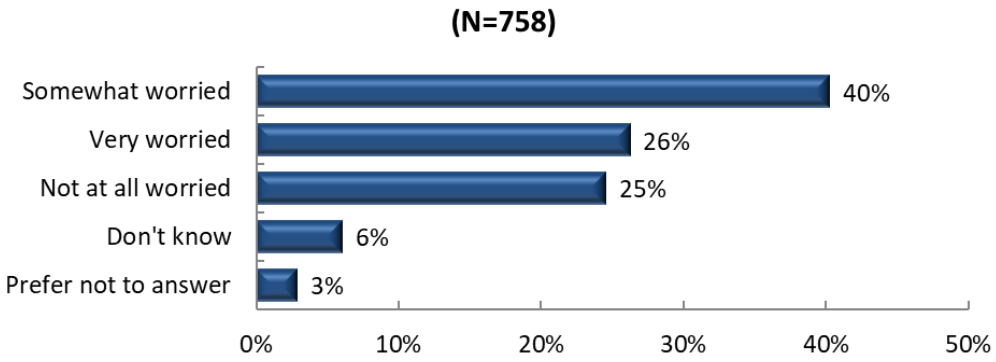
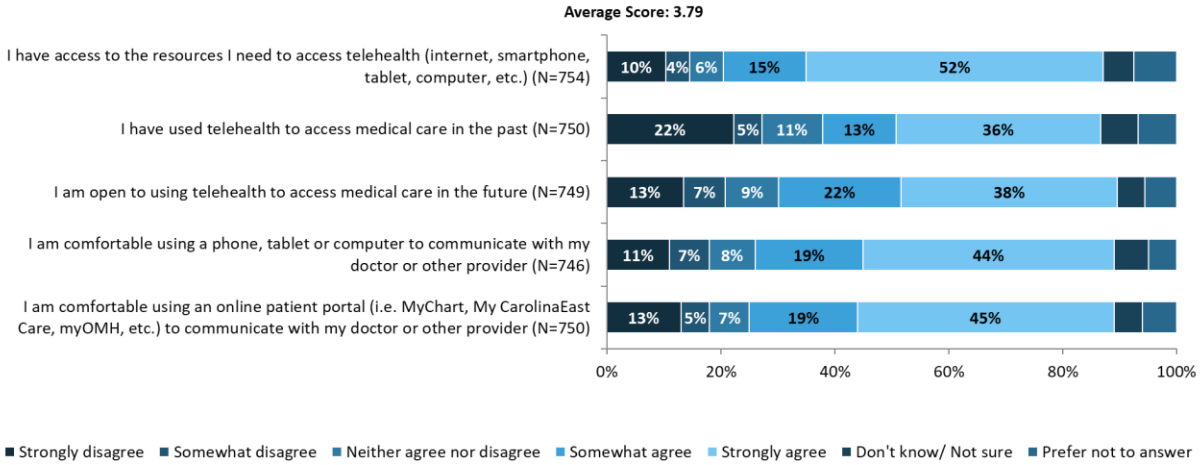


Figure 69: How much do you agree or disagree with the following statements about telehealth? Telehealth means connecting virtually with a medical provider using a smartphone, tablet or computer.

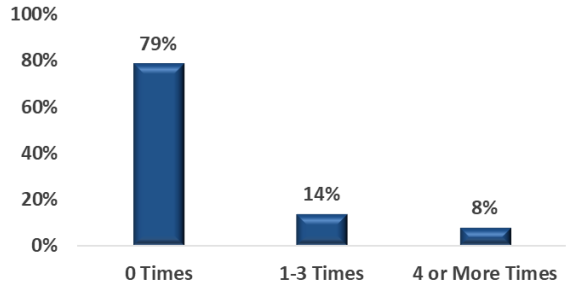
Rated on a scale from 1 to 5 with 1 being "strongly disagree" and 5 being "strongly agree"



Topic: Substance Use Disorders

Figure 70: Considering all types of alcoholic beverages, how many times during the past 30 days did you have 4 (females)/ 5 (males) or more drinks on an occasion?

(N=744)



Measure	Value
Mean (Standard Deviation)	1 (2)
Median	0
Mode	0
Minimum-Maximum	0-30

Figure 71: How often do you consume any kind of alcohol product, including beer, wine or hard liquor?

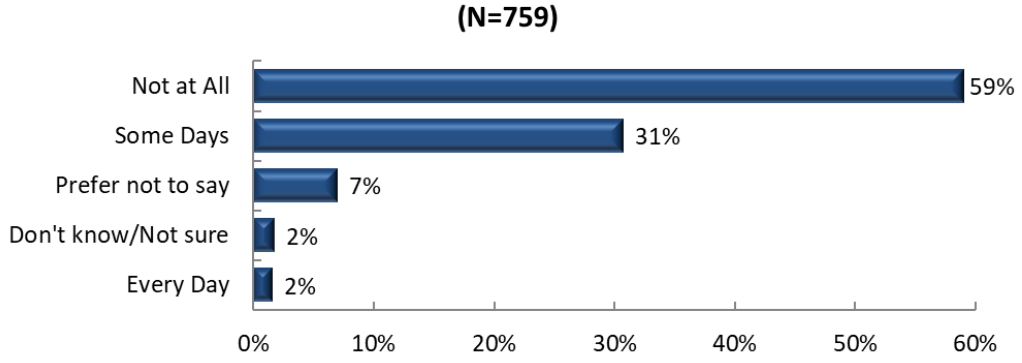


Figure 72: In the past year, have you or a member of your household misused any form of prescription drugs (e.g. used without a prescription, used more than prescribed, used more often than prescribed, or used for any reason other than a doctor's instructions)?

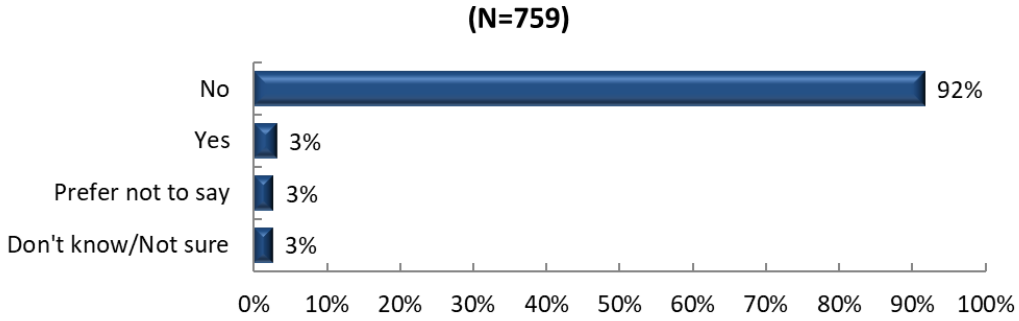
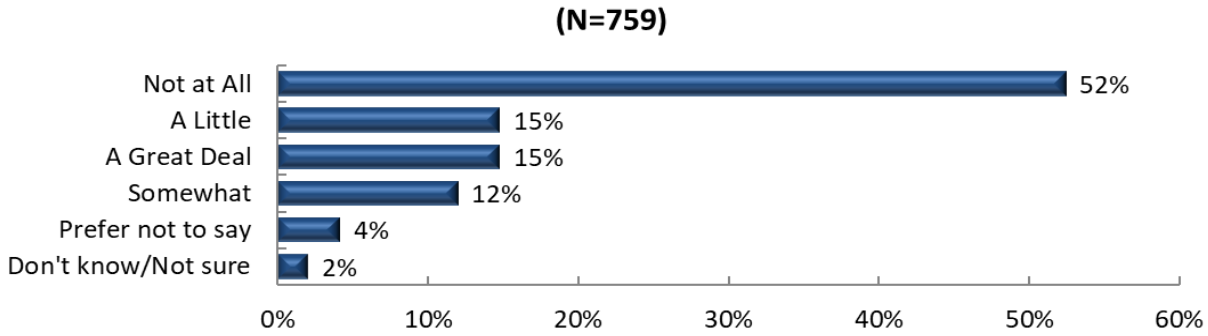
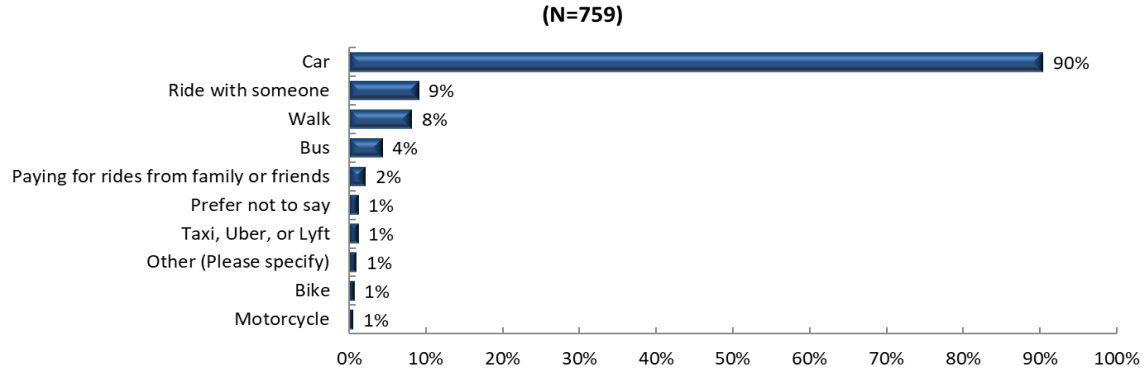


Figure 73: To what degree has your life been negatively affected by YOUR OWN or SOMEONE ELSE's substance abuse issues, including alcohol, prescription, and other drugs?



Topic: Transportation And Transit

Figure 74: In a typical week, what kinds of transportation do you use the most? (Select all that apply.)



Other (please specify):

- "JCATS" (4 responses)
- "JCI Bus/Van" (4 responses)

Figure 75: In the past 12 months has lack of transportation kept you from medical appointments, meetings, work, or getting things for daily living? Select all that apply:

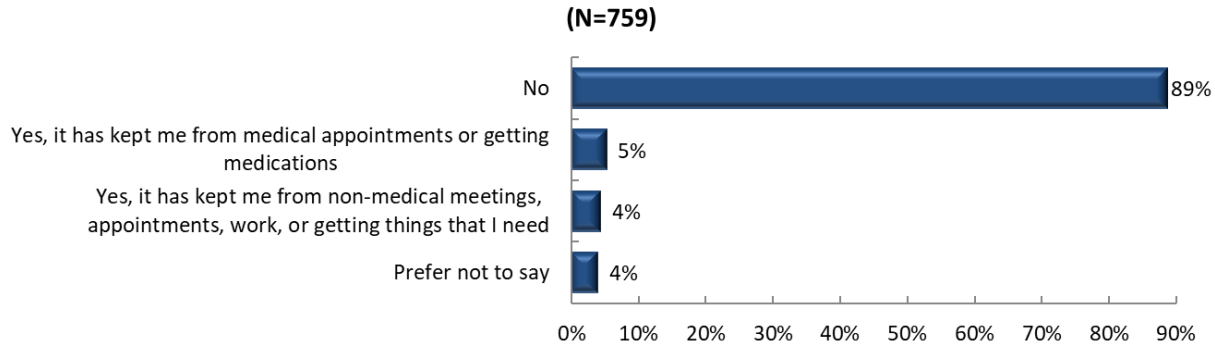
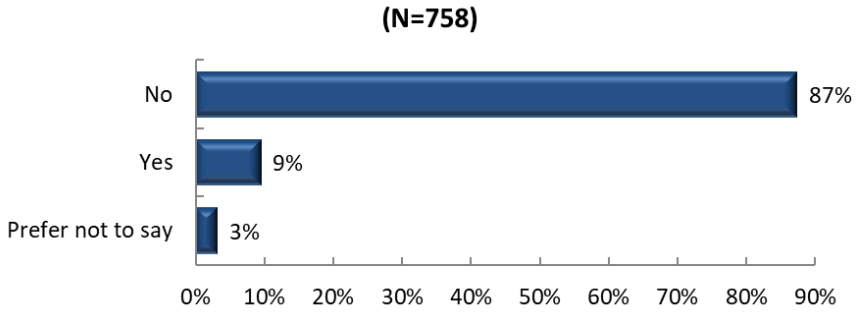


Figure 76: Do you put off or neglect going to the doctor because of distance or transportation?



APPENDIX 6 | SUMMARY OF DATA FINDINGS ACROSS SOURCES

Primary and Secondary data findings are summarized in full by the table below.[43]

Priority Area	Secondary Data	Community Survey	Focus Group 1	Focus Group 2	Focus Group 3	Interviews
Behavioral Health: Mental Health		✓	✓	✓		✓
Behavioral Health: Substance Use	✓	✓		✓		
Built Environment						
Community Safety					✓	
Diet & Exercise	✓					
Education						
Employment & Income		✓	✓	✓	✓	
Environmental Quality			✓			
Family, Community & Social Support	✓		✓			
Food Access & Security			✓		✓	
Healthcare: Access & Quality	✓	✓	✓	✓	✓	✓
Health Equity & Literacy				✓	✓	
Housing & Homelessness		✓	✓	✓		✓
Length of Life						
Maternal & Infant Health						
Physical Health (Chronic Diseases, Cancer, Obesity)		✓	✓	✓		✓
Sexual Health						
Tobacco Use	✓		✓	✓		
Transportation & Transit	✓		✓		✓	✓

[43] Survey results captured here reflect major findings from the Community Health Opinion Survey questions. Red boxes indicate categories identified as high need consistently across data sources.