FY2022-2024

NORTHSIDE HOSPITAL

Community Health Needs Assessment

Adopted by the Northside Hospital, Inc. Planning Committee, July 19, 2022

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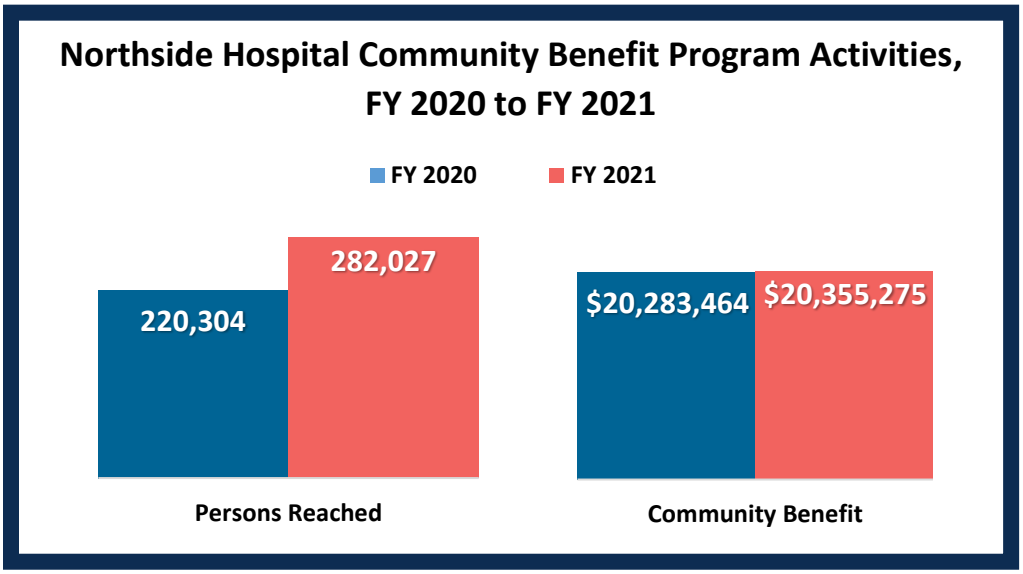
About Us

Northside Hospital Inc.'s ("Northside") commitment to health and wellness in the Atlanta community began in 1970 with the opening of Northside Hospital Atlanta. Since then, the Northside Hospital System has grown to include five general acute care hospitals, 1,867 inpatient beds, a network of more than 4,100 physicians, and 25,500 employees. Additionally, Northside operates more than 250 outpatient locations in counties across the greater metropolitan Atlanta area. Northside's commitment to health and wellness extends well beyond those patients with the ability to pay, as demonstrated by the $875M in total combined uncompensated indigent and charity care provided by Northside's five acute care hospitals in 2020.

Our Community Benefit

This Community Health Needs Assessment ("CHNA") marks Northside's fourth cycle of assessing, prioritizing and addressing our Community's health needs. As a not-for-profit entity, Northside always has been mission driven to improve the health and wellbeing of our community members and to serve all, regardless of ability to pay. Northside has a long history of community outreach whether through education, support groups or screenings and health fairs. Through the CHNA process, Northside's outreach efforts are becoming more strategic in nature and more collaborative. Also, there is now a formal framework and structure surrounding Northside's outreach efforts that enables improved capture and reporting. Below is Northside's community benefit program activities summarized by persons reached and community benefit dollar amount in FY 2020 and FY 2021.



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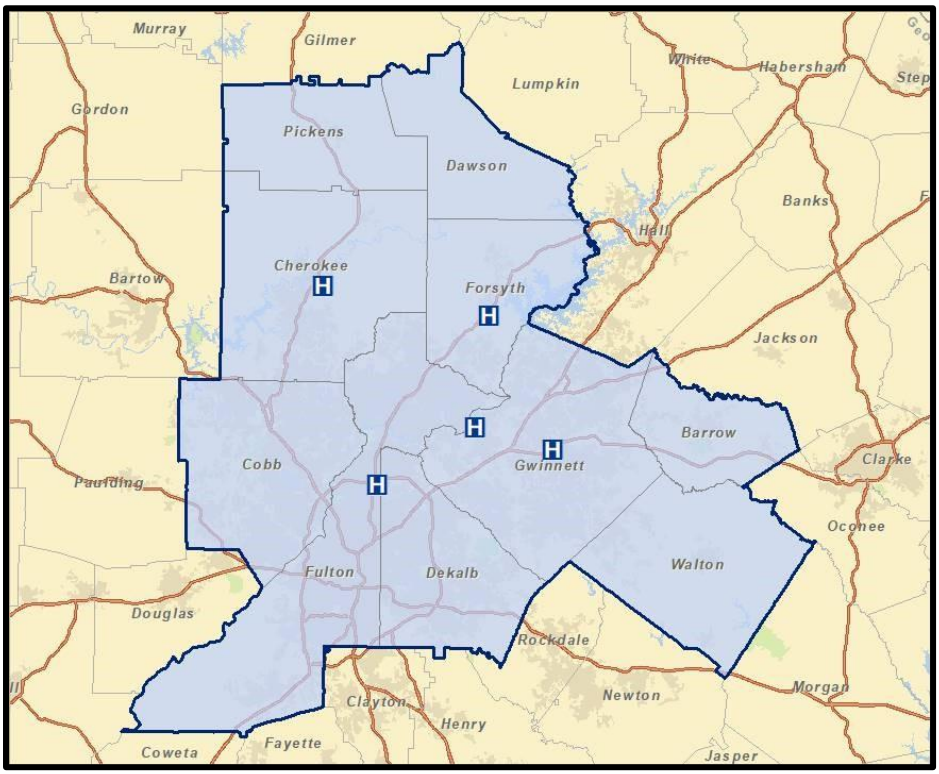
Our Community

Northside began this CHNA process by defining the Northside community ("Community"). The community definition changed following the integration of Northside Hospital Gwinnett and Northside Hospital Duluth. The geography shifted east to include Barrow and Walton Counties. A multi-step process revealed significant overlap between the communities served by each Northside Hospital facility. Thus, the combination of Northside Hospital Atlanta, Northside Hospital Cherokee, Northside Hospital Duluth, Northside Hospital Forsyth, and Northside Hospital Gwinnett developed a single community definition, in compliance with IRS Section 501(r) Final Rule. The Northside Community consists of Barrow, Cherokee, Cobb, Dawson, DeKalb, Forsyth, Fulton, Gwinnett, Pickens, and Walton Counties.

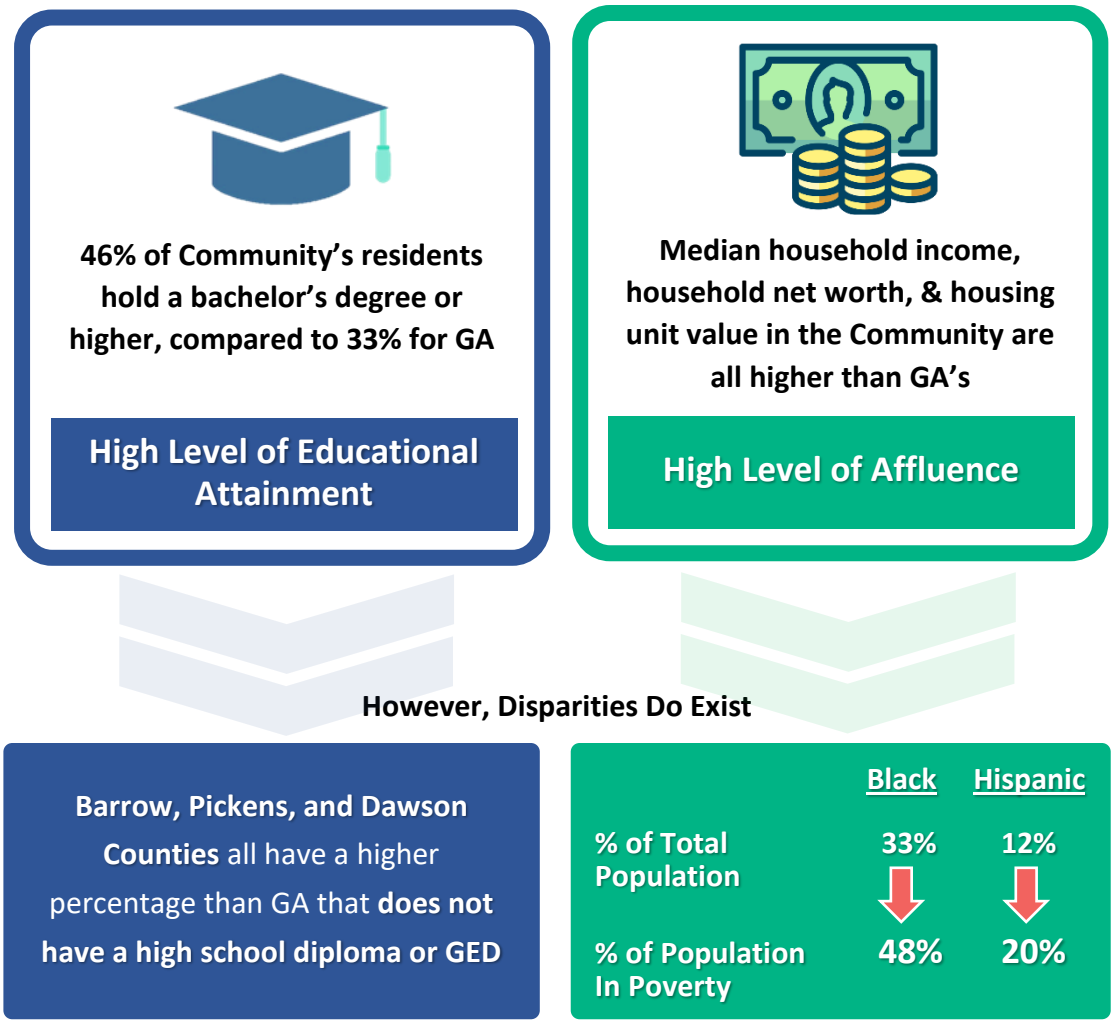
FY 2022 – FY 2024 CHNA Community Definition



Population Characteristics

- 4.3 million residents, or 40% of Georgia's total population.
- Slightly younger than Georgia; median age 36.3 compared to Georgia's 36.9.
- Racially diverse with White (50%), Black (33%), Asian (8%), other races (5%), two or more races (3%), Pacific Islander (<1%), and American Indian (<1%).
- 49% of Georgia's total Hispanic population resides in the Community; comprises 12% of the Community.

Socioeconomic Characteristics



Our Community's Health Determinants, Health Behaviors, and Health Outcomes

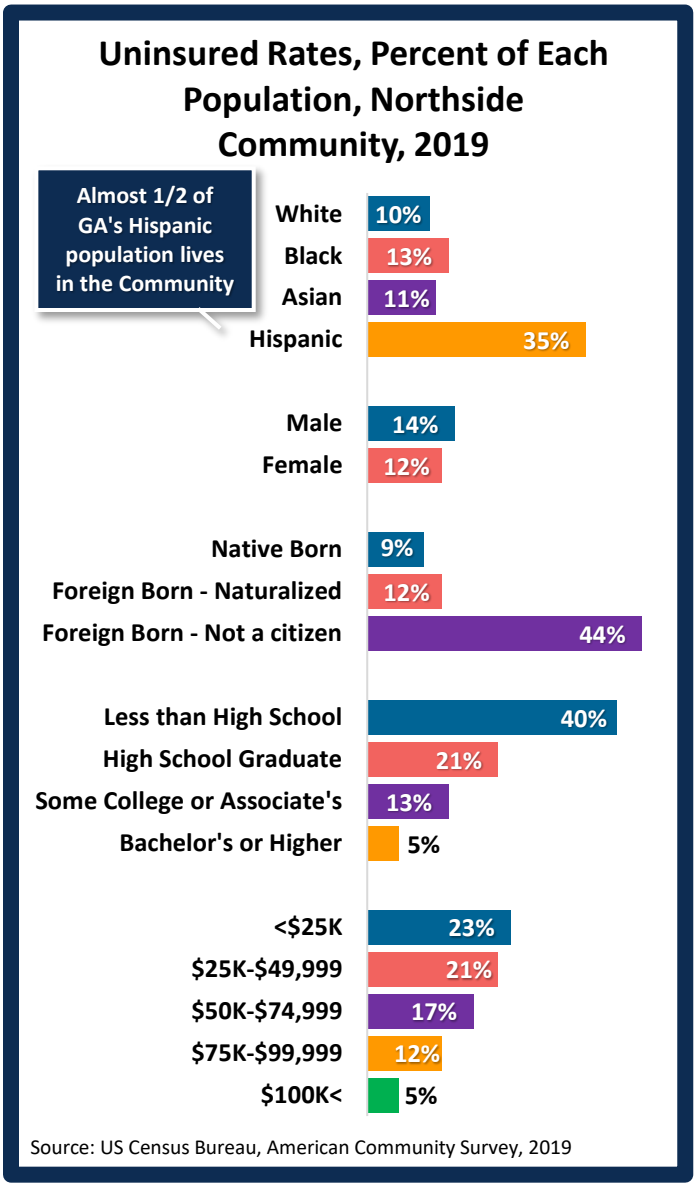
Access to a Primary Care Physician ("PCP") is an important step in maintaining good health. There are many reasons that a person may or may not have a regular PCP, including economics, transportation, or geographic access. Geographic access can, in part, be measured by the rate of PCPs within the population. Six counties in the Northside Community had PCP per 100,000 population ratios that were worse than the state's average. The Community's utilization of PCPs was three percent (3%) below the national average.

The U.S. Department of Health & Human Services has designated several areas within the Community as Medically Underserved Areas ("MUAs") or Medically Underserved Populations ("MUPs").

- The Community's MUAs are located throughout many of counties in the Community, including portions of Cherokee, DeKalb, Forsyth, Fulton, Pickens, and Walton.
- The Community's MUPs are concentrated in the Southern portion of the Community, including portions of Cobb, Fulton, and Gwinnett.

These vulnerable populations often rely on Federally Qualified Health Centers ("FQHC") for healthcare services. Unfortunately, many counties in the Community are underserved by FQHCs.

Lack of health insurance poses a significant access barrier to preventive and specialty care. Persons who are uninsured are less likely to seek out or receive preventive care and are more likely to be admitted to the hospital for preventable conditions. Thirteen percent (13%) of the Community's population was uninsured in 2019. Also, there are significant disparities in insurance coverage by racial and ethnic groups, citizenship status, education, and income level.



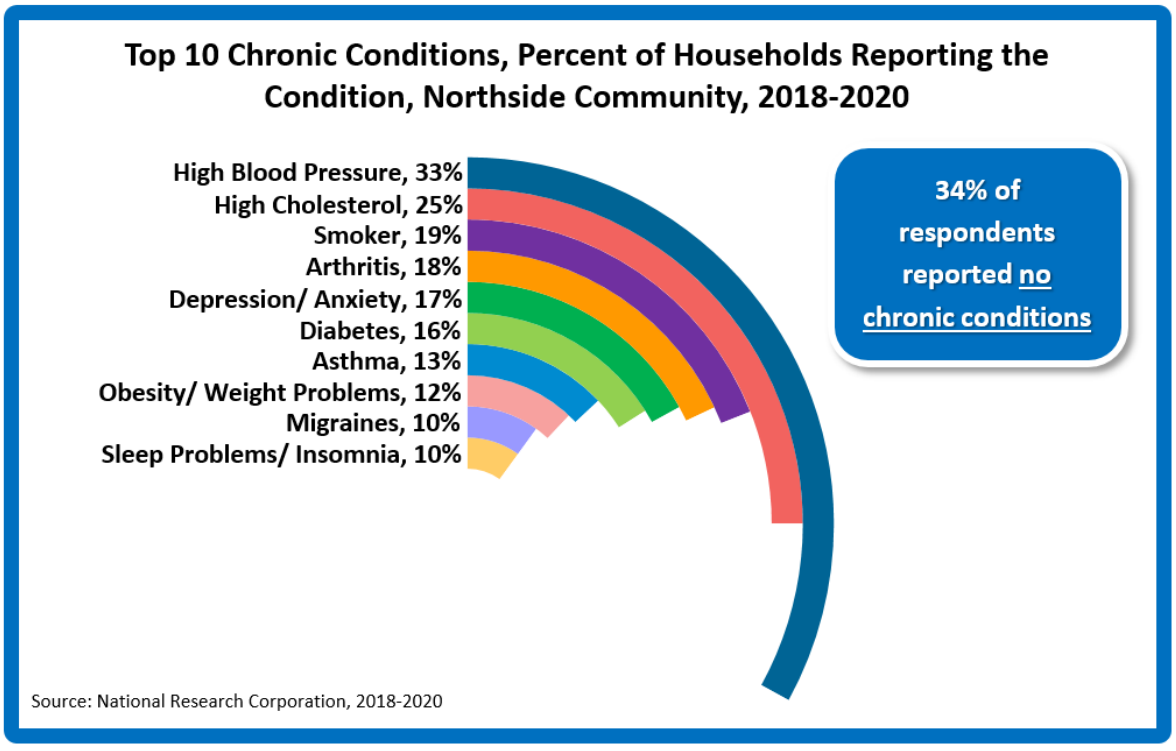
To help combat some of these access issues, the 22 general acute care hospitals located in the Community contributed more than $2.5 billion in net uncompensated indigent and charity care in FY 2020. This combined amount accounts for an approximate 24% increase in net uncompensated indigent and charity care in the Community since 2017. Northside Hospital Atlanta contributed the third largest amount in 2020, totaling $425 million.

Preventive screenings play an important role in maintaining good individual and community health. According to the National Research Corporation ("NRC") Survey, the top 10 preventive health behaviors in the Northside Community are:

Northside Community's Top 10 Preventive Health Behaviors, 2018-2020					
1	Blood Pressure Test	51%	6	Cholesterol Test	31%
2	Eye Exam	43%	7	Mammogram	22%
3	Dental Exam	43%	8	Pap Smear	18%
4	Routine Physical Exam	36%	9	BMI Screening	16%
5	Flu Shot	36%	10	Diabetes Screening	15%

Much like other health behaviors, there are disparities in the practice of preventive screening between low-income and high-income populations, between racial and ethnic groups, as well as between the uninsured and those with insurance.

Health behaviors and other health determinants, like social and economic factors, converge to produce specific health outcomes for a community. High blood pressure, high cholesterol, and smoking were the most common chronic conditions in the Northside Community, each impacting more than 19% of Community members. The incidence of these chronic conditions align with the two leading causes of death in the Northside Community: cardiovascular disease and cancer.



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An understanding of leading causes of death is important to effectively target interventions and improve the health of a community. The leading causes of death in the Community differ slightly compared to the state, with the Community having a higher rate of deaths due to malignant neoplasms (cancer) and a lower rate of deaths due to diseases of the heart. Disparities exist along racial and ethnic lines among the top chronic conditions and causes of death. For instance, when considering cancer incidence type by race and ethnicity, the non-Hispanic Black population's incidence rate for prostate cancer was the highest cancer incidence rate in the Community, while the White population's death rate for lung cancer was the highest cancer death rate in the Community. Among the Community's ten counties, the Black population most often had the highest inpatient discharge rates and death rates due to diseases of the heart, stroke, and high blood pressure. The Black population also had higher hospital discharge rates for diabetes than other racial and ethnic groups.

Top 10 Leading Causes of Death in the Northside Community and Georgia, 2016-2020

Community			Georgia		
	Cause of Death	% of total deaths		Cause of Death	% of total deaths
1	Malignant Neoplasms	21%	1	Diseases of the Heart	22%
2	Diseases of the Heart	20%	2	Malignant Neoplasms	20%
3	Unintentional Injuries	6%	3	Chronic Lower Respiratory Diseases (CLRD)	6%
4	Cerebrovascular Diseases	6%	4	Unintentional Injuries	5%
5	Alzheimer's Disease	5%	5	Cerebrovascular Diseases	5%
6	Chronic Lower Respiratory Diseases (CLRD)	4%	6	Alzheimer's Disease	5%
7	Diabetes Mellitus	3%	7	Diabetes Mellitus	3%
8	Nephritis, Nephrotic Syndrome, and Nephrosis	2%	8	Nephritis, Nephrotic Syndrome, and Nephrosis	2%
9	Intentional Self-Harm (Suicide)	2%	9	COVID-19	2%
10	COVID-19	2%	10	Septicemia	2%

Source: GA DPH OASIS, 2016-2020

Self-reported depression/anxiety disorders were most common in White households and deaths due to suicide and accidental poisonings were also highest among the White population. Although rates by race and ethnicity were not available for the Community, the White population had the highest smoking rate in Georgia and the Black population in Georgia had higher rates of being obese. Disparities also exist among levels of income and insurance as well. For example, smoking and depression/anxiety disorders were more common in low-income and uninsured populations.

Healthy lifestyle behaviors can help reduce risk factors for numerous diseases such as heart disease, cancer, diabetes, and other chronic conditions. Some counties in Northside's Community had higher rates of participating in healthy lifestyle behaviors when compared to Georgia and the United States. However, despite outperforming the state on some healthy lifestyle measures, the Community still has several areas for improvement.

Nutrition
43% of Georgians reported eating less than 1 fruit per day;
19% of Georgians reported eating less than 1 vegetable per day.

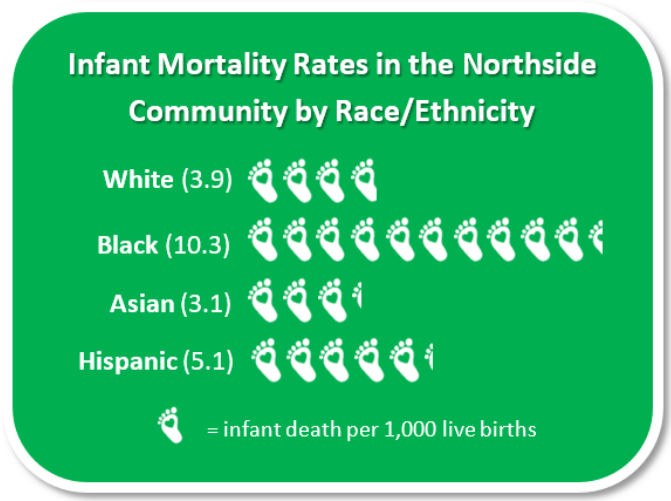
Physical Activity
Pickens and Walton Counties had physical inactivity rates that were higher than GA.

Alcohol Consumption
7 of the Community's 10 counties had excessive drinking rates that were higher than GA's rate of 17%.

Smoking
11% of Community members smoked cigarettes in last 12 months and 4% smoked e-cigarettes/vaporizer in last 12 months.

Unintentional Injuries
Dawson, Pickens, Walton, and Barrow Counties had higher death rates due to unintentional injuries than GA.

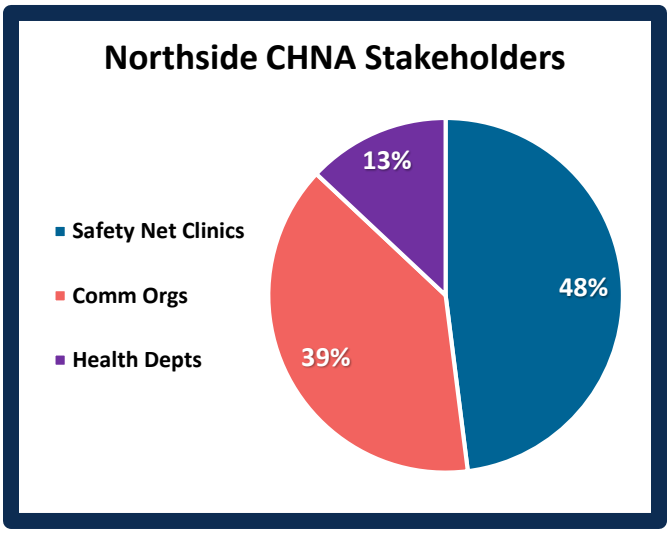
Another important measure of our Community's health status is the health status of our Community's mothers and babies, a population of particular concern to Northside. As a recognized leader in obstetrical and neonatal care, Northside consistently delivers more babies than any other Georgia hospital, and often more than any hospital nationally. According to Centers for Disease Control and Prevention, Georgia had the 7th highest infant mortality rate in the U.S, in 2019. The Northside Community's Infant Mortality Rate ("IMR") of 5.1 was lower



than Georgia's 6.3. Within Georgia and the Community, there were significant disparities in infant mortality between racial groups. Northside also analyzed IMRs over a 10-year period, 2011 – 2020, and although rates did not show a clear growth/decline, the disparity between the Black population and other racial/ethnic groups was consistent across the 10-year time period. Similar racial disparities are also seen for premature births and low-birth weight.

Our Community's Stakeholders

Northside conducted interviews for this CHNA to provide additional insight into the health needs of the Community. Northside identified individuals in the Community who could provide a unique perspective and connection to the Community's health needs. Special efforts were made to identify individuals who fit this description and also possessed a special knowledge or expertise in public health. In this process, Northside reached out to 44 stakeholders, which included representatives from several county-level public health departments. These efforts resulted in the completion of 19 stakeholder interviews. Each interview was conducted using Northside's Stakeholder Assessment Discussion Guide, a copy of which is included in Appendix A.



Stakeholders offered insight on a variety of topics related to the health needs of the Community, including positive health assets within the Community, negative health factors within the Community, physical health needs, barriers to accessing primary/specialty healthcare, and more. This information proved invaluable in helping to prioritize the health needs of the Community and develop an implementation plan to address those needs.

Needs Northside Will Address

Northside's Community Benefit Steering Committee ("CBSC") is composed of clinical leaders who work together to evaluate Northside's current community benefit programs, identify any gaps in Northside's community benefit activities, and discuss community feedback on community health needs assessments, prioritized needs, and community benefit programs. The CBSC utilized a structure approach to prioritize the top identified health needs.

Northside began the needs prioritization process by creating a crosswalk that condensed the 15 identified needs into nine different need categories. Northside then developed a five-step prioritization process that prioritized those needs that impact the greatest number of Community members, that disproportionately impact the most vulnerable populations, that are most severe and/or prevalent, and that Northside has the capacity to address. This process resulted in the following needs being selected for the current CHNA cycle.

Northside's FY 2022-2024 CHNA Top Identified Health Needs
1) Cancer
2) Cardiovascular
3) Maternal & Infant Health
4) Behavioral Health & Substance Use Disorder
5) Diabetes & Obesity
6) Access to Care
7) Healthy Lifestyle Behaviors
8) Respiratory Disease & Smoking
9) HIV/AIDS

The CHNA priorities in FY 22 - FY 24 differed in order of priority compared to FY 19 - FY 21 CHNA. While Cancer and Cardiovascular remained the top two priorities from both CHNA cycles, Behavioral Health & Substance Use Disorder moved up the priority list from number seven (in the previous CHNA cycle) to number four in the current. Maternal and Infant Health moved from number four to number three. Healthy Lifestyle Behaviors did not make the priority list in FY 22 - FY 24 due to the direct correlation with Diabetes and Obesity. A lot of the movement of priorities can be attributed to the impact of COVID-19 on these health outcomes. COVID -19 exacerbated a lot of social determinants of health that made it more difficult for individuals to access care at the appropriate time.

Needs Northside Will Not Address

Unfortunately, Northside is not able to directly address all of the identified Community needs due to limited resources, the magnitude/severity of the issue, or the presence of existing resources already in place to address the need. The Community needs Northside will not address are:

Needs Northside Will Not Address
Healthy Lifestyle Behaviors
Respiratory Disease & Smoking
HIV/AIDS

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Overview of Northside's Implementation Strategy

Northside intends to utilize myriad community benefit strategies to address the prioritized health needs including:

1) Financial assistance on behalf of uninsured, underinsured, and low-income persons.

2) Community health improvement services, including:

    a. Community health education outreach

    b. Community-based clinical services for reduced cost or free

    c. Healthcare support services such as enrollment assistance for government-funded health programs.

3) Health professions education.

4) Subsidized health services.

5) Medical and healthcare research.

6) Cash and in-kind contributions to assist partner organizations in addressing community health needs.

Northside intends to continue using the Community Benefit Steering Committee to oversee Northside's community benefit program activities to ensure that activities are reaching the most vulnerable populations, are using evidenced-based medicine interventions, and to improve capture and reporting.

Northside's Community is diverse in many ways. With 72% of the state's Asian population and 49% of the state's Hispanic population residing within the Community, 17% of the Community's population being foreign-born, and 35% of the Community's population speaking a language other than English at home, providing healthcare that is culturally competent is essential to meeting the Community's diverse needs.

Introduction to the Northside Hospital System

NORTHSIDE
HOSPITAL

PART I: INTRODUCTION TO THE NORTHSIDE HOSPITAL SYSTEM

About Us

In 1970, Northside began its commitment to the health and wellness of the Atlanta community with the opening of Northside Hospital Atlanta; a 250-bed general acute care hospital located in North Atlanta with a network of 240 physicians. Since then, the Northside Hospital System has grown into a not-for-profit healthcare system composed of five general acute care hospitals, with 1,867 inpatient beds, and more than 250 outpatient facilities. Northside facilities are supported by a network of nearly 4,100 on-staff physicians and more than 25,500 employees, who serve more than five million patient visits annually (Northside Hospital, 2022). Northside is committed to serving all patients regardless of their ability to pay, as evidenced by the $875M in total combined uncompensated indigent and charity care provided by all five of Northside's acute care hospitals in 2020.

Our Mission

Northside Hospital is committed to the health and wellness of our community. As such, we dedicate ourselves to being a center of excellence in providing high-quality health care. We pledge compassionate support, personal guidance and uncompromising standards to our patients in their journeys toward health of body and mind. To ensure innovative and unsurpassed care for our patients, we are dedicated to maintaining our position as regional leaders in select medical specialties. And to enhance the wellness of our community, we commit ourselves to providing a diverse array of educational and outreach programs.

Our Values

Northside's outstanding reputation in its industry is fueled by an instinctive devotion to a unique set of values. This statement of values defines and communicates those guiding, motivating philosophies that have led us to distinction:

- Excellence
- Compassion
- Community
- Service
- Teamwork
- Progress & Innovation

PART I: INTRODUCTION TO THE NORTHSIDE HOSPITAL SYSTEM

Northside Hospital Atlanta

Northside Hospital Atlanta ("NHA") opened in 1970 with 250-inpatient beds in a then sparsely populated area north of downtown Atlanta. Today, NHA is a 621-bed general acute care hospital serving as the System's tertiary-level care provider. NHA is a leading provider of obstetrical and newborn care, cancer care, surgical services, emergency services, and radiology services. NHA frequently delivers more babies than any other hospital in the country; diagnoses and treats the most new cancer cases in Georgia (currently among the top five programs in the U.S.); and has one of the largest surgical programs in Georgia.

Northside Hospital Forsyth

In 2002, Northside acquired Georgia Baptist Medical Center, a 41-bed community hospital located in Forsyth County, Georgia. Today the facility, now known as Northside Hospital Forsyth ("NHF"), is a 363-bed general acute care hospital located in Cumming, GA. As the only hospital located in Forsyth County, NHF provides critical access services such as emergency services, neonatal intensive care services, and therapeutic cardiac catheterization. Additionally, NHF provides other important hospital-based services like radiology, surgery, and cancer care. NHF features state-of-the-art technology like the Gamma Knife, which is used to treat brain tumors with high precision, and a robust surgery program, performing more same-day joint replacements than any other Georgia hospital.

Northside Hospital Cherokee

In 1960, the Cherokee County Hospital Authority established R.T. Jones Memorial Hospital as a 64-bed general acute care hospital. In 1997, this hospital joined Northside as Northside Hospital Cherokee ("NHC"). In May 2017, Northside opened the new, state-of-the-art Cherokee hospital campus, which includes 211 inpatient beds, a Cancer Institute (providing infusion and radiation therapy services), and a distinct Women's Center (offering comprehensive perinatal services including neonatal intensive care services). As the only hospital in Cherokee County, NHC provides critical access services such as emergency services and therapeutic cardiac catheterization. Additionally, NHC provides other important hospital-based services such as surgery, cancer care, and radiology.

PART I: INTRODUCTION TO THE NORTHSIDE HOSPITAL SYSTEM

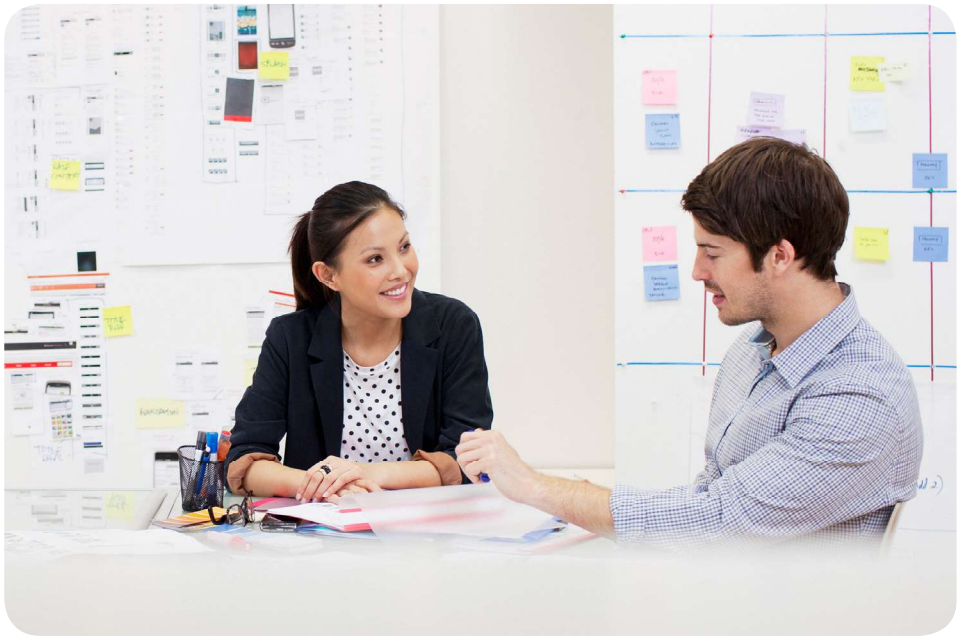
Northside Hospital Gwinnett

Gwinnett Medical Center opened in Lawrenceville in 1984. In August 2019, Northside merged with Gwinnett Health System and this hospital became known as Northside Hospital Gwinnett ("NHG"). Located in the heart of Gwinnett County, NHG is a Level II Trauma Center that offers nationally recognized and renowned health care services. This 550-bed hospital includes the Strickland Heart Center's cardiovascular specialties, the Gwinnett Women's Pavilion, cancer genetic testing, and has more than 5,100 employees.

Northside Hospital Duluth

Joan Glancy Memorial Hospital opened in 1944. In 2006 its replacement, Gwinnett Medical Center-Duluth, opened and the facility that previously housed Joan Glancy Memorial Hospital was repurposed to operate as an inpatient rehabilitation facility, Glancy Rehabilitation Center. In August 2019, as part of the merger between Northside and Gwinnett Health System, Gwinnett Medical Center-Duluth became known as Northside Hospital Duluth ("NHD"), a 122-bed hospital with more than 1,000 employees, featuring private, spacious patient rooms and comfortable family suites. The facility promotes patient healing while offering the very latest medical care for efficient treatment and quick recovery times.

CHNA Methodology



NORTHSIDE HOSPITAL

PART II: CHNA METHODOLOGY

Our Community Health Needs Assessment Process

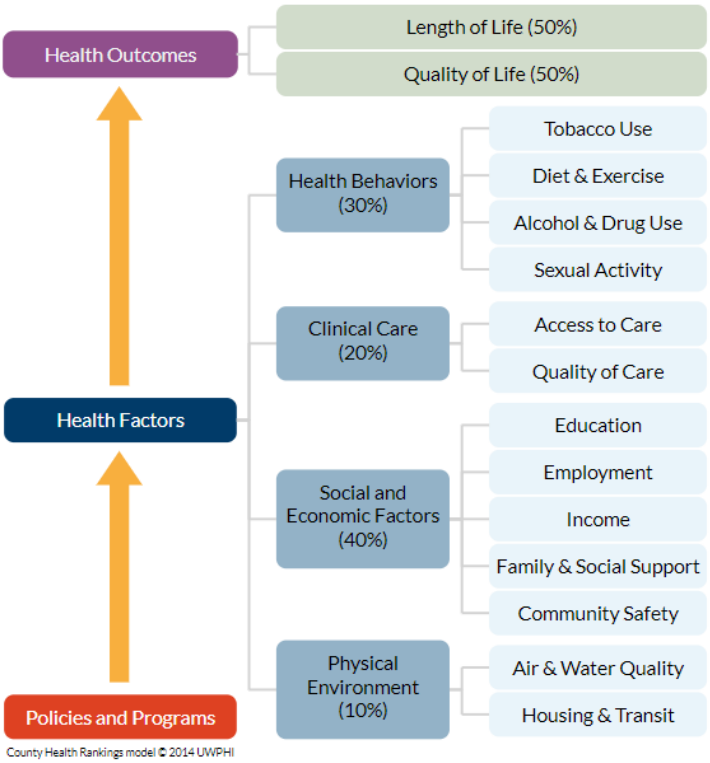
Northside developed a standardized process for conducting its Community Health Needs Assessment. In short, Northside's CHNA process included:

1) Defining the Northside Community.
2) Reviewing Northside's internal data.
3) Reviewing publicly available health data.
4) Reviewing proprietary quantitative consumer research data.
5) Performing stakeholder interviews.
6) Summarizing and prioritizing the health needs identified within Northside's Community.
7) Developing an implementation plan to address the identified needs.
8) Presenting the finalized CHNA and Implementation Plan to the Board of Directors of Northside Hospital, Inc. for adoption.
9) Providing continued public access to Northside's CHNA via https://www.northside.com/community-wellness/in-the-community/community-health-needs-assessment and providing an opportunity for public feedback.

Framework for CHNA

To perform its FY 2022-2024 CHNA, Northside utilized an evidence-based model of population health adapted from the Wisconsin Population Health Institute and also utilized by County Health Rankings and Roadmaps (County Health Rankings & Roadmaps, 2022). This model illustrates the complexity of assessing a community's health status by outlining the factors that act in combination to determine the current status of a community's health. The evidence-based model, illustrated in **Figure 1**, outlines the health determinants (demographics and social environment, healthcare access & quality, health behaviors, and the physical environment) that lead to the health outcomes in a community (morbidity and mortality).

Figure 1: Population Health Framework for Northside's (NHA, NHC, NHD, NHF, and NHG) FY 2022 – FY 2024 CHNA



The Centers for Disease Control and Prevention ("CDC") conducted a systematic literature review to determine a common set of health metrics that should be used to measure both the health determinants and health outcomes presented in **Figure 1**. Northside used the CDC's list of "Most Frequently Recommended Health Metrics" to determine what variables to consider for Northside's FY 2022-2024 CHNA. Northside utilized the CDC's recommended variables and metrics when they were readily available at the county level. The variables analyzed for Northside's FY 2022-2024 CHNA for each health determinant and outcome category are outlined in **Table 1**.

PART II: CHNA METHODOLOGY

Table 1: Health Metrics for NHA, NHC, NHD, NHF, and NHG FY 2022 – FY 2024 CHNA

Health Determinant	Variables Considered	
Demographics & Social Environment	Total Population Population Growth Gender Age Race Ethnicity Foreign-Born Language At Home Limited English Proficiency	Urban/Rural Educational Attainment Employment Status (unemployment rates) Income Poverty Level Marital Status Violence and Crime
Healthcare (Access & Quality)	Health Professional Shortage Areas, MUAs and MUPs Federally Qualified Health Centers Preventable Hospital Events Physician Access Dental Care Access	Prenatal Care Access Health Insurance Coverage Hospitals and Number of Beds per 10,000 Healthcare Utilization Indigent and Charity Care
Health Behaviors	Preventive Health Behaviors Preventive Cancer Screenings Sexually Transmitted Infections Physical Activity	Substance Use (Tobacco/Alcohol/Drugs) Nutrition
Physical Environment	Housing Transportation	Food Access Access to Recreational Facilities
Health Outcome	**Variables Considered**	
Morbidity	Cancer Incidence Rates Chronic Conditions Health Status HIV/AIDS STIs	Unintentional Injuries Hospital Utilization Maternal/Infant Health
Mortality	Leading Causes of Death Maternal/Infant Health Suicide	Homicide Unintentional Injuries

Evaluation of Impact

NORTHSIDE HOSPITAL

PART III: EVALUATION OF IMPACT

Introduction

Northside Hospital published its most recent Community Health Needs Assessment in September 2019 which was the end of its 2019 fiscal year. Northside determined the health needs of the Community, and then used a five-step prioritization process to identify the Community's most pressing health needs. This process evaluated each identified need based on its magnitude, severity, fit with the hospital system's mission/expertise, and effect improvement would have on the broader Community, as well as the vulnerable populations therein. This process resulted in the identification of seven high-priority health needs for Northside to address:

1) Cancer
2) Cardiovascular Disease
3) Healthy Lifestyle Behaviors
4) Maternal & Infant Health
5) Diabetes & Obesity
6) Affordability, Access to Care, & Insurance Coverage Status
7) Mental Health & Addiction

Implementation Strategy

Overview

In its FY 2019 – FY 2021 Implementation Strategy, Northside outlined several initiatives that it would undertake to address the above high-priority health needs of its Community.[1]

Those initiative are as follows:

1) Charity Care & Financial Access Surgery Program ("FASP"):

Northside will continue its commitment to meeting the needs of all patients, regardless of their ability to pay through providing significant indigent and charity care to Community members; fulfilling or exceeding Northside's indigent and charity commitments; and the continued growth

of Northside's Charity Outreach Programs including the Financial Access Surgery Program and the Imaging Outreach Program.

[1] The FY 19 – FY 21 Implementation Strategy predates the merger with NHD and NHG; therefore, all the activities in this section are evaluating the impact of programming pre-merger at NHA, NHC, and NHF.

2) Community Benefit Steering Committee

Northside will continue to convene the Community Benefit Steering Committee ("CBSC"), the purpose of which is to:

a. Evaluate Northside's current community benefit programs to ensure the programs are effectively meeting the health needs of the Community, targeting the highest priority needs and populations, and utilizing evidence-based interventions.

b. Identify any gaps (geographic, population, or subject matter) in Northside's community benefit activities and make appropriate modifications.

c. Connect Northside employees who implement and plan Northside's community benefit programs, allowing them to share their talents, expertise, and resources.

d. Provide a channel for discussing community feedback on Northside's community health needs assessment, prioritized needs, and community benefit programs.

3) Refinement/Expansion of Existing Community Benefit Programs

The refinement and/or expansion of Northside's current community benefit programs to meet the needs of the vulnerable populations and geographies identified in the FY 2019 – FY 2021 CHNA. The focus will be on tailoring Northside's community benefit programs to vulnerable populations, creating new partnerships with organizations that currently work with these groups, refining existing programs to meet the current needs identified, and creating new programs where none currently exist.

The impact derived from each of these initiatives will be evaluated below.

1) Charity Care & Financial Access Surgery Program

Results: Northside has fulfilled its commitment to meet the needs of all patients, regardless of their ability to pay, by continuing to provide significant amounts of indigent and charity care to its Community members. Below are some of the highlights of this multidimensional objective:

- Northside increased its indigent and charity care provision (in dollars) by 39% from 2017 to 2019. In 2019, the Legacy Northside System (NHA, NHC, and NHF) provided $629 million in net indigent and charity care compared to $451 million in 2017.
- In 2020, all five hospitals (NHA, NHC, NHD, NHF, and NHG) provided $874 million in net indigent and charity care.
- In 2020, Northside served 8,927 indigent and charity inpatients and 110,496 indigent and charity outpatients.
- With maternal and infant health identified as a priority health need in the FY 2019 – FY 2021 CHNA, Northside ensured that all obstetrical patients, regardless of their ability to

pay, had access to our high-quality maternity services. This focus was reflected in Northside's 2020 inpatient indigent/charity utilization, where obstetrics was the second most utilized service line.

- Northside continued to provide access to (non-emergent yet medically-necessary) outpatient surgical and endoscopy services through its FASP and Imaging Outreach Programs.
    - Northside partnered with 22 different safety-net clinics and Federally Qualified Health Centers from across the metro-Atlanta region to improve access to much needed specialty care.
    - The FASP served 1,279 uninsured and/or underinsured patients who otherwise would have gone untreated until their need became so great that they would have no option but to seek care in a local hospital's emergency room.
    - The Imaging Outreach Program served 1,796 uninsured and/or underinsured patients.
- Northside established a relationship with two additional safety-net clinics that serve vulnerable populations:
    - The Hope Clinic in Gwinnett County that serves a high proportion of the Hispanic population.
    - Ethnē Health, a clinic which serves a large number foreign born and refugee populations who are uninsured.

2) Community Benefit Steering Committee

Results: Northside continued to convene the CBSC quarterly during the period FY 19 – FY 21. The Committee met 11 times representing 182 hours of community benefit activity. The CBSC includes representatives from the hospital's Cardiology, Oncology, Corporate & Community Health Solutions, Diabetes Education, Women's Services, Behavioral Health, and Strategic Planning departments. The CBSC has four objectives that include: (1) evaluation of current community benefit programming using evidence-based interventions; (2) identification of gaps in community benefit programming; (3) networking and helping to build relationships with other others who implement and plan community benefit; and (4) providing a channel for discussing community feedback. Below are a few highlights of how the CBSC met their objectives:

- **CIMA Maternal Diabetes Program:** Northside utilizes evidence-based maternal diabetes education for Hispanic pregnant women and evaluates this program. Northside partners with a local practice that specializes in providing maternity services to uninsured, low-income Hispanic women. Through this partnership, Northside's certified diabetes educators (with the help of interpreters) educated women with maternal

diabetes with the goal that women will be able to verbalize correct carbohydrate counting and meal planning methods to maintain recommended blood glucose levels. The goal for the participants is to increase their knowledge by at least 25% by the end of the class. In FY 2020, **40 low income, Hispanic women participated in the maternal diabetes program. Based on the evaluation, participants surpassed the goal of 25% and increased their knowledge of maternal diabetes by 30%** by the end of class per the pre- and post- knowledge assessment test scores. The educators also rated each participant's confidence level after the diabetes education and there was **an increase of 20% in participant's confidence level in managing their maternal diabetes.**

- **Prostate Cancer Screening Targeting Black Males:** The CBSC identified prostate cancer and the **need to specifically target Black males for increased prostate cancer screening.** Currently, Northside offers free prostate cancer screenings in the Community, but these programs are not designed to specifically target the at-risk population. Thus, the CBSC continued to work in 2019 to design and implement a prostate cancer screening event dedicated to this at-risk population. The oncology representative on the CBSC noted that the oncology outreach team was focusing their efforts on numerous faith-based organizations and noted that the team was encountering difficulties building trust within the African American community.
    - To address this health disparity, Northside continues to partner with New Mercies Christian Church and Hopewell Baptist Church, which both primarily serve African American populations.
        - FY 2020 marked the third annual event for New Mercies Christian Church whereby 125 African American men received free prostate cancer screenings at the church. Of the 125 men screened, nine (or 7%) received an abnormal result*.
        - At Hopewell Baptist, 56 men received a free screening and 10 (17%) received an abnormal result*.
        - A third event aimed to address health disparities among the Hispanic population. This event was held at Brotherhood at Our Lady of the Americas Church. A total of 146 Hispanic men between 40-75 years old and most uninsured/underinsured were screened. Twenty of the men (or 14%) received abnormal results*.

      *A nurse navigator called all men with abnormal results to ensure that they had access to follow-up care and Northside Financial Assistance was offered to any man facing financial hardship.

3) Refinement/Expansion of Existing Community Benefit Programs

Results: From FY 2020 – FY 2021, Northside focused on refining or expanding one of its existing programs to better meet the needs of the vulnerable populations in other areas of the community. Healthy Lifestyle Behaviors and Diabetes and Obesity were two of Northside's top identified health needs in its FY2019-FY2021 CHNA. **The decision was made to develop a healthy lifestyle education program targeting the Black adolescent population in Fulton County.** Northside's Learning and Educational Development department's healthy lifestyle education curriculum educates around 8,000 children each year on healthy lifestyle behaviors. The main program resides at the NHC campus where it reaches children in the northern counties, but a pilot expansion/refinement of the program took place so that this program could reach vulnerable children in Atlanta/Fulton County.

- The CBSC targeted the appropriate vulnerable population by finding a nonprofit that worked with the same vulnerable population. **Northside teamed up with NBAF (National Black Arts) and their Move/Dance Program which brings much needed arts education and physical education back into local Atlanta middle schools.** Northside and NBAF collaborated to create an evidence-based program to improve health outcomes among Black adolescents.
- The Coordinator of Health Education and her team at Northside taught a curriculum called **"Taking Charge of Your Health"** to provide nutrition and healthy living based education to the youth. In FY 2021, **Northside taught three of these classes to Sylvan Hills Middle School students** with a goal of increasing post test results of the pretest knowledge-based assessment. During the pretest, 12% of students reported they were not confident in managing a healthy diet. Following the education, the rate of students that reported this decreased to zero. Thus, all the students increased their overall confidence of managing a healthy diet and lifestyle following the post test.

PART III: EVALUATION OF IMPACT

Summary of the Impact of COVID-19:

From cancer to mental health, COVID-19 has exacerbated health disparities and intensified many health outcomes. Community members have postponed important screenings and clinical interventions thus negatively impacting their own health outcomes. Over the course of 2020, much of Northside's Community Benefit programming such as screenings or health education had to be either postponed or substituted for virtual programming. For the screenings that could not be virtual, Northside was able to resume these activities beginning in early 2021. During FY 2020, Northside devoted time and support to COVID-19 related Community Benefit efforts by raising awareness and education in the community about the pandemic through public service announcements and public health messaging through various media outlets that reached over 77 million people. These activities totaled $786,968 in community benefit and hospital staff devoted nearly 433 hours to these efforts.

Addressing Identified Health Needs

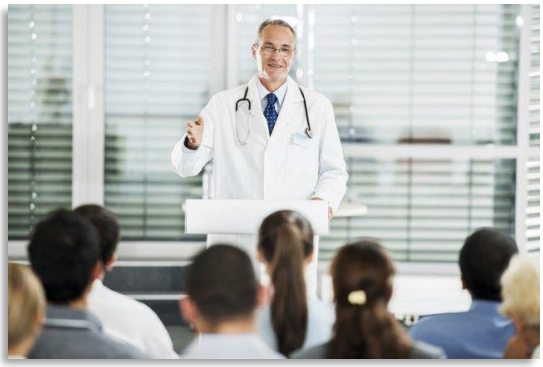
Below are high-level summaries of the community benefit program activities Northside engaged in over the course of FY 2020 and FY 2021 to address the Community's highest priority health needs.

Cancer
FY 2020 – FY 2021 Activities

Community Health Education

Northside's Oncology department contributed outreach to **251 community health related events**, where they distributed educational materials and presentations regarding cancer risk, treatment, and prevention in FY '20 – FY '21. Educational materials and presentations were provided to approximately **36,570 attendees**, accounting for **$58,595 in community benefit.**

From FY '20- '21, this program resulted in . . .



Northside's Oncology department made **13 educational presentations** throughout the community to **3,551 attendees** from FY '20 – FY '21, accounting for **$2,118 in community benefit.**

Northside facilitated **eight Smoking Cessation Courses** in FY '20 and FY '21 reaching **51 community members** and providing **$4,182 in community benefit.**

Over half (52%) of the participants **QUIT** smoking

Northside provided **51 Smoking/Vaping Risk Education Courses** from FY '20 –FY '21 that reached **6,395 community members**

Cancer
FY 2020 – FY 2021 Activities

Community-Based Clinical Health Services

The **Prostate Cancer Program** targeting **Black** men provided **181 individual screenings** at 'FY 20 events, accounting for $4,693 in community benefit. **19 attendees with abnormal results** were linked to follow-up care.

The **Prostate Cancer Program** targeting **Hispanic** men provided **146 individual screenings** at an 'FY 20 event, accounting for $1,376 in community benefit. **20 attendees with abnormal results** were linked to follow-up care.

7

Outside of health fair settings, Northside's Oncology department held **7 screening events** (4 prostate cancer, 2 breast cancer, and 1 skin cancer) from FY '20 – FY '21. Approximately **207 people** were screened, accounting for **$6,855 in community benefit.**

Health Professionals Education

In FY '20, Northside held two cancer-related conferences that provided continuing education credits to health professionals:

- **NHCI Symposium 2020: New Frontiers in Lung and Thoracic Cancers: Improving Patient Care with a Multidisciplinary Approach**
- **Interventional Oncology: Targeted Therapies for Liver and Bone Metastases**

These conferences had a total of **141 attendees** and accounted for **$2,333 in community benefit.**

Cardiovascular Disease
FY 2020 – FY 2021 Activities

Community-Based Clinical Services

NH's Corporate & Community Health Solutions department hosted **95 screening events** where cardiovascular screenings were provided.

- **84 "Community" Screenings**
- **11 "Employer" Screenings**
- **4,406 attendees**
- **$175,384 in Community Benefit**

Community Health Education

NHF's Cardiology Department assisted with a **community event** from FY '20 – FY '21 where educational materials were distributed. Approximately **250 attendees** received these materials, accounting for **$212 in community benefit.**

Health Professionals Education

From FY '20 to FY '21, Northside held two cardiovascular-related conferences that provided continuing education credits to health professionals:

- **Annual Cherokee Cardiovascular Summit**
- **Annual Women & Stroke Conference: Unique Risks & Uncommon Symptoms**

These conferences had a total of **666 attendees.**

Healthy Lifestyle Behaviors
FY 2020 – FY 2021 Activities

Community Health Education

55,591
Lives Impacted

Community members were educated on healthy lifestyle behaviors by Northside through the following programs from FY ’20 to FY ‘21:

- **NHC’s Learning & Educational Development Department: Elementary, Middle & High School Outreach**
- **Health Fair(s)**
- **Oncology: Educational Presentations, Information Distribution, and Smoking Cessation Class Facilitation**
- **Cardiology: Risk Screenings at Community and Employer Sponsored Events**

Maternal and Infant Health
FY 2020 – FY 2021 Activities

Community Health Education

Northside offers low-cost educational courses on several subject matters related to **maternal and infant health**. These courses accounted for **$156,774 in community benefit** during FY '20 and FY '21.

Courses were available on the following topics:

- ✧ Infant/Child CPR
- ✧ Car Seat Check
- ✧ Breastfeeding
- ✧ Childbirth
- ✧ Baby Essentials
- ✧ Understanding Fatherhood
- ✧ Understanding Multiples

19,723 people attended these courses

Northside supported

13,022

women with breastfeeding advice through Northside's free

Lactation Support Line

Another **762** mothers attended Northside's

Mom-Me Connection Lactation Support Group

Northside's Women's Services department host an **online library of maternity resources**, which it paid **$14,352** in FY '20 and FY'21 to offer.

Northside's Perinatal Department provides support to mothers and families grieving the loss of an infant through:

- **Perinatal Loss Support Groups**
- **Atlanta Walk to Remember**

These programs reached **1,540 attendees** and accounted for **$13,416 in community** benefit from FY '20 to FY '21.

Maternal and Infant Health
FY 2020 – FY 2021 Activities

Community Health Education

During 'FY 20 and 'FY 21, Northside's Diabetes Education Department provided **39 classes** aimed at **reducing the incidence of gestational diabetes in Hispanic mothers.** This program provided **$6,091 in community benefit** and reached **68 mothers**.

Advocacy for Community Health Improvement and Safety

Northside's Women's Services and Strategic Planning Departments participated in **two** committees that advocated for improvements in maternal and infant health in Georgia:

- **The Georgia Perinatal Quality Collaborative ('FY 20)**
- **The Georgia Maternal Mortality Review Committee ('FY 20 & 'FY 21)**

Northside representatives dedicated **104 staff hours** to these efforts, accounting for **$4,466 in community benefit.**

Obesity and Diabetes
FY 2020 – FY 2021 Activities

Community Health Education

NHC's Learning & Educational Development Department hosted **10 classes** in 'FY 20 and 'FY 21 related to obesity prevention. These events reached **1,495 students** and accounted for **$6,481 in community benefit.**

NHA's Diabetes Education Department hosted **39 classes** in 'FY 20 and 'FY 21 related to gestational diabetes. These classes reached **68 attendees**, accounting for **$6,091 in community benefit.**

Affordability, Access to Care, & Insured Status
FY 2020 – FY 2021 Activities

Community Based Clinical Services

During 'FY 20 and 'FY 21 Northside held **COVID-19 Vaccine Clinics** which provided **51,426 vaccines** to the broader community.

During 'FY 20 and 'FY 21 Northside's Financial Access Surgery Program (FASP) provided access to surgery for **1,039 patients** and accounted for **$206,036 in community benefit**.

During 'FY 20 and 'FY 21 Northside's Imaging Outreach provided access to imaging services for **1,741 patients** and accounted for **$171,987 in community benefit**.

Mental Health & Addiction
FY 2020 – FY 2021 Activities

Community Based Clinical Services

During 'FY 20 and 'FY 21, Northside's Behavioral Health Department provided a **24/7 crisis line** that was utilized by **486 callers** and provided **$31,747 in community benefit**.

Community Health Education

During 'FY 20, Northside's Behavioral Health Department provided **tips related to stress management and COVID-19** through various outlets, accounting for **$3,534 in community benefit**.

Our Community

NORTHSIDE HOSPITAL

Part IV: OUR COMMUNITY

Defining Northside's Community Geographically

Northside defined the scope of its community, for the purposes of this CHNA, by using the following methodology for each hospital:

1) Defined the facility's (NHA, NHC, NHD, NHF, and NHG) primary patient catchment area based on a contiguous area that represented approximately 81% of each facility's inpatient and outpatient volume.
2) Determined where the medically underserved areas were in and around each facility's patient catchment area to ensure that no medically underserved, low-income, or minority populations within or near the facility's catchment area were excluded.
3) Mapped each facility's distribution of outpatient locations across the region.

The results of defining each hospital's community separately revealed significant overlap in the communities served by each Northside Hospital facility. Given the geographic proximity of Northside's five hospitals, this result is not surprising. Thus, NHA, NHC, NHD, NHF, and NHG developed a single community definition for the FY 2022 – FY 2024 CHNA. With a single community definition and in compliance with IRS Section 501(r) Final Rule, NHA, NHC, NHD, NHF, and NHG conducted a joint CHNA on what will be referred to as the Community or the Northside Community for FY 2022 – FY 2024.

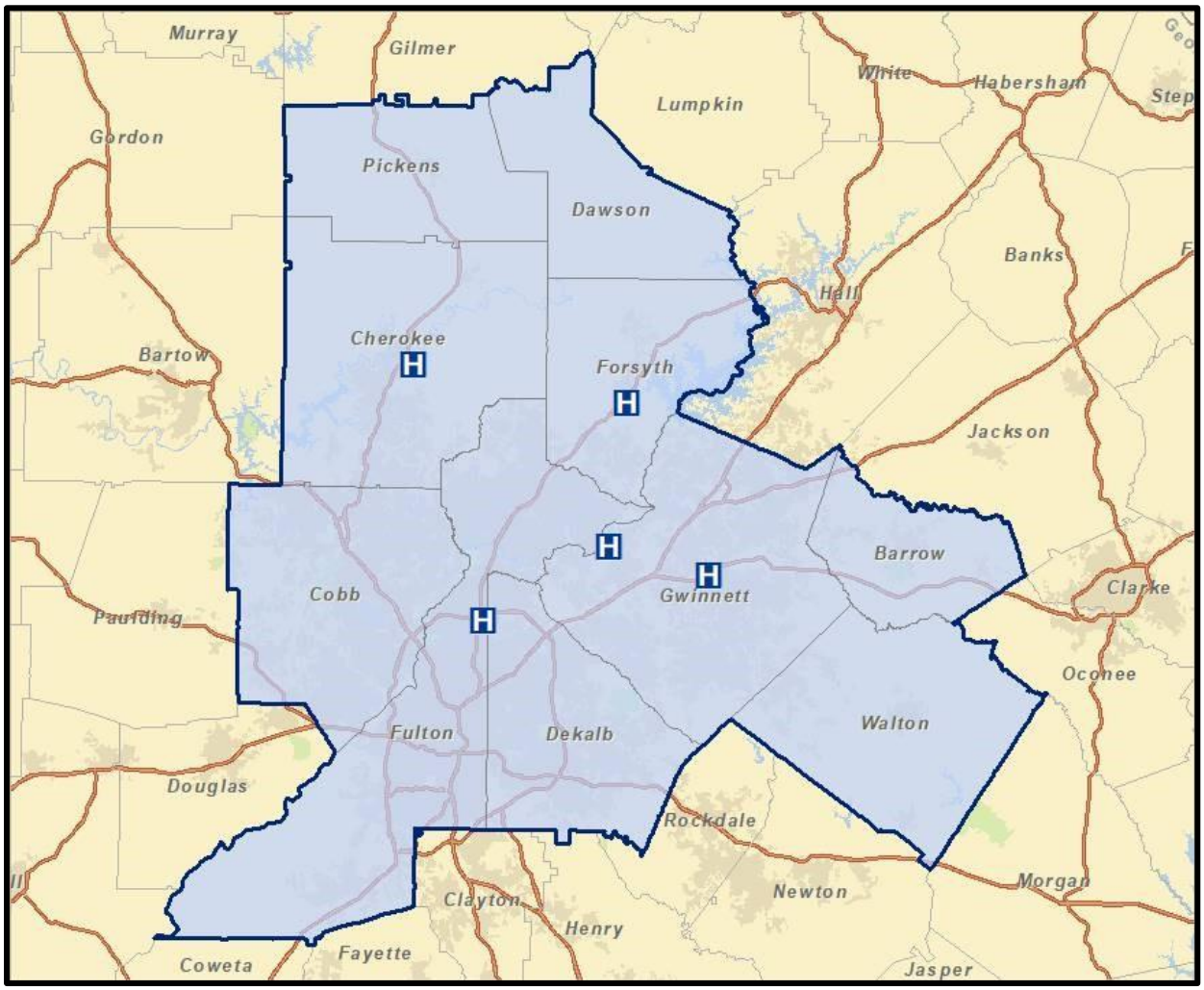
Northside Community Defined: Barrow, Cherokee, Cobb, Dawson, DeKalb, Forsyth, Fulton, Gwinnett, Pickens, and Walton Counties

Table 2: Northside Patient Origin Within the Northside Community (CY 2018 – CY 2020)	
Gwinnett	19%
Fulton	18%
Cherokee	12%
Forsyth	10%
DeKalb	9%
Cobb	8%
Dawson	2%
Barrow	1%
Pickens	1%
Walton	1%

From CY 18 to CY 20, patients from the Northside Community represented 81% of the System's total patient volume, 77% of NHA's, 87% of NHC's, 93% of NHD's, 84% of NHF's, and 85% of NHG's respective patient volumes. Dawson and Pickens Counties represented a much smaller portion of total Northside cases; however, both counties have limited access to other hospitals or healthcare facilities beyond NHF and NHC. Dawson County cases represent a total of 7% of NHF's total patient volume and Pickens County cases represent 8% of NHC's total patient volume. Similarly, Barrow and Walton Counties represent a relatively low percentage of the

system's total volume; however, both counties represented a larger portion of the volume at NHG, 5% and 7% respectively. Furthermore, NHA serves as an important tertiary hub for residents of these counties.

Figure 2: Northside's FY 2022 – FY 2024 CHNA Community Definition

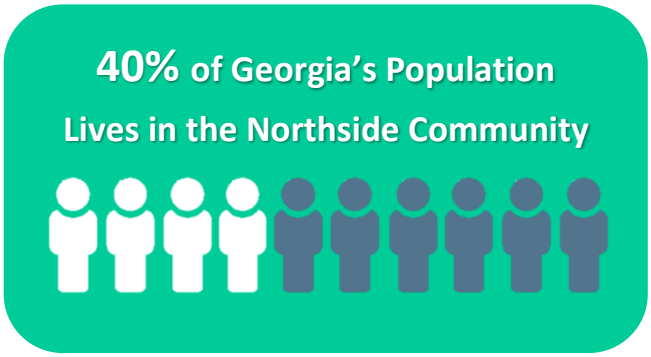


Overview

In 2020, the Northside Community represented over 40% of Georgia's total population while being slightly younger and growing at a faster rate than Georgia's population overall. The Community is also more racially and ethnically diverse than Georgia overall. For example, within the Northside Community, there is an 71% chance that two people randomly chosen will belong to different racial or ethnic groups, compared to a 66% chance in Georgia overall. Seventy-two percent (72%) of Georgia's Asian population lives within the Community and almost half of Georgia's total Hispanic population lives within the Community (ESRI, 2020).

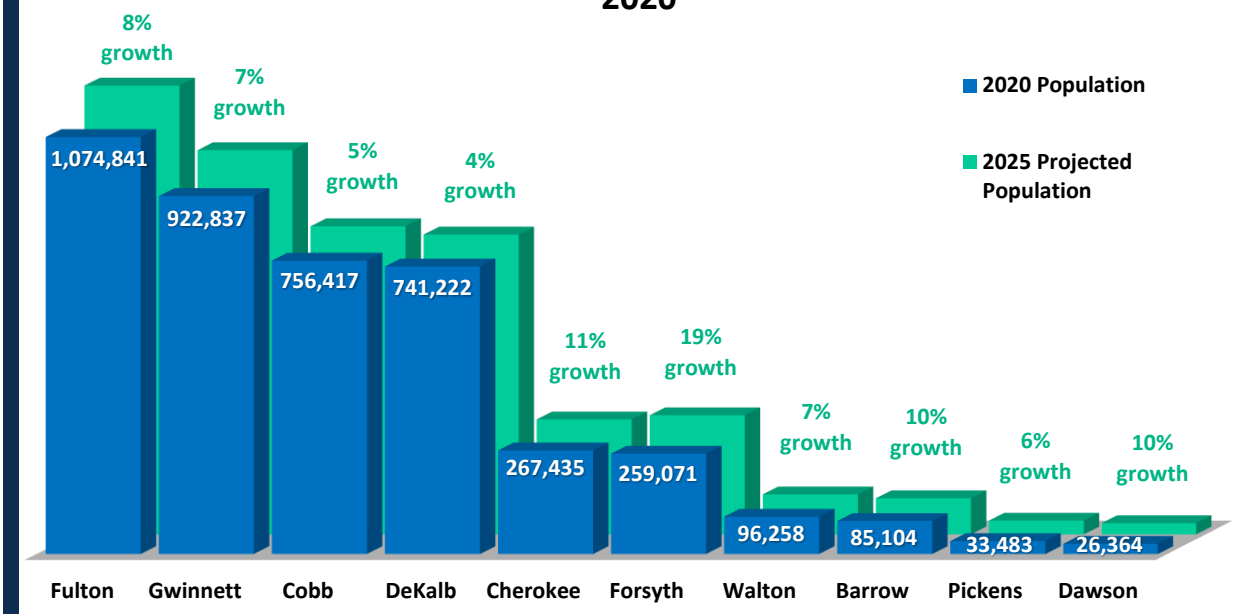
Population

In 2020, the estimated **4,263,032** residents of the Northside Community represented roughly 40% of Georgia's total population (ESRI, 2020). The county-level populations in Northside's Community, illustrated in **Figure 3**, vary greatly in size, with the four most populous counties, Fulton, Gwinnett, Cobb, and DeKalb comprising 82% of the Community's total population.



Population growth projections between 2020 and 2025 estimates a 7.4% population increase in the Community compared to 5.5% in Georgia overall. Within the Community, Forsyth has the highest projected growth rate of 18.7% and DeKalb has the lowest at a rate of 4.3% (ESRI, 2020).

Figure 3: Population by County in the Northside Community, 2020



Source: ESRI, 2020

Age and Gender

Key Age/Gender Cohorts

65+
12% of the Community's Population
23% Growth

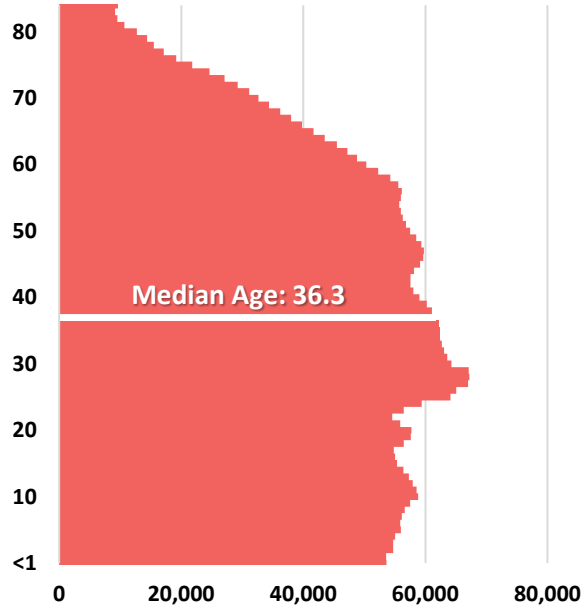
40+
45% of the Community's Population
8% Growth

Females 15-44
21% of the Community's Population
7% Growth

CY 2020 - 2025

Gender and age both play a part in understanding the type of preventive and medical services needed within a community. For example, the 65+ cohort typically utilizes healthcare services at a higher rate than the general population. Additionally, other age groups (e.g., 40+) have milestones like recommended preventive screenings, or they represent the target population of a key service (e.g., women ages 15-44 and obstetric services). Based on this knowledge, the age and gender patterns of the Community, along with certain key age/gender groups are highlighted in this section.

Figure 4: Age Breakdown of the Northside Community, 2020



Source: ESRI, 2019
Note: The 85+ age cohort is not represented in the figure; however, this age cohort was taken into account for median age.

In 2020, the median age in the Community was 36.3, slightly younger than Georgia's median age of 36.9. However, several counties within the service area were comprised of much older populations, most notably Pickens and Dawson Counties with median ages of 45.1 and 43.4, respectively. The 65 or older cohort accounts for 12% of the Community's population. This cohort's size ranged from 10% in Gwinnett County to 21% in Pickens County.

As for the other key age cohorts, the 40+ cohort represented 45% of the population in 2020, while females ages 15-44 represented 21% of the community's population. These cohorts were projected to grow by 8.4% and 7.4%, respectively, between 2020 and 2025. It is noteworthy that the 40+ cohort was projected to grow at a rate that is greater than the total Community population (7.4%) over the same time period. In 2020, the Community was 51% female and 49% male with Georgia reflecting a similar 50/50 gender split (ESRI, 2020).

Race and Ethnicity

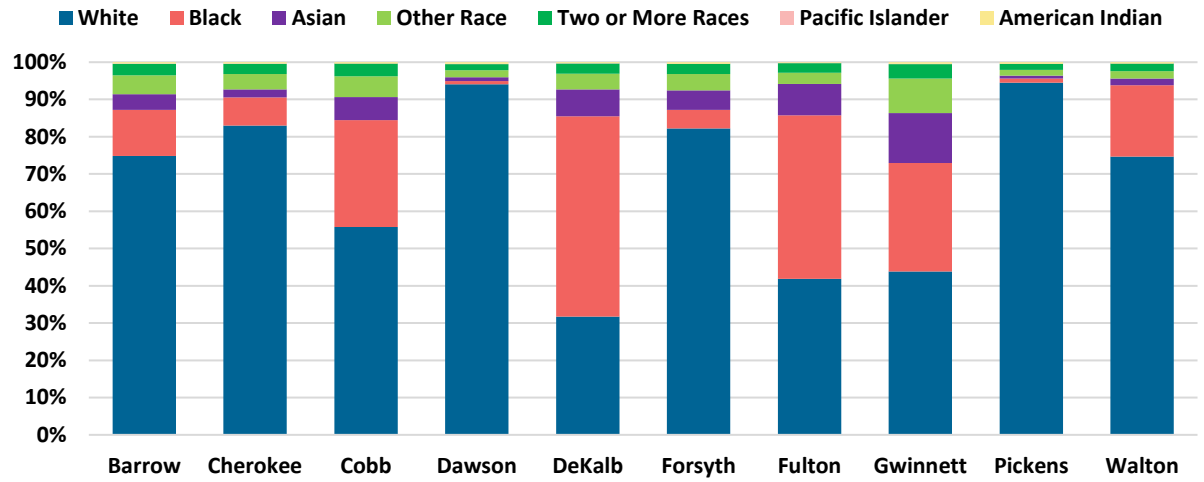
It is essential that all Community members, regardless of race and ethnicity, have access to and receive quality healthcare. Despite this goal there are well-documented health disparities that exist along racial and ethnic lines in the United States, and the Northside Community is no different. It is important to understand the racial and ethnic make-up of the Community to fully understand any health disparities that exist along racial and ethnic lines and properly tailor community benefit programs to the most appropriate populations within the Community.

In 2020, the Community was predominately White (50%), with the Black population (33%) comprising the 2nd largest racial group. The remaining minority groups included, Asian (8%), other races (5%), two or more races (3%), Pacific Islander (<1%), and American Indian (<1%). When considering ethnicity, the Hispanic population made up 12% of the Community's total population. Within the Community, there was a probability of 71% that two population

members, randomly chosen, belong to different race or ethnic groups. This probability is known as the Diversity Index. (ESRI, 2020).

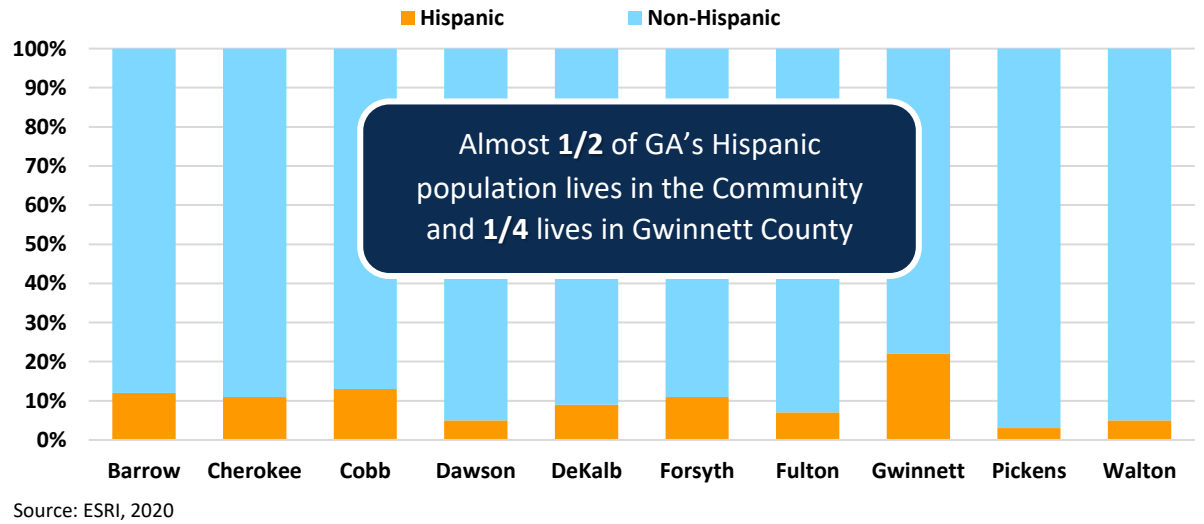
In 2020, 72% of Georgia's Asian population lived in the Community and approximately 49% of Georgia's Hispanic population lived within the Community (ESRI, 2020).

Figure 5: Population by Race as a Percent in the Northside Community, 2020



Source: ESRI, 2020

Figure 6: Population by Ethnicity as a Percent in the Northside Community, 2020



Source: ESRI, 2020

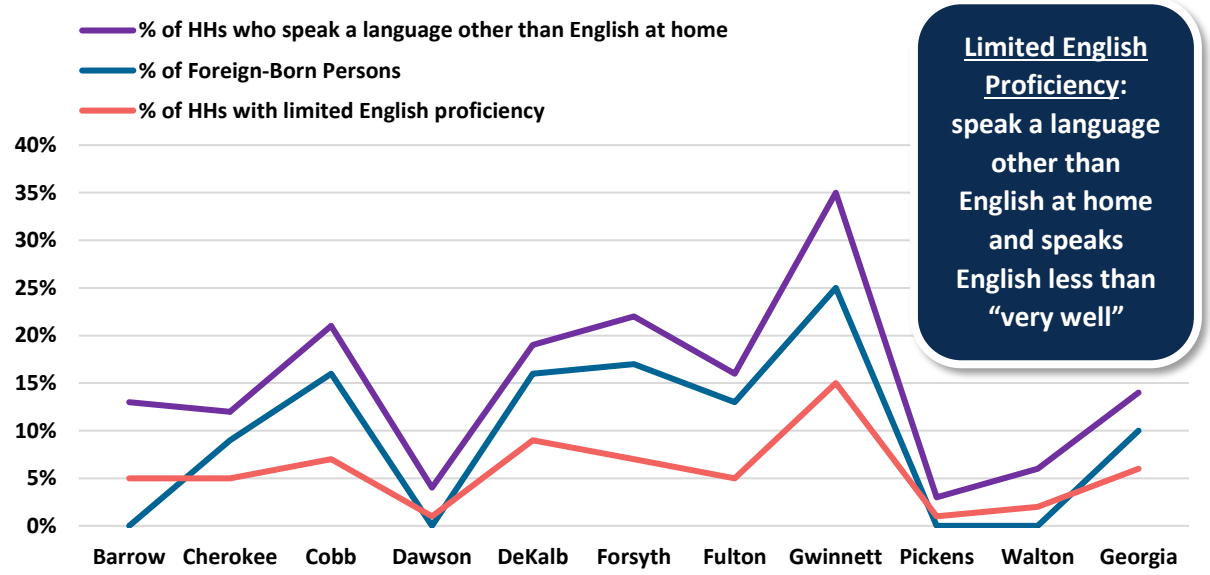
Foreign Born/Language at Home

Seventeen percent (17%) of the Northside Community's population was foreign born based on the 2018 American Community Survey, compared to 10% in Georgia and 13% in the United States. When considered by county, percentage of foreign-born population varied greatly with 25% of Gwinnett's population being foreign-born, 17% of Forsyth County's, 16% of Cobb and DeKalb County's, and 13% of Fulton County's. This demonstrates not only the diversity of the Community, but also the importance of culturally competent healthcare services for the Community's residents.

Further demonstrating this point, in 2018, 21% of households ("HH") within the Community spoke a language other than English within their home, compared to only 14% state-wide. This percentage varied greatly between each county as shown in **Figure 7,** with Gwinnett having the highest percentage at 35% (U.S. Census Bureau, American Community Survey, 5-year estimates, 2014-2018). Langugage barriers can also constitute a significant barrier to accessing healthcare for segments of the population.

Within the Community, 55% of those with limited English proficiency spoke Spanish, 23% an Asian or Pacific Island language, 15% a different Indo-European language, and 7% other languages (U.S. Census Bureau, American Community Survey, 5-year estimates, 2014-2018).

Figure 7: Households (HHs) Who Speak a Language Other than English, HHs with Limited English Proficiency, and Foreign-Born Population, Northside Community and Georgia, 2018



Source: U.S. Census Bureau, 2014-2018 5-year Estimates

Background and Overview

Socioeconomic characteristics such as income, poverty level, and educational attainment were examined for this CHNA because of their known correlation/impact on the health status of a population.

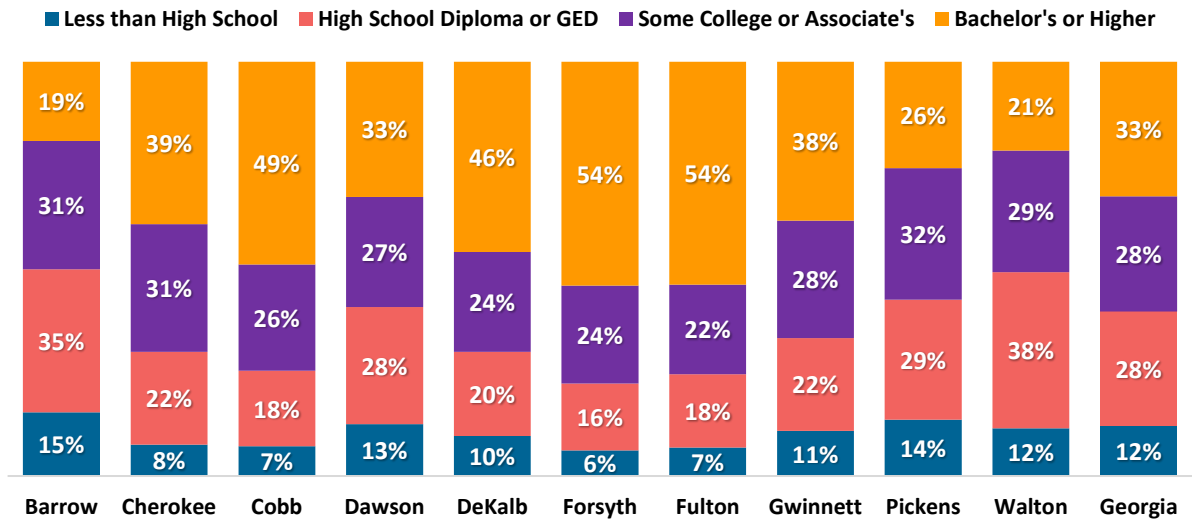
Overall, the Community's population had a high level of educational attainment and affluence compared to Georgia. This was illustrated through 46% of the Community's population holding a bachelor's degree or higher, compared to 33% state-wide, as well as the Community's median disposable income, household income, household net-worth, and housing unit value all being higher than Georgia's (ESRI, 2020). When examined by race and ethnicity, there are significant disparities in poverty. The Black, Other, American Indian/Alaska Native, and Hispanic populations all represent a higher proportion among the Community's population in poverty compared to the percentage of the total population (ESRI, 2020; U.S. Census Bureau, 2015-2019).

Educational Attainment

As more and more research has been conducted, evidence for the link between educational attainment (years/level of schooling) and living a longer, healthier life has become increasingly clear. Education can lead to better health as a result of a person having increased health knowledge and better health behaviors; improved employment and income prospects; and additional protective social/psychological factors (social standing, social networks, etc.) (Robert Wood Johnson Foundation, 2011).

In 2020, six of the Northside Community's ten counties had a larger percentage of their population (aged 25 or older) that held a bachelor's degree or higher than Georgia's rate of 33%. Forsyth (54%), Fulton (54%), Cobb (49%), and DeKalb County (46%) had the highest percentages within the Community. Conversely, three counties had higher percentages of their population who did not have a high-school diploma or GED. These counties consisted of Barrow (15%), Pickens (14%), and Dawson County (13%), compared to Georgia's 12% (ESRI, 2020).

Figure 8: Highest Level of Educational Attainment in the Northside Community and Georgia, 2020



Source: ESRI, 2020

Employment

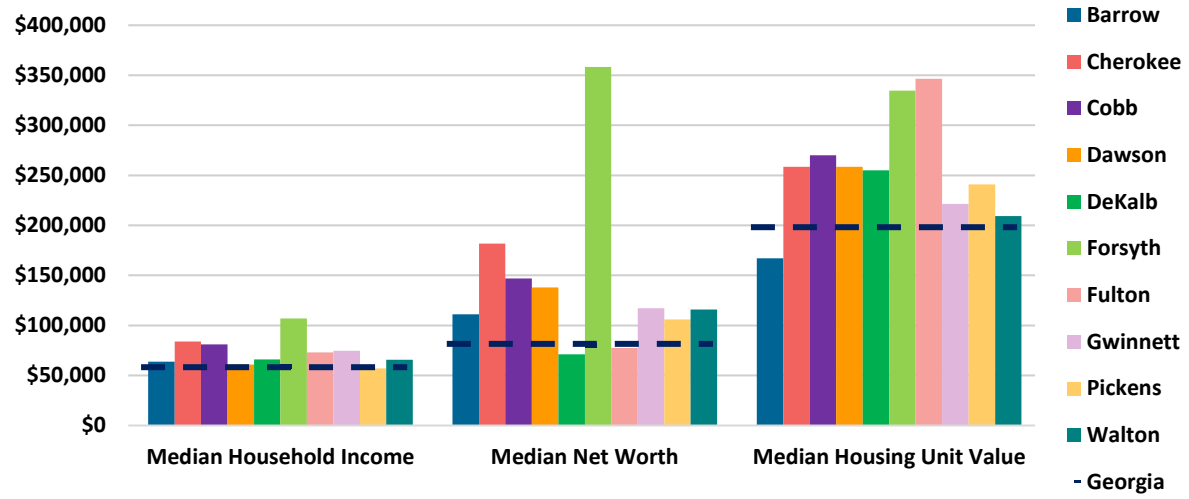
In the U.S., employment often implies a stable income and benefits (i.e., health insurance), both of which can lead to better health status. Furthermore, unemployment has been linked to poor health due to loss of health insurance, increased stress, unhealthy behaviors, and increased depression (Robert Wood Johnson Foundation, 2013). The Community's percentage of total population in the workforce was higher than Georgia's, with 53% compared to 48%. When considered by county, Cobb (57%), DeKalb (56%), Gwinnett (54%), and Fulton County (53%) all had percentages that were higher than the State. Unemployment rates also differed by county with DeKalb (15%) and Fulton County (14%) having the highest rates among the Community's ten counties and percentages that were higher than or equal to the state's rate of 14%. Unemployment rates were drastically higher in 2020 compared to prior years, which may be attributed to the COVID-19 pandemic and associated job losses (ESRI, 2020).

Financial Status

Many choices families make surrounding their housing, education, nutrition, medical care, and many other factors are based on household income. Public health research has illustrated that families in higher income brackets, on average, are healthier and will live longer than families in lower-income brackets because of the many barriers and stresses related to poverty (County Health Rankings & Roadmaps, 2013-2017). Based on the financial indicators analyzed for this CHNA, the Northside Community appeared relatively affluent compared to Georgia on most

variables. An overview of the county's financial status compared to Georgia is displayed in **Figure 9**.

Figure 9: Comparison of the Northside Community to Georgia on Key Financial Indicators, 2019



Source: ESRI, 2019

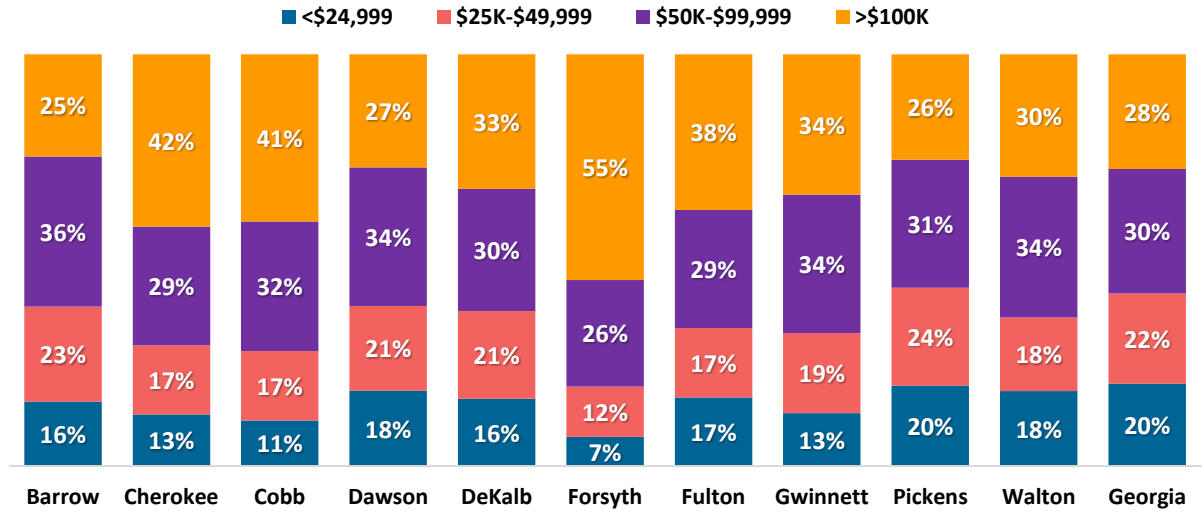
On all income measures analyzed, the Community as a whole was better off financially compared to Georgia. When considered by county, some were higher than the state on key financial indicators while other counties were lower. The median household income for the Community was $75,713 which was roughly $17,000 higher than the State's at $59,084. Among the Community's ten counties, median household income was the highest in Forsyth ($106,934), Cherokee ($83,839), and Cobb County ($81,212). When compared to the state, Pickens County was the only county in the Community with a lower median household income ($57,051) (ESRI, 2020).

Housing unit value followed a comparable trend to the other financial indicators, with the Community's median household value estimated to be $265,723 compared to Georgia's median of $197,610. The Community's high percentage of college degree holders versus Georgia's may explain why many of the county's financial indicators exceed state-wide rates (ESRI, 2020).

High housing-unit values illustrate affluence in the Community; however, they were also linked to a high cost of living within the area. Community members, on average, spend approximately 18% more than the national average on housing costs; compared to Georgians that spend about 7% less per year than the national average (ESRI, 2020).

Furthermore, when examining income brackets, there were six counties whose largest cohort was households with incomes of $100,000 or more and there were four counties whose largest cohort was households with incomes of $50K-$99,999 (ESRI, 2020).

Figure 10: Percent of Households in Each Income Bracket in the Northside Community and Georgia, 2020

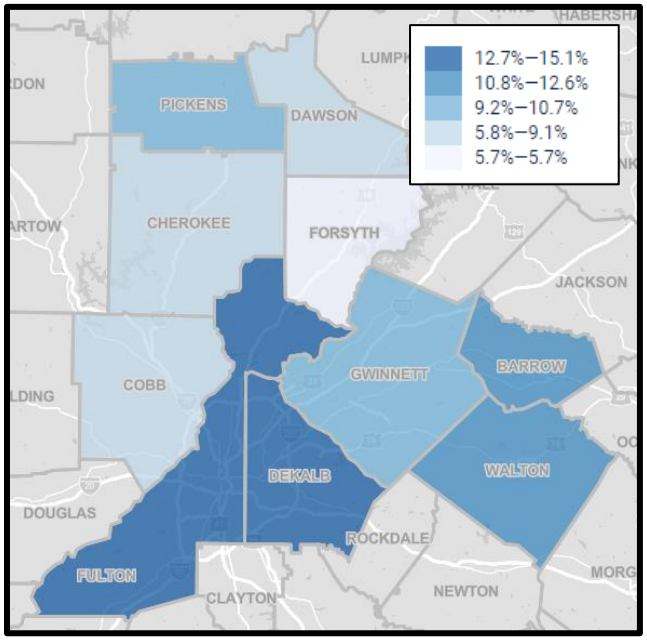


Source: ESRI, 2020

Poverty

The United States Census Bureau defines poverty based on a set of income thresholds that vary based on family size and composition (age of family members). Georgia's poverty rate was 15%. One county in the Community (DeKalb) also had 15% of its population below the federal poverty level (FPL), while all other counties in the Community had a smaller portion. However, even though nine of the 10 counties had percentages that were lower than the state's, the total of the ten counties' population below the federal poverty level (FPL) represented nearly 477,000 population (U.S. Census Bureau, 2015-2019).

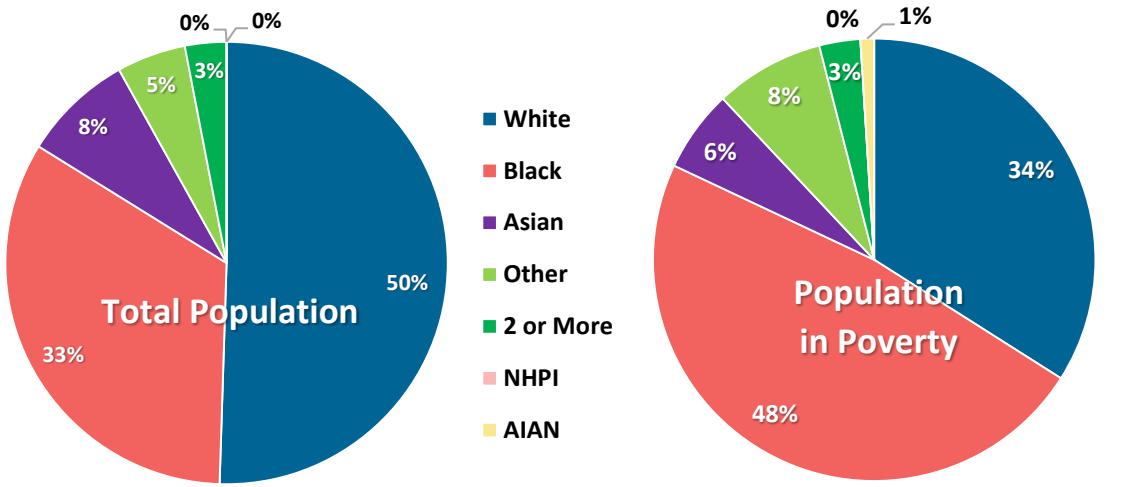
Figure 11: Percent Below Poverty Level, Northside Community, 2019



Source: US Census Bureau, American Community Survey, 5-year Estimates, 2015-2019

Throughout the Community and Georgia, clear disparities in poverty rates by race and ethnicity exist. **Figures 12** and **13** illustrate the Community's total population by race and ethnicity compared to the Community's population in poverty by race and ethnicity (ESRI, 2020; U.S. Census Bureau, 2015-2019). As shown, the Black population comprises 33% of the total population while making up nearly half of the Community's population in poverty. Similarly, the Hispanic population makes up 12% of the Community's total population while comprising 20% of the population in poverty.

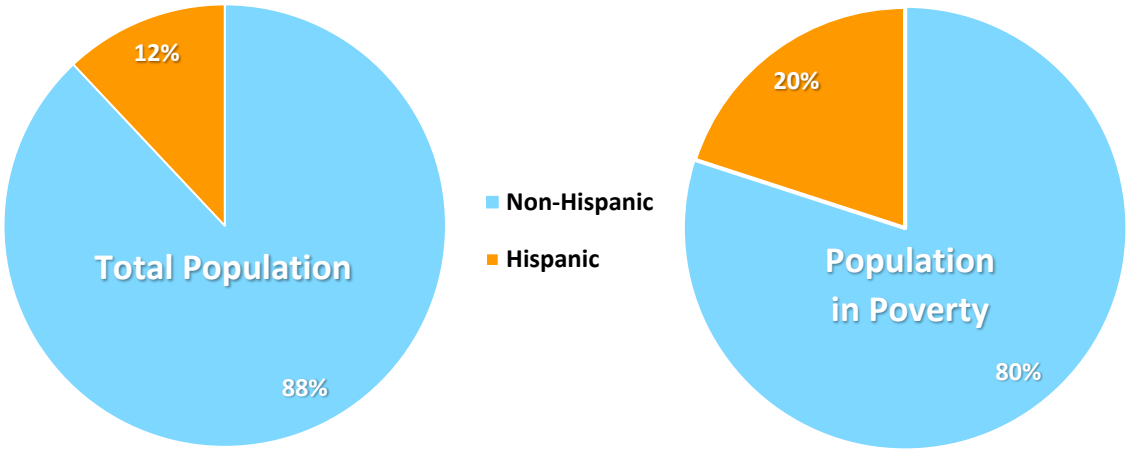
Figure 12: Total Community Population by Race Compared to Total Community Population in Poverty by Race



Source: ESRI, 2020

Source: US Census Bureau, American Community Survey, 5-year Estimates, 2015-2019

Figure 13: Total Community Population by Ethnicity Compared to Total Community Population in Poverty by Ethnicity



Source: ESRI, 2020

Source: US Census Bureau, American Community Survey, 5-year Estimates, 2015-2019

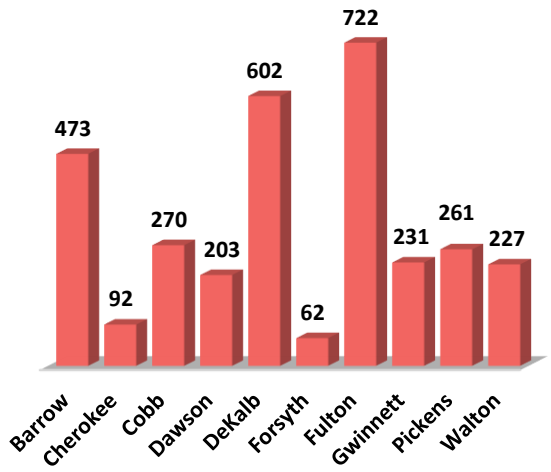
Marital Status

A growing body of research has illustrated that social and emotional support systems have a positive effect on health. Public Health studies have found that social support is linked to decreased risks of mortality, improved health behavior, and hospital re-admittance and recovery (Reblin & Uchino, 2008). In 2020, within the Community, 48% of the population (15 and older) was married, 38% had never been married, 10% was divorced, and 4% was widowed (ESRI, 2020). When considered by county, Fulton and DeKalb Counties had the lowest percent of married population with 39% and 40% respectively, and Forsyth County had the highest percent at 65%.

Violence and Crime

The fear of crime adversely impacts both the physical and mental health of Community members through increased stress levels, restricted movement, and restricted amount of time spent outside of the home. These factors can then lead to limited social ties, limited time spent outdoors pursing physical activity and can produce unwanted stress on the nervous and immune system (Stafford, Chandola, & Marmot, 2007). Violent crimes include homicide, rape, robbery, and aggravated assault. Among the Community's ten counties, DeKalb, Fulton, and Barrow Counties had the highest rates while Cherokee and Forsyth had the lowest rates (FBI, 2015-2017).

Figure 14: Violent Crime Rate in the Northside Community, 2015-2017



Source: Federal Bureau of Investigation, FBI Uniform Crime Report, 2015-2017. Accessved via communitycommons.org.

Background and Overview

Conditions of the physical environment can shape the health of a community by influencing the choices community members make surrounding physical activity, nutrition, and safety. This section will focus on some key features of the physical environment that influence health, including housing, transportation, food access, and access to resources for recreational activity.

Within the Community, high housing cost and a lack of transportation options were the two most severe physical environment problems facing the Community compared to Georgia. DeKalb and Fulton Counties both stood out in the Community for their severe housing cost and lack of access to motor vehicles. Furthermore, the Community has fallen behind Georgia overall in terms of access to food. Much of the population within the Community that does not have reliable access to affordable and nutritious food is located in Fulton, DeKalb, Gwinnett, and Cobb Counties.

Urban/Rural

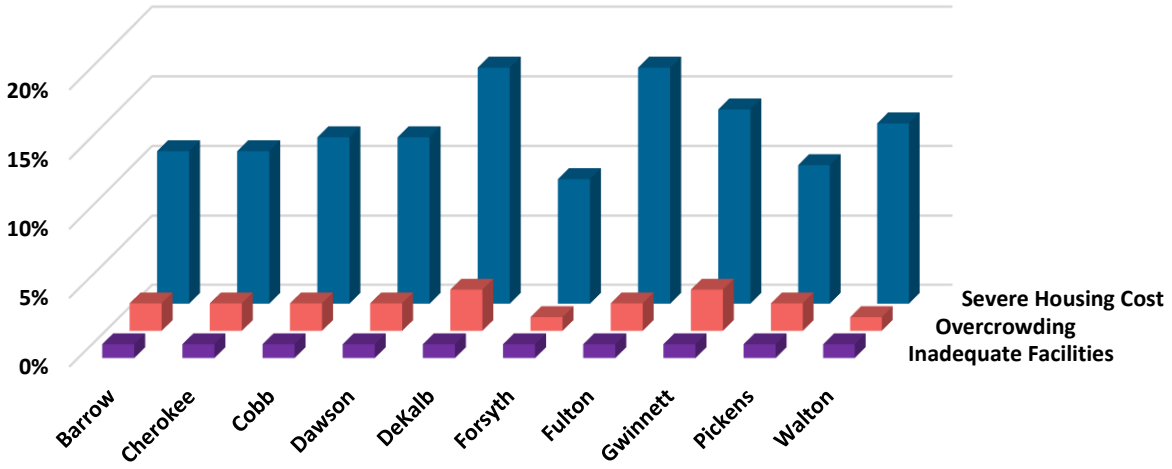
Urban and rural populations are classified based on differences in population density, count and size. Urban areas typically are much more developed than rural areas as well. Based on population, only 5% of the Community's population was considered to live in a rural setting, compared to Georgia's overall percentage of 25%. However, 80% of Dawson County and 73% of Pickens County lived in a rural area (U.S. Census Bureau, 2010).

Housing

Housing in America represents the number one expense for most Americans and a place where Americans spend approximately 60% of their time (Braveman, Dekker, Egerter, Sadegh-Nobari, & Pollack, 2011). Public health research has shown a connection between chronic disease management and access to affordable housing. Affordable housing allows families enough money to cover other needs that are also associated with health, including medical expenses, food, and transportation. Furthermore, when individuals cannot afford housing for themselves or their families, they are often forced into living situations that are not appropriate for their family's needs. These conditions can lead to stress, high blood pressure, and other illnesses (Johns Hopkins Center to Eliminate Cardiovascular Health Disparities, n.d.).

To explore the state of housing in the Community, Northside utilized a measure of severe housing problems provided by County Health Rankings and Roadmaps. This measure indicated the percent of households that had at least one of the following four problems: housing as a severe cost burden (monthly housing costs exceeded 30% of household income), overcrowding (>1 persons per room), and lack of kitchen or plumbing facilities. Within the Community, counties ranged from 10% to 19% of households having severe housing problems, compared to 16% in Georgia. Severely high housing cost was the leading housing problem within the Community, affecting between 9% and 17% of households with DeKalb and Fulton having the highest in the Community (17%). The other two severe housing problems affected between 1% and 3% of households in the Community. DeKalb and Gwinnett are notable outliers in overcrowding (3%) (County Health Rankings & Roadmaps, 2013-2017).

Figure 15: Severe Housing Problems in the Northside Community, 2013-2017



Source: U.S. Department of Housing and Urban Development, 2013-2017. Accessved via countyhealthrankings.org.

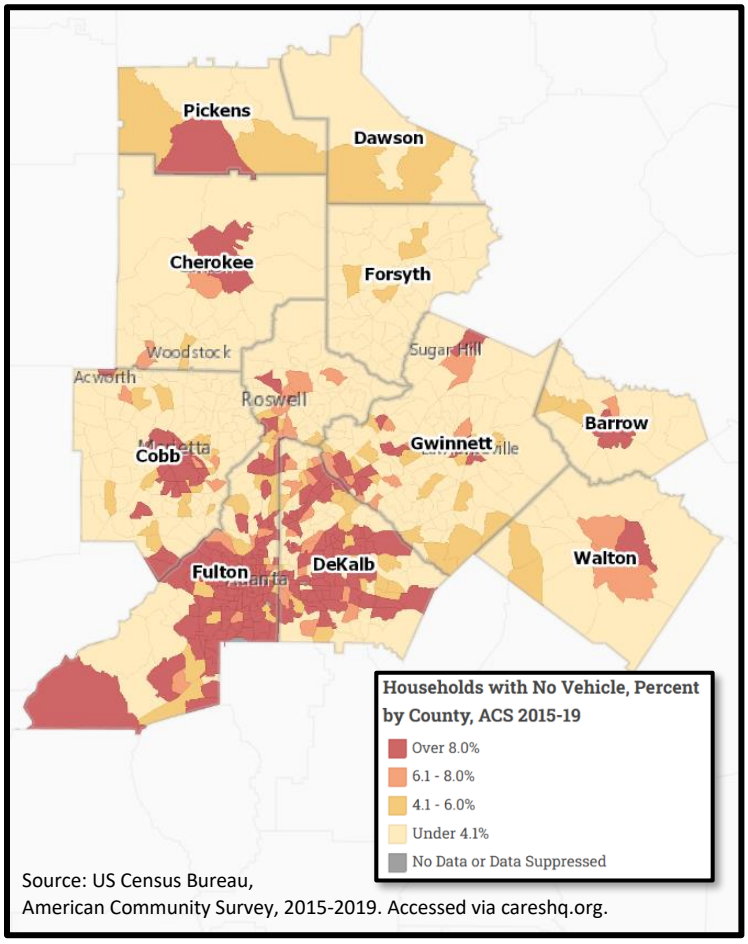
Based on the knowledge that approximately 31% of households in the Community spend over 30% of their household income on housing, this may leave some Community members at risk of living in substandard housing situations that can contribute to poor health outcomes.

Homelessness is another facet of the housing issues facing the Community and Georgia. In 2019, there were an estimated 4,183 homeless persons in Georgia, up 13% from the previous year assessed (2017). Of this total homeless population, 46% were "sheltered" (residing in an emergency shelter or transitional/supportive housing) and 54% were "unsheltered" (primary nighttime residence is a public or private place not designed or ordinarily used as a sleeping accommodation) (Georgia Department of Community Affairs, 2019).

Transportation

Access to healthcare and preventive care resources can be dictated by a person's ability to actually get to the physical location of service; therefore, a person's access to a motor vehicle or public transportation can play an important role in maintaining a healthy lifestyle. Within the Northside Community, 6% of households were estimated to have no motor vehicle; Georgia's rate was 7%. Fulton and DeKalb Counties were the only counties in the Community that had rates of households without motor vehicles higher than 6%, with 11% and 9%, respectively; however, there were pockets in most of the counties within the Community where over 8% of the households did not have a vehicle, illustrated in **Figure 16.** Fulton and DeKalb Counties are also largely within the area served by Georgia's largest public transportation system: MARTA. The Northside Community overall had a slightly higher use rate of public transit compared to Georgia, with approximately 4% of the population commuting to work on public transit in the Community compared to only 2% in Georgia. The public transit users in the Community represented 77% of all Georgians using public transit to commute to work. In Fulton and DeKalb Counties, approximately 8% and 7% of the population commuted to work using public transit, respectively. There were portions of Barrow, Cherokee, Cobb, Gwinnett, Pickens, and Walton Counties that had high rates of no vehicles for the household and these counties also have limited access to public transit, as demonstrated by 1% or less of their populations reportedly using public transit to get to work (U.S. Census Bureau, 2015-2019). The combination of these two factors could create a barrier to healthcare access for these populations.

Figure 16: Households with No Motor Vehicle in the Northside Community, 2015-2019

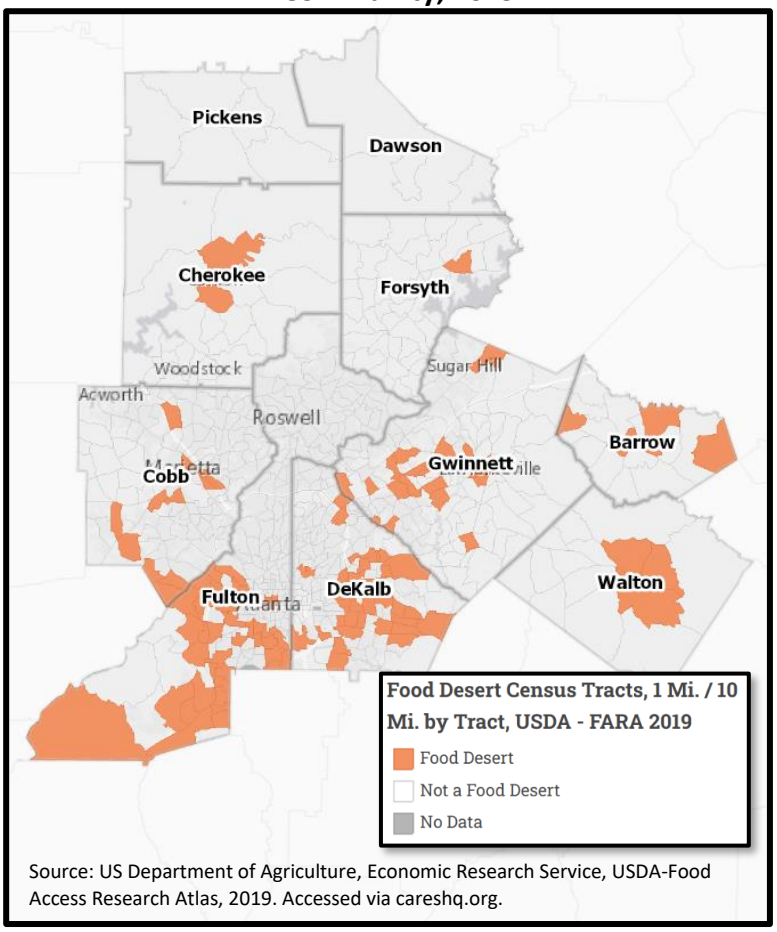


Source: US Census Bureau, American Community Survey, 2015-2019. Accessed via careshq.org.

Food Access

Increasingly, nutrition advice and dietary guidelines are being provided to patients by doctors, becoming part of prevention strategies in cancer, and are being viewed as a first line of defense against many chronic diseases. Public health research has illustrated that communities without supermarkets have higher rates of obesity, diabetes, and other diet-related health problems when compared to communities with access. Food security occurs when all residents of a community are able to obtain food that can provide a nutritional diet that is both safe and culturally relevant to the individual. Food insecurity can be a result of several factors including poverty and food access based on the physical environment. Food deserts represent the geographic application of food insecurity.

Figure 17: Food Desert Census Tracts in the Northside Community, 2019



Source: US Department of Agriculture, Economic Research Service, USDA-Food Access Research Atlas, 2019. Accessed via careshq.org.

Within the Northside Community, 55% of the low-income population was considered to also have low food access, compared to 49% of the population in Georgia. This amount translates to over 660,000 residents of the Community being considered low income and low food access. Approximately 91% of this low income/low food access population lives in Fulton, DeKalb, Gwinnett, and Cobb Counties. There were several areas within the Northside Community that the USDA considered food deserts in 2019. The food deserts in the Community are illustrated in Figure 44 (US Department of Agriculture, Economic Research Service, USDA-Food Access Reserach Atlas, 2019).

Access to Recreational Facilities

When people have access to recreational/fitness facilities they are more encouraged to practice healthy behaviors related to physical activity. The Community had varying access to recreation and fitness facilities per 100,000 population depending on county. Georgia's rate was 11.43 and the national rate was 12.23. All counties in the Community except for Dawson and Walton Counties, whose rates were suppressed, exceeded the state, with Fulton County having the most recreational and fitness facilities per 100,000 population with an estimated 23.79 facilities per 100,000 population (US Census Bureau, County Business Patterns, 2017).

Table 3: Recreational Facilities (per 100,000 population) in the Northside Community, 2017

Geography	Rate
Georgia	11.43
Fulton	23.79
Cherokee	18.19
Forsyth	17.66
Cobb	15.84
Gwinnett	14.90
Pickens	13.59
DeKalb	12.57
Barrow	11.53
Dawson	n/a
Walton	n/a

Source: US Census Bureau, County Business Patterns, 2017

Leading causes of death, inpatient discharges, emergency room ("ER") visits, top chronic conditions, and top preventive health behaviors are all helpful measures in gaining a perspective of a community's health status. Detailed in this section are these metrics for the Community and, when available, for Georgia.

Leading Causes of Death

Mortality measures were evaluated for this CHNA to understand the cause-specific death rates within the Community. In 2020, according to the Georgia Department of Public Health, there were 30,499 deaths in the Community (Georgia Department of Public Health, 2016-2020). The Community accounted for approximately 30% of Georgia's total deaths (103,114). When comparing age-adjusted death rates in 2020, Walton County had the highest overall age-adjusted death rate at 932 per 100,000 population, followed by Barrow County with a rate of 906 and Cherokee County with a rate of 902. Forsyth County had the lowest rate in the Community with a rate of 643.

Between 2016 and 2020, Georgia and the Community differed slightly in their leading causes of death, as indicated in **Table 4** (next page). The Community had a higher percentage of deaths due to cancer (malignant neoplasm) and a lower percentage of deaths due to diseases of the heart. Compared to the state, the Community also had slightly higher percentages of deaths due to unintentional injuries and cerebrovascular diseases while having lower percentages of chronic lower respiratory disease deaths. Intentional self-harm (suicide) was ranked ninth for the Community's causes of death and not included in Georgia's top ten, while septicemia was ranked tenth for the state's leading causes of death but not included in the Community's top ten causes.

Table 4: Top 10 Leading Causes of Death in the Northside Community and Georgia, 2016-2020

Community			Georgia		
	Cause of Death	% of total deaths		Cause of Death	% of total deaths
1	Malignant Neoplasms	21%	1	Diseases of the Heart	22%
2	Diseases of the Heart	20%	2	Malignant Neoplasms	20%
3	Unintentional Injuries	6%	3	Chronic Lower Respiratory Diseases (CLRD)	6%
4	Cerebrovascular Diseases	6%	4	Unintentional Injuries	5%
5	Alzheimer's Disease	5%	5	Cerebrovascular Diseases	5%
6	Chronic Lower Respiratory Diseases (CLRD)	4%	6	Alzheimer's Disease	5%
7	Diabetes Mellitus	3%	7	Diabetes Mellitus	3%
8	Nephritis, Nephrotic Syndrome, and Nephrosis	2%	8	Nephritis, Nephrotic Syndrome, and Nephrosis	2%
9	Intentional Self-Harm (Suicide)	2%	9	COVID-19	2%
10	COVID-19	2%	10	Septicemia	2%

Source: GA DPH OASIS, 2016-2020

The top ten leading causes of death represented approximately 91,000 (70%) of the 130,000 total deaths in the Community between 2016 and 2020.

- Six of the ten leading causes of death, which contributed to 74,000 deaths (57% of total), are included in the An In-Depth Analysis of Health Determinants, Health Behaviors, and Health Outcomes section of this report.
- Four of the ten leading causes of death, which contributed to approximately 17,000 deaths (13% of total), are included in Appendix B.

Leading Causes of Inpatient Discharges and ER Visits

Many of the leading causes of inpatient discharges and ER visits in both the Community and the state align closely with the leading causes of death. As shown in **Table 5**, when compared to the state, the Community had slightly lower percentages of inpatient discharges due to diseases of the heart and septicemia, while having slightly higher rates of discharges due to malignant neoplasms (cancer).

Table 5: Top 10 Leading Causes of Inpatient Discharges in the Northside Community and Georgia, 2016-2020

Community			Georgia		
	Cause	% of total IP discharges		Cause	% of total IP discharges
1	Diseases of the Heart	9%	1	Diseases of the Heart	10%
2	Septicemia	5%	2	Septicemia	6%
3	Unintentional Injuries	4%	3	Unintentional Injuries	4%
4	Malignant Neoplasms	3%	4	Cerebrovascular Diseases	3%
5	Cerebrovascular Diseases	3%	5	Malignant Neoplasms	2%
6	Diabetes Mellitus	2%	6	Chronic Lower Respiratory Diseases (CLRD)	2%
7	Influenza & Pneumonia	2%	7	Influenza & Pneumonia	2%
8	Chronic Lower Respiratory Diseases (CLRD)	2%	8	Diabetes Mellitus	2%
9	Nephritis, Nephrotic Syndrome, & Nephrosis	2%	9	Nephritis, Nephrotic Syndrome, & Nephrosis	2%
10	Anemias	1%	10	Anemias	1%

Source: GA DPH OASIS, 2016-2020

Table 6 displays the leading causes of ER visits in the Community and in Georgia. Compared to the state, the Community had slightly lower ER visits due to diseases of the heart and was the same as the state overall for all other nine leading causes of ER visits.

Table 6: Top 10 Leading Causes of ER Visits in the Northside Community and Georgia, 2016-2020

Community			Georgia		
	Cause	% of total ER visits		Cause	% of total ER visits
1	Diseases of the Heart	15%	1	Diseases of the Heart	16%
2	Septicemia	2%	2	Septicemia	2%
3	Unintentional Injuries	2%	3	Unintentional Injuries	2%
4	Malignant Neoplasms	1%	4	Cerebrovascular Diseases	1%
5	Cerebrovascular Diseases	1%	5	Malignant Neoplasms	1%
6	Diabetes Mellitus	1%	6	Chronic Lower Respiratory Diseases (CLRD)	1%
7	Influenza & Pneumonia	1%	7	Influenza & Pneumonia	1%
8	Chronic Lower Respiratory Diseases (CLRD)	1%	8	Diabetes Mellitus	1%
9	Nephritis, Nephrotic Syndrome, & Nephrosis	1%	9	Nephritis, Nephrotic Syndrome, & Nephrosis	1%
10	Anemias	1%	10	Anemias	1%

Source: GA DPH OASIS, 2016-2020

Top Chronic Conditions

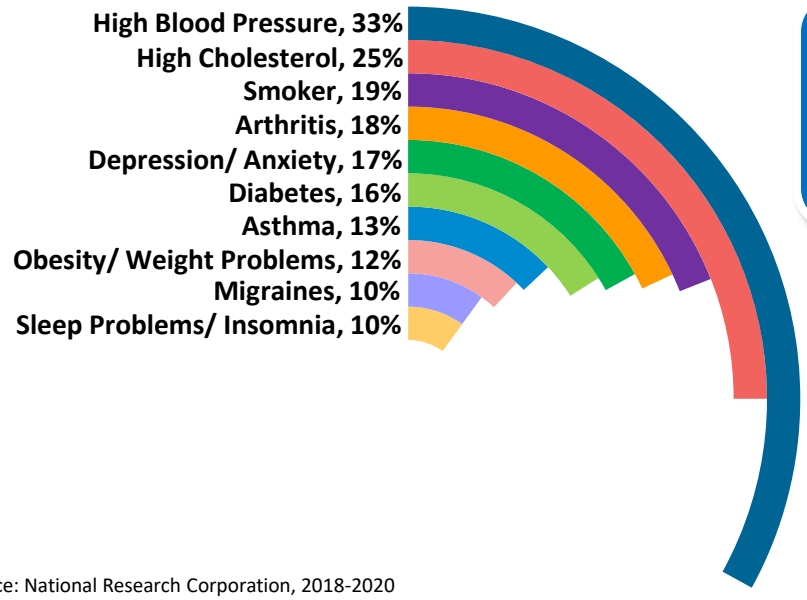
The NRC provides a comprehensive list of chronic conditions to respondents of its NRC Survey. Respondents were asked "Has any household member been diagnosed as having any of the following health problems?" Below is a list of the conditions presented to respondents.

Arthritis	Chronic Heartburn	High Blood Pressure	Skin Cancer	High Cholesterol
Asthma	Depression/ Anxiety	Obesity/Weight Problems	Sleep Problems/ Insomnia	Migraines
Cancer (other than skin)	Diabetes	Osteoporosis	Stroke	Smoker
Chronic Headaches	Heart Disease	Sciatica/Chronic Back Pain	No Chronic Conditions	

Given that this survey question pertained to any member in the household and not just the NRC Survey respondent, the results provide a broad representation of the Community's health status.

Within the Community, the top ten conditions (i.e., most frequently mentioned) are represented in **Figure 18**. Members of the Northside Community reported high blood pressure as the most common chronic condition, followed by high cholesterol.

Figure 18: Top 10 Chronic Conditions, Percent of Households Reporting the Condition, Northside Community, 2018-2020



34% of respondents reported no chronic conditions

Source: National Research Corporation, 2018-2020

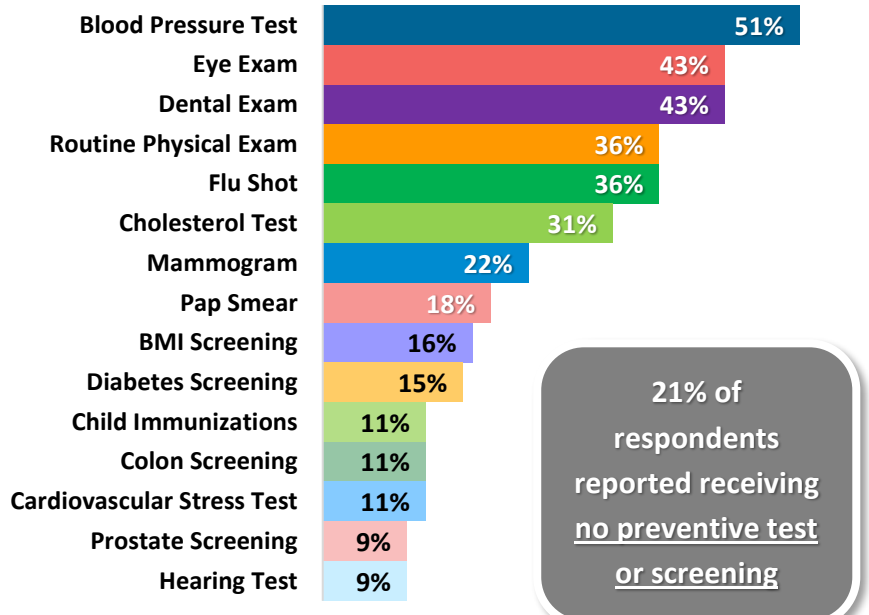
Preventive Health Behaviors

The NRC also provides a comprehensive list of preventive health behaviors (PHBs) to respondents of its survey. Respondents are asked "Has any household member used or had any of the following healthcare services or tests in the last 12 months?" Below is a list of the PHBs included in the NRC Survey.

Blood Pressure Test	Colon Screening	Hearing Test	Pap Smear	Weight Loss Program
BMI (Body Mass Index) Screening	Dental Exam	Mammogram	Pre-Natal Care	
Cardiovascular Stress Test	Diabetes Screening	Mental Health Screening	Prostate Screening	
Child Immunizations	Eye Exam	No Preventive Test or Screening in Household	Routine Physical Exam	
Cholesterol Tests	Flu Shot	Osteoporosis Testing	Stop Smoking Program	

Given that this survey question pertained to any member in the household and not just the NRC Survey respondent, the results provided a broad representation of the Community's PHBs. The top 10 PHBs (i.e., most frequently utilized) for all respondents in the Community are summarized in **Figure 19**. A little over half of the households surveyed had a member that had received a blood pressure test, the top preventive health behavior. Furthermore, over 40% of households had an eye exam and/or dental exam

FIgure 19: Top 15 Preventive Health Behaviors in the Northside Community, 2018-2020



Source: National Research Corporation, 2018-2020

An In-Depth Analysis of Health Determinants, Health Behaviors, & Health Outcomes

The seven health needs included in this section are based on priorities identified in Northside Hospital's FY 2019 – 2021 Community Health Needs Assessment. While the priorities identified in the previous CHNA help to drive the current CHNA analysis, we will continue to reevaluate the inclusion of these seven priorities and the addition of any new priorities.

Cancer

According to the American Cancer Society (2021), "cancer affects one in three people in the United States." Between 2016 and 2020, cancer was the leading cause of death for the Community and the second leading cause of death in Georgia (Georgia Department of Public Health, 2016-2020).

WHY IS CANCER IMPORTANT?

"Death rates are higher for some cancers and in some racial/ethnic minority groups. These disparities are often linked to social determinants of health, including education, economic status, and access to health care."

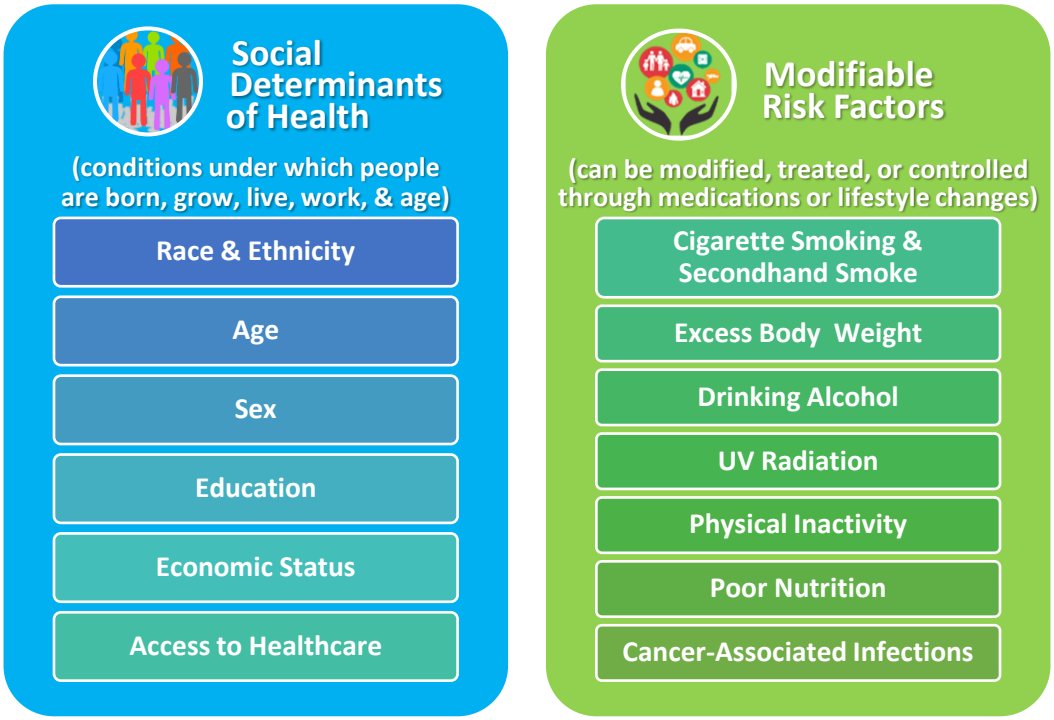
- Healthy People 2030

Social Determinants of Health & Modifiable Risk Factors

An individual's likelihood to have a cancer diagnosis, get cancer screenings, receive appropriate or timely treatment, or to die from cancer is impacted by social determinants of health ("SDOH") and modifiable risk factors. When considered by race and ethnicity, some populations may be more at risk for a diagnosis or death due to certain types of a cancer. Other SDOH, such as socioeconomic status, may impact an individual's likelihood to have difficulty accessing healthcare. Certain modifiable risk factors may also be impacted by SDOH, for example the effect that an individual's income may have on the ability to maintain a healthy diet. An estimated 42% of cancer cases and 45% of cancer deaths in the United States can be attributed to modifiable risk factors (American Cancer Society, 2017). Based on estimates from the American Cancer Society (2017), the top five risk factors contributing to cancer diagnoses in the United States are:

1. Cigarette smoking – approximately 19% of cancer cases and 29% of cancer deaths
2. Excess body weight – approximately 7.8% of cancer cases and 6.5% of cancer deaths
3. Drinking alcohol – approximately 5.6% of cancer cases and 4% of cancer deaths
4. UV radiation – approximately 5% of cases and 1.5% of deaths
5. Physical inactivity – approximately 2.9% of cases and 2.2% of deaths

Other modifiable risk factors include diets high in red and processed meat and diets low in fruits and vegetables, fiber, and calcium. There are also certain infections associated with cancer including helicobacter pylori, hepatitis B virus (HBV), hepatitis C virus (HPC), human herpes virus type 8 (HHV8), human immunodeficiency virus (HIV), and human papillomavirus (HPV) (American Cancer Society, 2017).



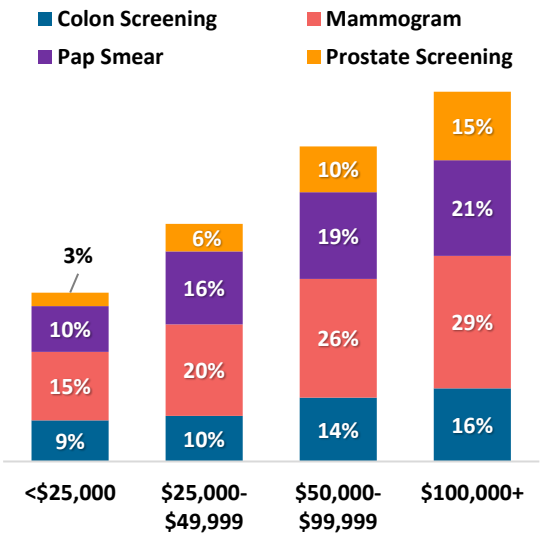
Information on many of these SDOH within the Northside Community can be found in the Our Community section of this report under Demographics, Socioeconomic Characteristics, and Access to Care and information on many of the risk factors is included in the Healthy Lifestyle Behaviors and Diabetes & Obesity sections of this CHNA report.

Screenings

Screenings serve an important role in the early detection of cancer. Included in the NRC survey are four types of common cancer screenings: colon screening, mammogram, pap smear, and prostate screening. According to NRC, respondents from the Northside Community's ten counties reported that between 2018 and 2020, 11% had received a colon screening, 22% received a mammogram, 17% received a pap smear, and 9% received a prostate screening (not shown) (National Research Corporation, 2018-2020).

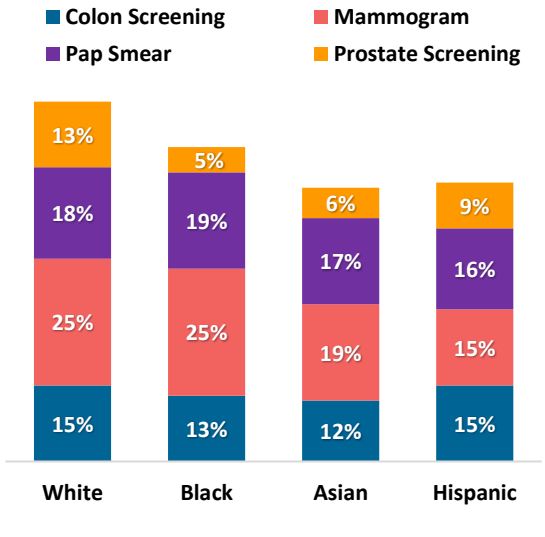
Figures 20 and **21** show screening rates by income and race and ethnicity. When displayed by income level, screening rates increased as income increased, indicating a possible lack of access to screenings among the lowest income populations. When examined by race and ethnicity, screenings were highest among the White population, indicating potential barriers for Black, Asian, and Hispanic populations.

Figure 20: Cancer Screenings within the Northside Community by Income, 2018-2020



Source: National Research Corporation, 2018-2020

Figure 21: Cancer Screenings within the Northside Community by Race and Ethnicity, 2018-2020



Source: National Research Corporation, 2018-2020

Health Outcomes

Cancer Incidence Rates

Age-adjusted incidence rates (number of newly diagnosed cancers per year per 100,000 persons) within the Northside Community varied by race and ethnicity and by county. According to the National Program of Cancer Registries (2013-2017), Georgia's top five cancer incidence types were:

1. Breast Cancer
2. Prostate Cancer
3. Lung Cancer
4. Colon Cancer
5. Melanoma of the Skin

Based on this order, **Table 7** shows the Northside Community's rates by race and ethnicity compared to Georgia.

Table 7: TOP 5 CANCER INCIDENCE TYPES, Age-Adjusted Incidence Rates by Race and Ethnicity

		Northside Community										
		Barrow	Cherokee	Cobb	Dawson	DeKalb	Forsyth	Fulton	Gwinnett	Pickens	Walton	GA
Breast	Overall	126.6	135.3	141.3	104.4	135.5	124.8	131.1	127.2	138.6	118.8	126.8
	White	121.3	136.4	147.9	108.5	147.3	125.9	137.2	136.5	142.1	120.5	128.1
	Black	185.3	145.6	131.1	*	132.7	130.2	130.3	135.4	*	122.8	130.2
	Asian	*	*	92.3	*	80.9	89.2	94.5	92.8	*	*	87.3
	Hispanic	*	154.4	138.5	*	121.7	141.8	132.4	90.4	*	*	108.2
Prostate	Overall	112.6	127.7	138.7	89.4	141.6	123	142.3	127.7	124.7	120.7	124.2
	White	107.7	125.4	126.1	90.3	108.4	124.2	113.7	115.9	125.6	109	104.1
	Black	200.4	163	225.7	*	181.3	156.8	194.3	226.6	*	196.8	193.3
	Asian	*	*	50	*	41.8	*	41.1	61.2	*	*	53.7
	Hispanic	*	121.8	109.4	*	88.1	129.9	121.8	115.4	*	*	96.4
Lung & Bronchus	Overall	87.4	58.1	54.4	72.3	46.6	52.9	51	48.2	79.5	68.4	62.8
	White	92.8	60.4	57.6	72.9	45	56	45.8	56.5	80	80	67.8
	Black	79	41	48.3	*	50.5	*	59.4	38.1	*	77.2	56
	Asian	*	*	18.5	*	19.1	32.1	30.3	28.2	*	*	25.8
	Hispanic	*	*	45.9	*	28.9	*	38.2	29.6	*	*	34.9
Colon	Overall	44.3	41	40	24.9	38.7	37.5	40.2	38.6	48.4	35.4	48.5
	White	43.5	42.1	40.1	25.9	36.9	38.6	32.7	39.6	49	34.6	47.4
	Black	49.5	36.6	43.2	*	41.3	*	50.3	39.1	*	41.1	55.2
	Asian	*	*	31.3	*	30.3	*	33.4	36.2	*	*	39.2
	Hispanic	*	30.9	40.9	*	27.7	44.6	39.2	38.1	*	*	37.5
Melanoma	Overall	29.9	49.3	33.4	44.7	21	60.9	30.6	31.1	60.5	36	26.7
	White	34.7	54.1	48.1	46.8	53	71	61.7	54.2	60.9	43.7	40.3
	Black	*	*	*	*	*	*	0.9	*	*	*	1.0
	Asian	*	*	*	*	*	*	*	*	*	*	1.0
	Hispanic	*	*	9.2	*	*	*	12.3	6.7	*	*	7.8

Source: National Program of Cancer Registries, 2013-2017
Note: Rates in red are higher than the respective race/ethnicity's rate for Georgia. Age-adjusted incidence rates are per 100,000 population.
Data that has been suppressed to ensure confidentiality and stability of rate estimates is indicated by an *.

Cancer Death Rates

Within the Northside Community, cancer was the leading cause of death between 2016 and 2020 (Georgia Department of Public Health, 2016-2020). Lung cancer had the highest age-adjusted death rate (number of deaths per year by cancer type per 100,000 population) in Georgia and in each county in the Community and contributed to significantly more cancer deaths than any other type. Georgia's top five cancer death types are:

1. Lung Cancer
2. Colon Cancer
3. Breast Cancer
4. Pancreatic Cancer
5. Prostate Cancer

Based on this order, **Table 8** shows age-adjusted death rates by race and ethnicity within the Northside Community's ten counties compared to Georgia.

Table 8: TOP 5 CANCER DEATH TYPES, Age-Adjusted Death Rate by Race and Ethnicity, 2016-2020

		Northside Community										
		Barrow	Cherokee	Cobb	Dawson	DeKalb	Forsyth	Fulton	Gwinnett	Pickens	Walton	GA
Lung	Overall	48.9	32.5	27.6	37.1	25.7	27.1	26.9	26.5	54.5	43.7	37.1
	White	51.1	33.7	30.1	37.6	22.2	29.6	22.9	32.0	55.6	44.8	41.1
	Black	56.3	18.8	27.1	0	29.8	32.4	33.9	21.8	*	48.4	34.0
	Asian	*	*	10.3	0	15.8	14.4	10.6	17.7	*	0	15.3
	Hispanic	*	24.5	8.7	0	10.8	*	17.8	13.6	0	*	12.2
Colon	Overall	15.8	15.1	12.9	16.3	12.9	11.3	13.5	12.1	14.3	15.9	14.3
	White	16.5	15.7	12.5	16.7	11.2	12.2	9.9	12.9	14.9	14.8	13.9
	Black	9.4	18.1	17.0	0	15.2	24.4	18.8	14.5	0	25.5	17.5
	Asian	0	*	8.2	0	5.4	*	12.1	10.5	0	0	8.8
	Hispanic	22.1	*	11.5	*	8.3	9.4	5.4	5.7	0	*	7.7
Breast	Overall	11.3	10.0	11.8	7.8	12.9	9.0	12.2	11.7	10.4	11.3	11.7
	White	11.8	10.5	11.2	8.1	8.8	9.6	8.7	11.5	10.9	10.7	10.5
	Black	*	10.5	15.0	0	17.8	23.0	17.6	16.0	0	17.4	16.1
	Asian	*	*	6.2	0	4.2	4.2	5.8	8.4	0	0	6.3
	Hispanic	*	*	8.5	0	4.3	*	5.4	6.9	0	*	5.8
Pancreatic	Overall	12.6	10.3	10.1	10.0	11.1	9.7	10.8	9.6	7.2	10.2	10.9
	White	13.1	10.8	9.6	10.3	10.4	10.6	10.2	10.0	7.5	8.7	10.7
	Black	16.0	*	14.0	0	12.1	*	12.5	14.1	0	19.1	13.1
	Asian	*	*	7.5	0	10.4	*	7.6	6.2	0	*	6.5
	Hispanic	0	*	5.6	0	5.9	*	*	5.3	0	*	5.6
Prostate	Overall	7.3	8.4	7.5	6.8	9.6	7.7	9.2	8.1	8.1	7.6	8.6
	White	7.8	8.6	7.1	7.0	7.0	8.1	5.5	7.4	8.3	6.2	7.1
	Black	*	13.3	12.1	0	13.2	*	14.8	16.9	0	17.1	14.8
	Asian	0	*	*	0	*	*	*	1.9	0	*	1.8
	Hispanic	0	*	3.5	0	3.7	*	*	6.4	0	0	4.4

Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2016-2020
Note: Rates in red are higher than the respective race/ethnicity's rate for Georgia. Age-adjusted death rates are per 100,000 population.
Rates based on 1-4 events are not shown and indicated by an *.

Cardiovascular Disease

Major cardiovascular diseases include diseases of the heart (heart attack and hypertensive heart disease), stroke, high blood pressure, aortic aneurysm and dissection, and hardening of the arteries. In Georgia, diseases of the heart was the leading cause of death between 2016 and 2020 and stroke was the fifth leading cause. In the Community, diseases of the heart is listed as the second most common cause of death and stroke is listed as the fourth most common cause (Georgia Department of Public Health, 2016-2020).

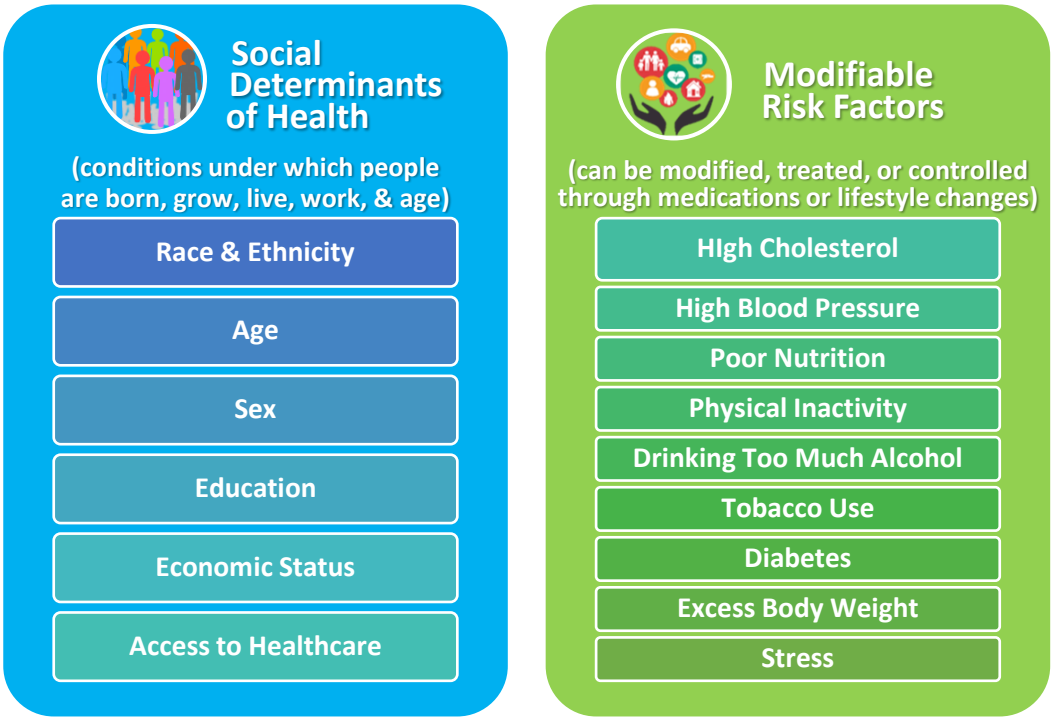
WHY IS CARDIOVASCULAR DISEASE IMPORTANT?

"Heart disease is the leading cause of death in the United States, and stroke is the fifth leading cause. People with better cardiovascular health are less likely to die of heart disease, stroke, and other diseases."

- Healthy People 2030

Social Determinants of Health & Modifiable Risk Factors

An individual's likelihood of experiencing cardiovascular disease is a result of SDOH and modifiable risk factors. Men are more likely than women to experience heart attacks and at an earlier age. Also, as age increases so does the risk of developing cardiovascular disease. In terms of race and ethnicity, Black individuals are more likely to experience heart disease and more extreme high blood pressure (American Heart Association, 2016). Modifiable risk factors include high cholesterol, high blood pressure, poor nutrition, physical inactivity, drinking too much alcohol, tobacco use, diabetes, excess body weight, and stress (American Heart Association, 2016). Many of these modifiable risk factors can be impacted by SDOH, such as the effect of one's economic status on ability to purchase healthy foods or impact of local crime rate on likelihood to get adequate physical activity.



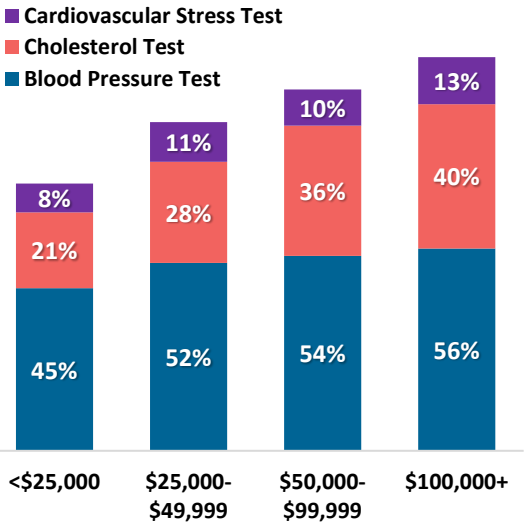
More information on many of these SDOH within the Northside Community can be found in the Our Community section of the report under Demographics, Socioeconomic Characteristics, and Access to Care and more information on many of the modifiable risk factors can be found in the Healthy Lifestyle Behaviors and Diabetes & Obesity sections of this report.

Screenings

Screenings are integral in identification of cardiovascular disease. The NRC Survey collects information on three types of common cardiovascular screenings: Blood Pressure Test, Cardiovascular Stress Test, and Cholesterol Test. According to NRC, between 2018 and 2020, 51% of residents in the Northside Community had a blood pressure test, 31% had a cholesterol test, and 11% had a cardiovascular stress test (not shown) (National Research Corporation, 2018-2020).

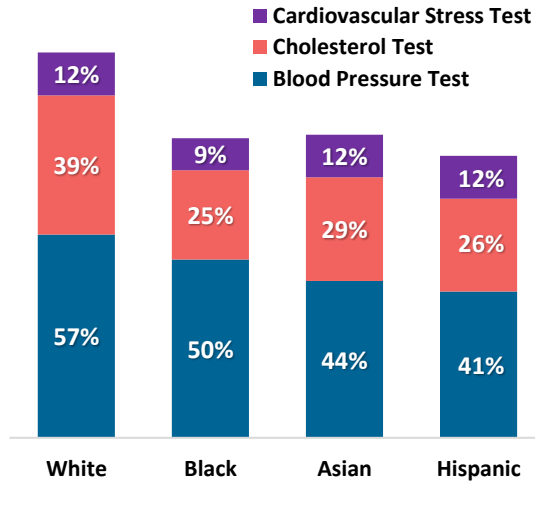
Figures 22 and **23** show screening rates within the Community based on income and race and ethnicity. When examined by income level, screening rates were lowest for the <$25,000 population and rates increased as income level increased, indicating a potential lack of access to screening services for lower income populations. When considered by race and ethnicity, the White population had the highest cardiovascular screening rates, indicating potential barriers for Black, Asian, and Hispanic populations.

Figure 22: Cardiovascular Screenings within the Northside Community by Income, 2018-2020



Source: National Research Corporation, 2018-2020

Figure 23: Cardiovascular Screenings within the Northside Community by Race and Ethnicity, 2018-2020



Source: National Research Corporation, 2018-2020

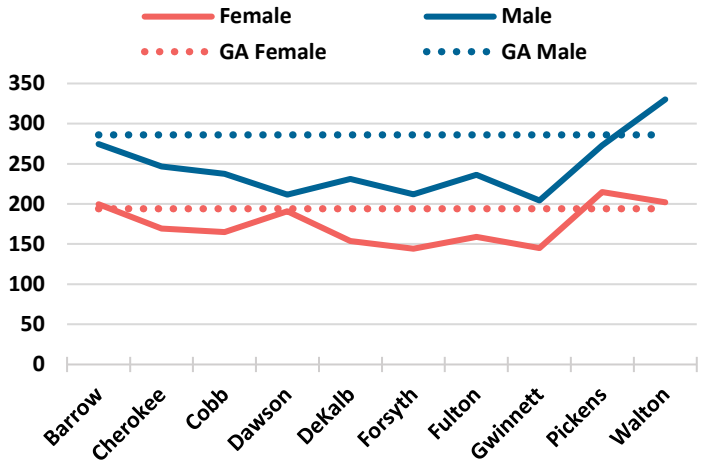
Health Outcomes

Included in major cardiovascular diseases are diseases of the heart, stroke, high blood pressure, aortic aneurysm and dissection, and hardening of the arteries. Between 2016 and 2020, Georgia's major cardiovascular disease inpatient discharge rate for all five types combined was 1,188.6 discharges per 100,000 population. Within the Northside Community, Barrow (1,369.8), Walton (1,367.0), and Pickens County (1,283.7) had inpatient discharge rates that were higher than the state (Georgia Department of Public Health, 2016-2020). Georgia's death rate for all five types combined between 2016 and 2020 was 235.0 deaths per 100,000 population. Within

the Northside Community, Walton (257.6) and Pickens County (241.9) had death rates that were higher than Georgia's (Georgia Department of Public Health, 2016-2020).

Figures 24 shows major cardiovascular disease death rates by sex for the Community compared to Georgia. Death rates were highest among the male population in each county and in Georgia. Within the Northside Community, Walton County had a death rate higher than the state among the male population and Barrow, Pickens, and Walton Counties had higher rates than the state among the female population.

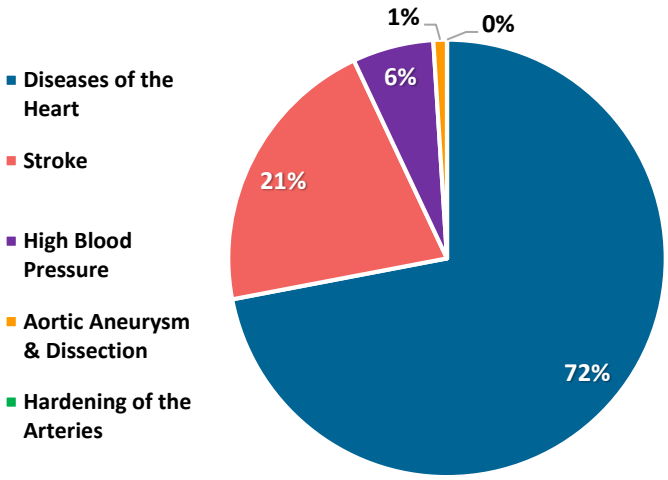
Figure 24: Major Cardiovascular Disease, Age-Adjusted Death Rates by Sex, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

When considered by type, diseases of the heart, which includes heart attack and hypertensive heart disease, caused the most cardiovascular disease deaths as shown in **Figure 25**. Within the Community, Walton and Pickens Counties had diseases of the heart death rates that were higher than Georgia. Stroke was the second most common type. Cobb, Walton, and Barrow Counties had stroke death rates that were higher than the state. Barrow, DeKalb, and Fulton Counties had high blood pressure death rates that were higher than the state (Georgia Department of Public Health, 2016-2020).

FIgure 25: Major Cardiovascular Disease Deaths by Type, Northside Community, 2016-2020

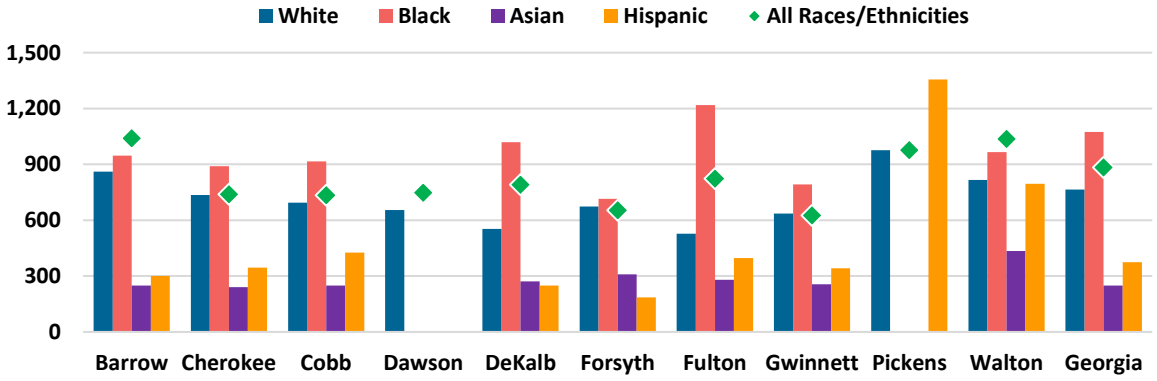


Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020

Diseases of the Heart

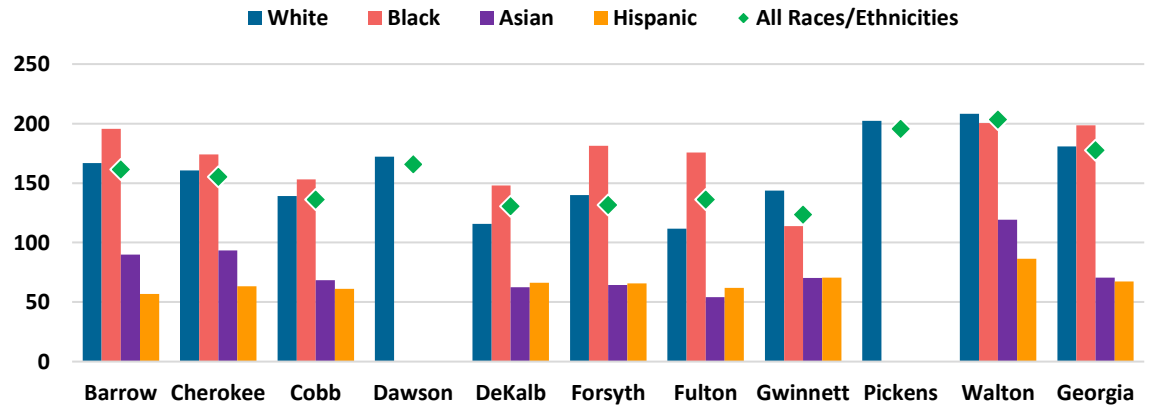
Diseases of the heart contributed to 72% of total major cardiovascular disease deaths. The Black and White populations experienced the highest inpatient discharges rates and the highest death rates due to diseases of the heart in Georgia and in almost all counties within the Community. Within the Community, three counties had overall (all races/ethnicities) heart disease inpatient discharge rates that were higher than Georgia and two counties had overall heart disease death rates that were higher than Georgia's.

Figure 26: Diseases of the Heart, Age-Adjusted Inpatient Discharge Rates by Race and Ethnicity, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted inpatient discharge rates are per 100,000 population.

Figure 27: Diseases of the Heart, Age-Adjusted Death Rates by Race and Ethnicity, 2016-2020

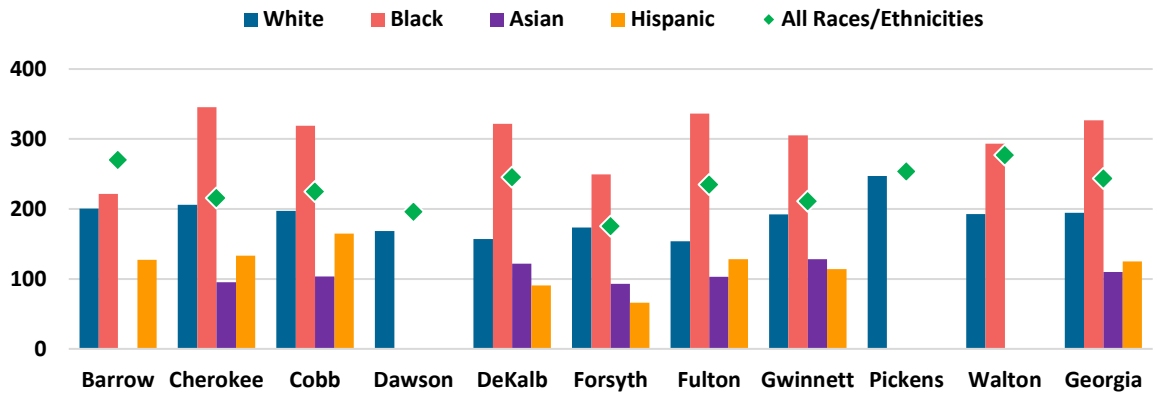


Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

Stroke

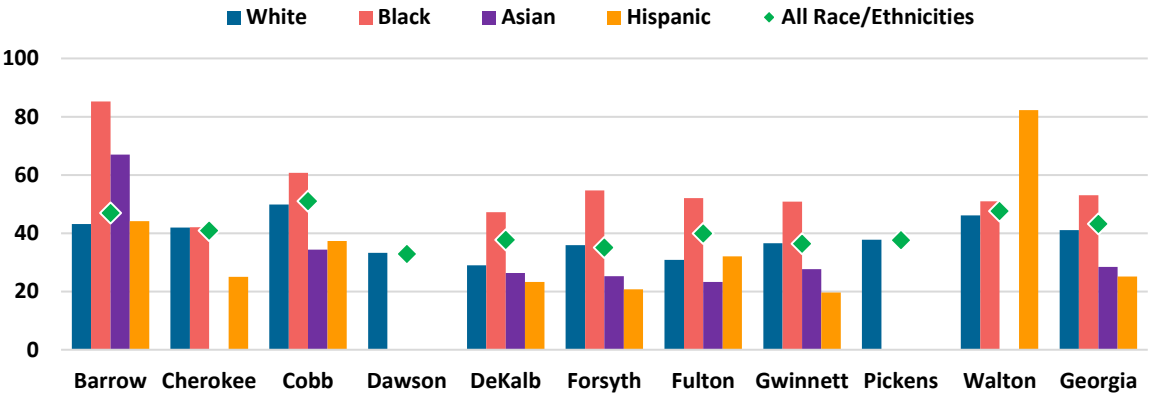
Stroke contributed to the second most amount of major cardiovascular disease deaths (21%). The Black population experienced higher inpatient discharges rates and death rates due to stroke in Georgia and almost each county within the Community compared to all other races and ethnicities. Within the Community, four counties had overall (all races/ethnicities) stroke inpatient discharge rates that were higher than Georgia's and three counties had overall stroke death rates that were higher than Georgia's.

Figure 28: Stroke, Age-Adjusted Inpatient Discharge Rates by Race and Ethnicity, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted inpatient discharge rates are per 100,000 population.

Figure 29: Stroke, Age-Adjusted Death Rates by Race and Ethnicity, 2016-2020

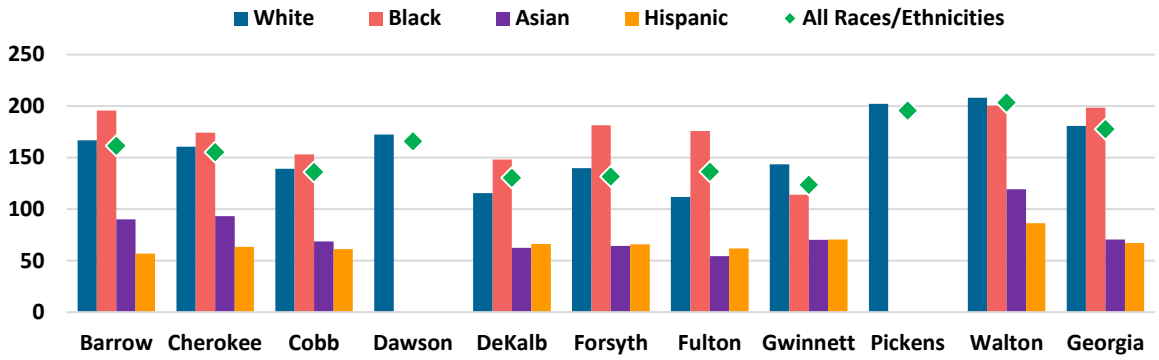


Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population

High Blood Pressure

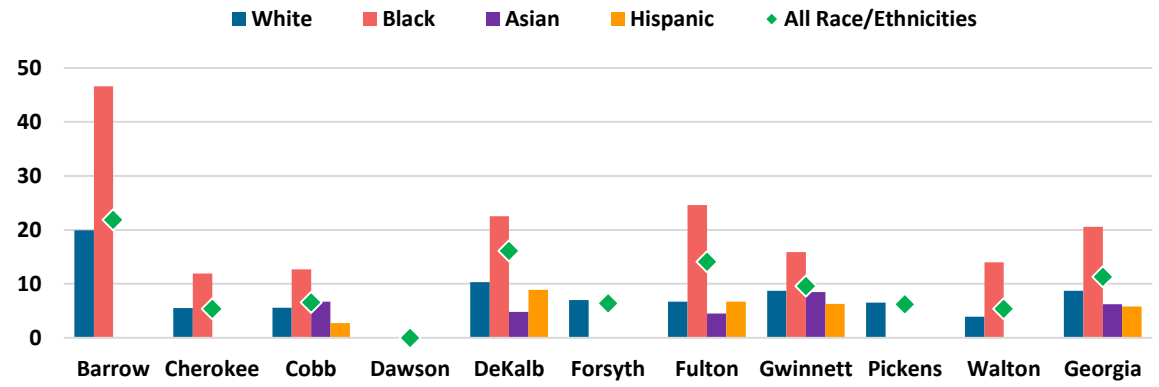
High blood pressure was the third most common type of major cardiovascular disease deaths. While the White and Black populations experienced higher inpatient discharge rates in Georgia and almost each county within the Community due to high blood pressure, the Black population alone experienced the highest death rates in almost all counties and in Georgia, indicating a potential barrier in accessibility of resources related to blood pressure management. Within the Community, two counties had overall (all races/ethnicities) high blood pressure inpatient discharge rates that were higher than Georgia's and three counties had overall high blood pressure death rates that were higher than Georgia's.

Figure 30: High Blood Pressure, Age-Adjusted Inpatient Discharge Rates by Race and Ethnicity, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted inpatient discharge rates are per 100,000 population.

Figure 31: High Blood Pressure, Age-Adjusted Death Rates by Race and Ethnicity, 2016-2020



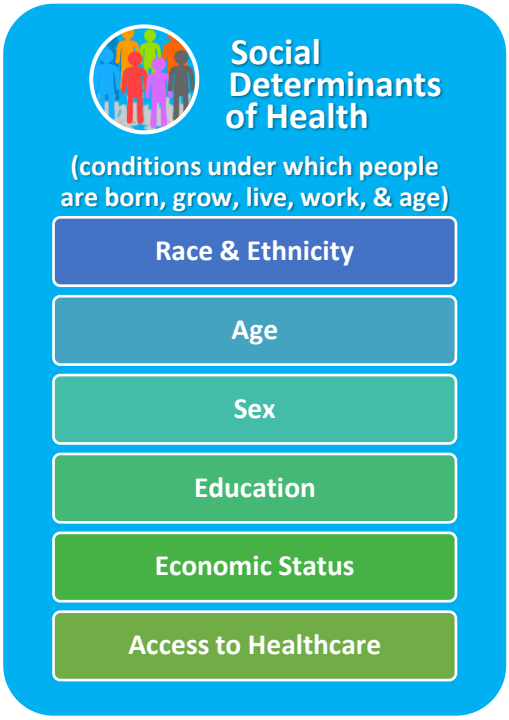
Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population

Healthy Lifestyle Behaviors

Some of the practices essential for maintaining a healthy lifestyle include abstaining from tobacco and drug use, eating a healthy diet, getting regular physical activity, wearing seatbelts, and safe sex practices.

Social Determinants of Health

An individual's likelihood to participate in healthy lifestyle behaviors can be impacted by SDOH. Factors such as race and ethnicity, education, or age may affect an individual's likelihood to consume the recommended amount of daily fruits and vegetables. Factors such as economic status plays a role in an individual's ability to afford healthy foods, have a gym membership, or live in an area where outdoor physical activities and exercise are safe. Access to healthcare may affect opportunities to participate in smoking cessation programs or the likelihood of having a trusting relationship with a healthcare provider who can offer guidance on healthy lifestyle changes.

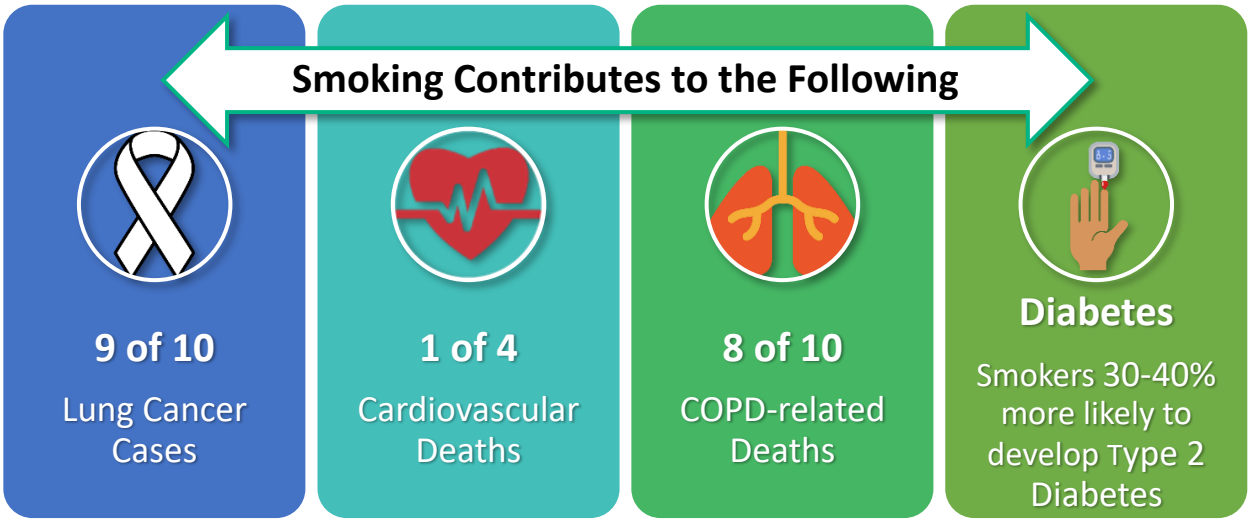


Information on many of the SDOH within the Northside Community can be found in the Our Community section of this report under Demographics and Socioeconomic Characteristics.

Modifiable Risk Factors

Tobacco Use

Tobacco use is a modifiable risk factor that is linked to several health conditions. Lung cancer has the highest death rate compared to any other cancer type and nine out of ten lung cancers are caused by cigarette smoking or exposure to secondhand smoke (Centers for Disease Control and Prevention, 2021; Georgia Department of Public Health, 2016-2020). Smoking is also listed as a cause for many other diseases that are among the most common causes of death in the United States (Centers for Disease Control and Prevention, 2021).



Source: Adapted from CDC, 2021

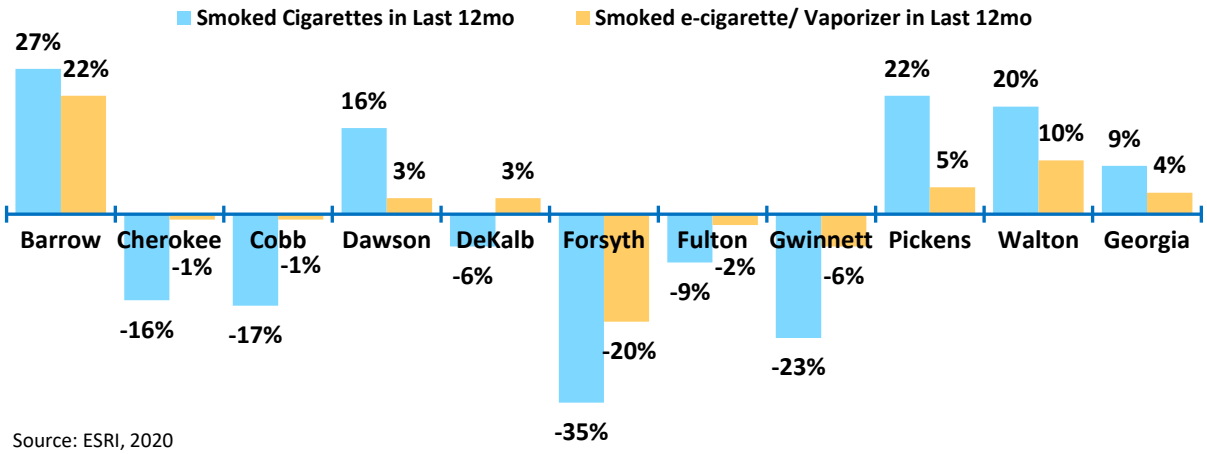
Quitting smoking offers benefits such as a reduction in the risk of dying from lung cancer by half after ten years of quitting and chances of getting mouth, throat, esophageal, and bladder cancer being cut in half after five years of quitting. Other benefits include improved circulation and lung function after two weeks, risk of coronary heart disease being cut in half after one year and the same as a non-smoker's after 15 years (American Heart Association, 2021). According to the NRC (2018-2020), 1% of those surveyed within the Northside Community participated in a stop smoking program.

> **"Tobacco use is the leading cause of preventable disease and death in the United States."**
>
> - **Healthy People 2030**

Illustrated in **Figure 32,** is a comparison of each county in the Community and Georgia compared to the national average based on a Market Potential Survey (ESRI, 2020). The Community's percentage of population who smoked cigarettes within the previous 12 months

Figure 32: Smoking Habits of the Northside Community and Georgia Compared to National Average, 2020

(Figure illustrates the percent that the local use rate is above or below the national use rate)

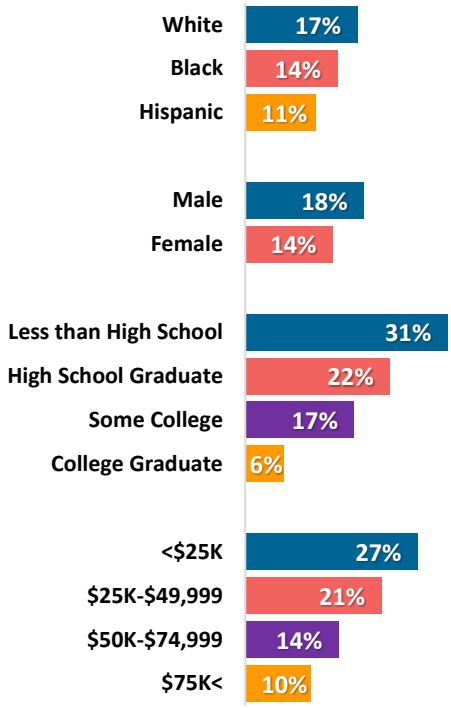


Source: ESRI, 2020

was 13% below the national average, however, this still represented 485,697 population. The Community's percent of population who smoked e-cigarettes or vaporizer within the last 12 months was 2% below the national average but still represented 164,609 population. Within the Community, Barrow, Pickens, Walton, and Dawson Counties had the highest percent of population that reported smoking cigarettes in the last 12 months and/or the highest percent that reported smoking e-cigarettes/vaporizers in the last 12 months. Five out of the ten counties had a percentage of the population who smoked cigarettes or e-cigarettes/ vaporizer in the last 12 months that was higher than the national average.

Demographic information was not available for smokers in the Community but was available for the state, as shown in **Figure 33**. When considering race and ethnicity, the White population had the highest rate of smoking. A higher percentage of males reported smoking

Figure 33: Smoking in Georgia, Percent of Adults, 2020



Source: CDC, BRFSS, 2020. Retrieved from americashealthrankings.org

compared to females. As education level increases, the likelihood of being a smoker decreases and as income increases the likelihood of being a smoker decreases.

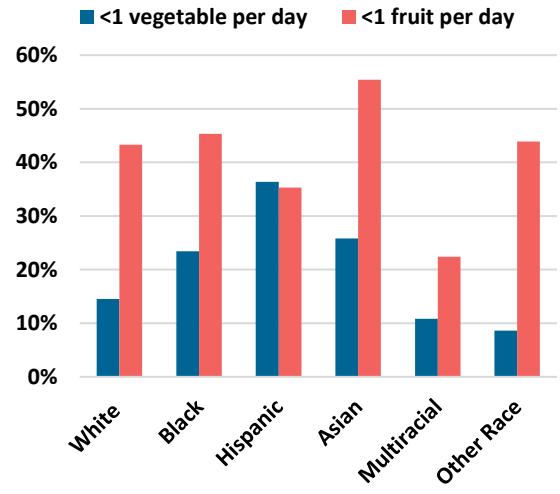
Nutrition

Consumption of diets that are rich in fruits and vegetables can reduce an individual's likelihood of experiencing chronic diseases such as type 2 diabetes, obesity, heart disease, and stroke, and consumption of three or more fruits and vegetables per day can lower the chances of premature death (United Health Foundation, 2021). Diets that are high in red and processed meat and low in fruits and vegetables, fiber, and calcium have been associated with higher likelihood of a cancer diagnosis.

> **"People who eat too many unhealthy foods – like foods high in saturated fat and added sugars – are at increased risk for obesity, heart disease, type 2 diabetes, and other health problems."**
>
> **- Healthy People 2030**

SDOH, such as economic status, may impact an individual's ability to afford foods that are healthy or buy adequate amounts of food due to cost constraints. Others may not have the information needed to make healthy food choices, may not have access to fresh produce, lack time needed for preparation, or lack cooking knowledge (United Health Foundation, 2021).

Figure 34: Percentage of Adults Who Report Consuming <1 Fruit or Vegetable per Day by Race & Ethnicity, Georgia, 2019

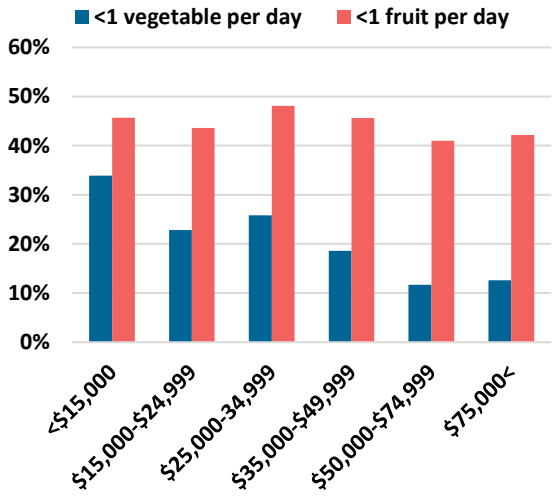


Source: Centers for Disease Control and Prevention, 2019

Data on fruit and vegetable consumption was not available for individual counties, but it was available for Georgia, as shown in **Figures 34** through **36.** Overall, 43% of Georgians reported consuming fruit less than one time per day and 19% reported consuming less than one vegetable per day (not shown) (Centers for Disease Control and Prevention, 2020)**.** In terms of sex, a slightly higher percentage of males reported consuming less than one fruit (46%) or vegetable per day (22%) compared to females (41% and 17% respectively) (not shown). When considering race and ethnicity, the Hispanic population most commonly reported consuming less than

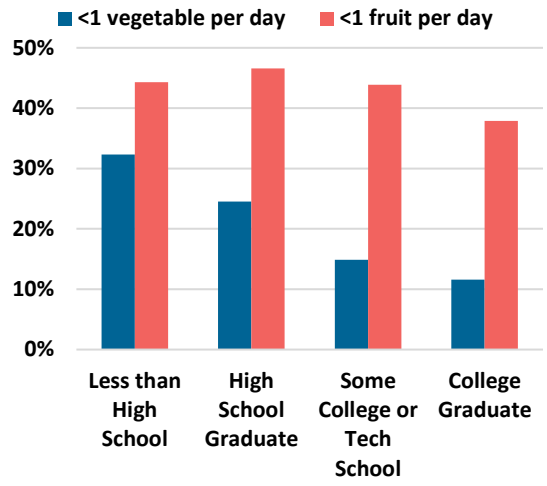
one vegetable per day and the Asian population most commonly reported consuming less than one fruit per day. As education level increased, the percentage of adults who reported consuming less than one fruit or vegetable per day decreased. When considering income, as income increased those who reported consuming less than one vegetable per day decreased.

Figure 35: Percentage of Adults Who Report Consuming <1 Fruit or Vegetable per Day by Income, Georgia, 2019



Source: Centers for Disease Control and Prevention, 2019

Figure 36: Percentage of Adults Who Report Consuming <1 Fruit or Vegetable per Day by Education, Georgia, 2019

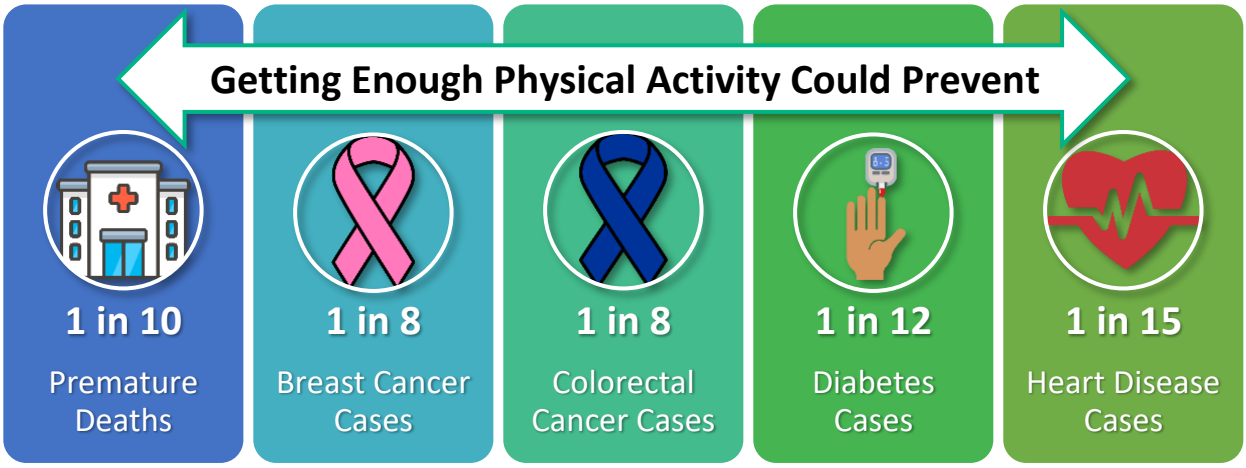


Source: Centers for Disease Control and Prevention, 2019

Information on food deserts, areas that have little access to affordable, healthy food, in the Northside Community can be found in the Our Community section of this report under Physical Environment.

Physical Inactivity

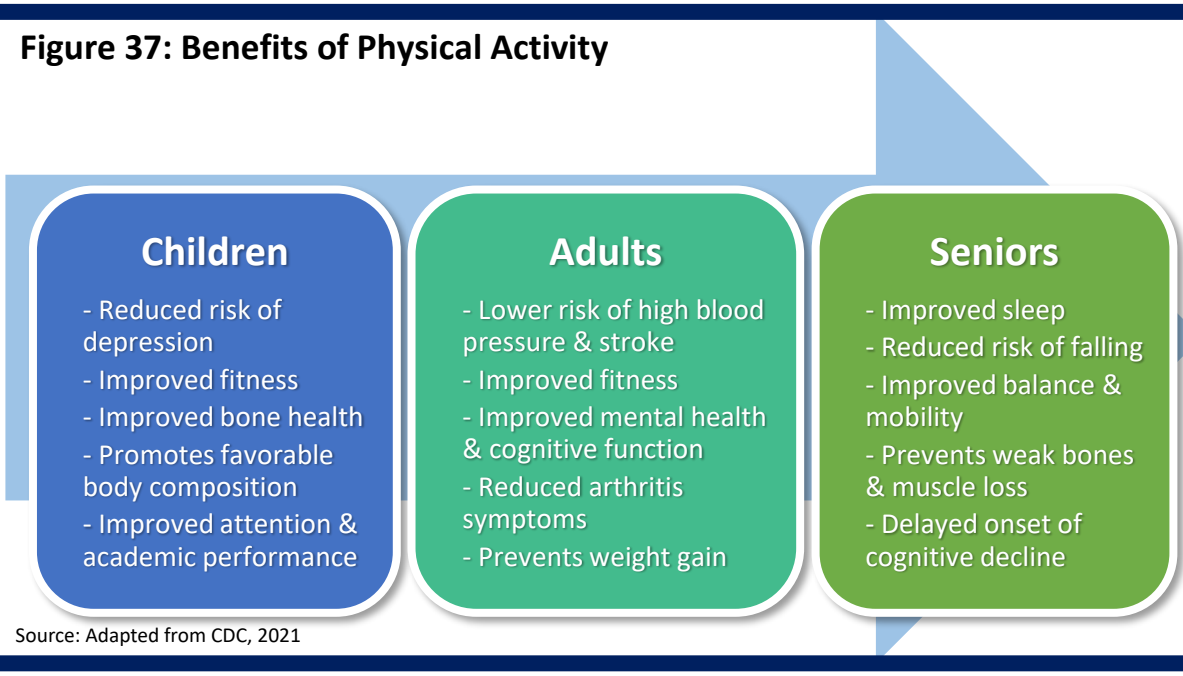
According to the CDC (2021), getting enough physical activity could help in preventing one in ten premature deaths and many cases of diseases which are included in the leading causes of death.



Source: Adapted from CDC, 2021

Aside from decreased likelihood of experiencing the causes of disease and death mentioned above, there are also numerous benefits of physical activity regardless of age, as shown in **Figure 37**.

Figure 37: Benefits of Physical Activity

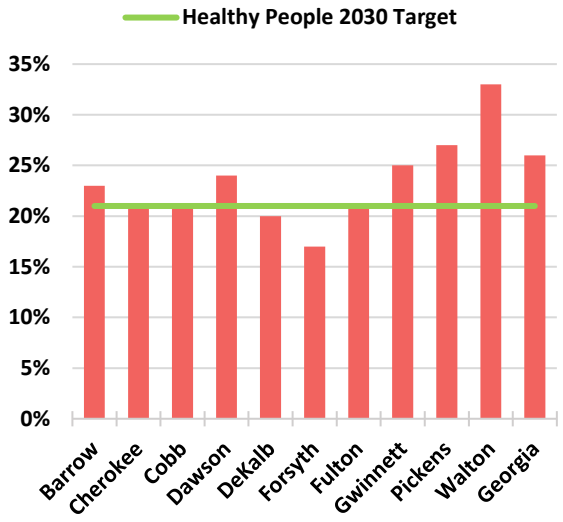


Source: Adapted from CDC, 2021

Physical inactivity is described as doing no other physical activity or exercise other than a regular job within the last 30 days. When considered by county in the Community, Walton, Pickens, and Gwinnett Counties had the highest percentages of population that reported physical inactivity **(Figure 38)**. Two counties, DeKalb and Forsyth, were better than the Healthy People 2030 Target of 21.2%.

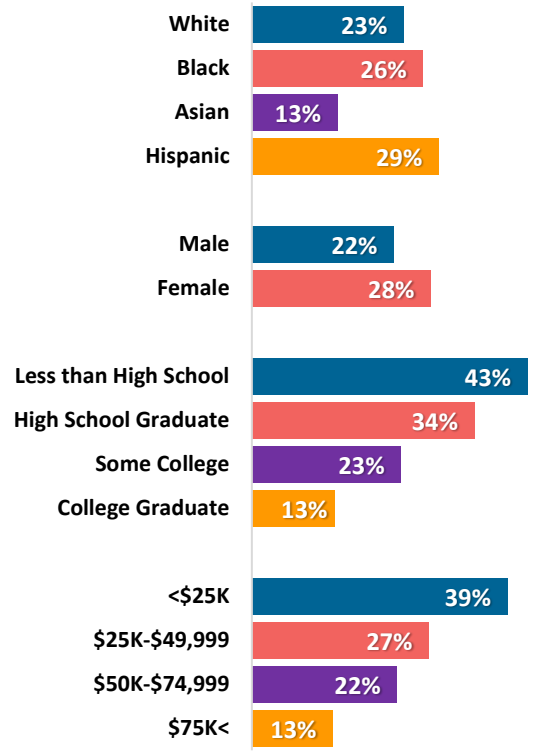
As shown in **Figure 39,** when considering race and ethnicity, the Hispanic population reported physical inactivity most often compared to White, Black, and Asian populations in Georgia. Females reported physical inactivity more often compared to males. As education increased, the likelihood of physical inactivity decreased. This same pattern was consistent when examining income level; as income increased, the likelihood of physical inactivity decreased.

Figure 38: Physical Inactivity in the Northside Community, Percent of Adults, 2017



Source: CDC BRFSS and US Census Bureau, 2017. Accessed via countyhealthrankings.org

Figure 39: Physical Inactivity in Georgia, Percent of Adults, 2020



Source: CDC, BRFSS, 2020. Retrieved from americashealthrankings.org

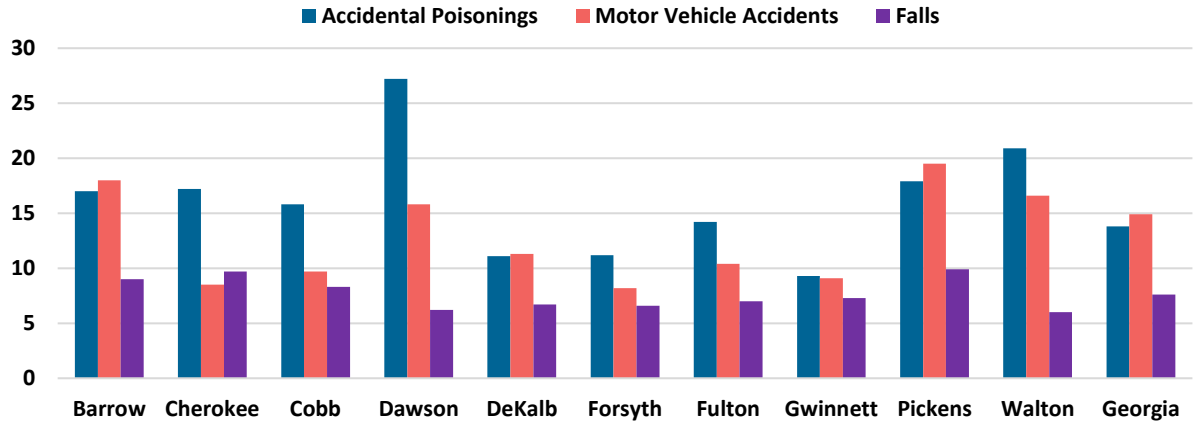
"Physical activity is one of the most important ways that people of all ages can improve their health."

- Healthy People 2030

Unintentional Injuries

Unintentional injuries were the third leading cause of death in the Northside Community and the fourth leading cause of death for Georgia overall between 2016 and 2020 (Georgia Department of Public Health, 2016-2020). Although unintentional injuries are health outcomes, they often times may be prevented by healthy lifestyle behaviors. Within the Northside Community, Dawson (58.9), Pickens (54.5), Walton (52.9), and Barrow County (51.7) had the highest death rates due to unintentional injuries, all of which were also higher than Georgia's rate of 44.9 (Georgia Department of Public Health, 2016-2020). The three leading types of unintentional injuries are accidental poisonings (most commonly drug and alcohol overdose), motor vehicle accidents, and falls.

Figure 40: Unintentional Injuries, Age-Adjusted Death Rates for Top 3 Types, 2016-2020



Source: GA DPH OASIS, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

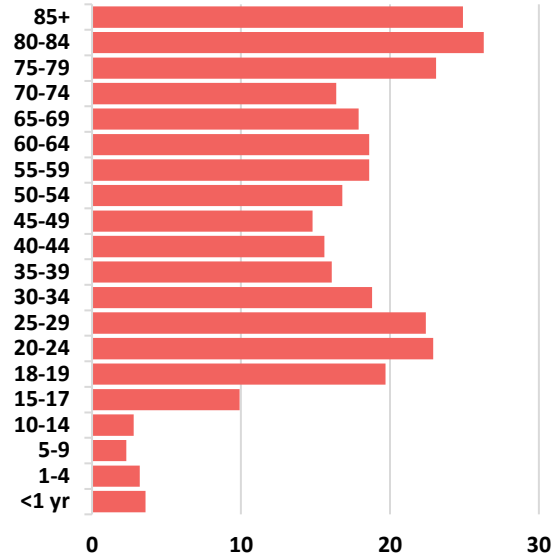
Accidental Poisonings

Information on accidental poisonings, the most common type of unintentional injury in seven of the Community's ten counties, is included in the Behavioral Health and Substance Use Disorder section of this report.

Motor Vehicle Accidents

Motor vehicle accidents were the leading cause of unintentional injury deaths in three of the Community's ten counties and in Georgia overall (Georgia Department of Public Health, 2016-2020). Although motor vehicle accidents cannot always be avoided, certain health behaviors may impact likelihood of injury or death. According to the National Highway Traffic Safety Administration (2021), wearing a seatbelt reduces the risk of fatal injury by 45-60% and the risk of moderate to critical injury by 50-65% (National Highway Traffic Safety Administration, United States Department of Transportation, n.d.).

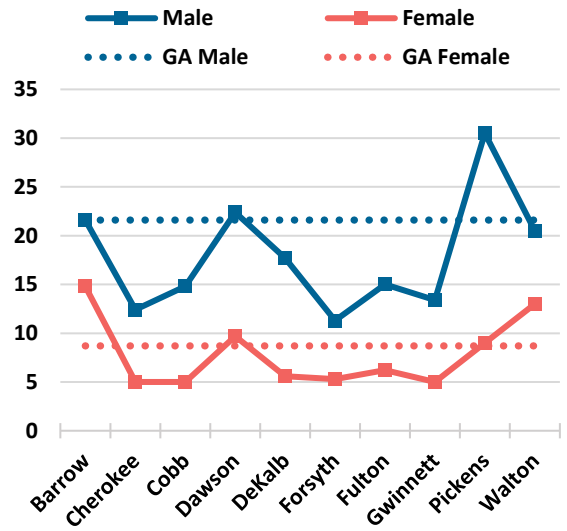
Figure 41: Motor Vehicle Accidents, Death Rate by Age Cohort, Georgia, 2016-2020



Source: GA DPH OASIS, 2016-2020
Note: Death rates are per 100,000 population.

Death rates due to motor vehicle accidents were highest in Pickens (19.5), Barrow (18), Walton (16.6), and Dawson County (15.8) and were each higher than the Georgia rate of 14.9 (not shown) (Georgia Department of Public Health, 2016-2020). White and Black populations had slightly higher death rates compared to other races and ethnicities (not shown).

Figure 42: Motor Vehicle Accidents, Age-Adjusted Death Rate by Sex, 2016-2020



Source: GA DPH OASIS, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

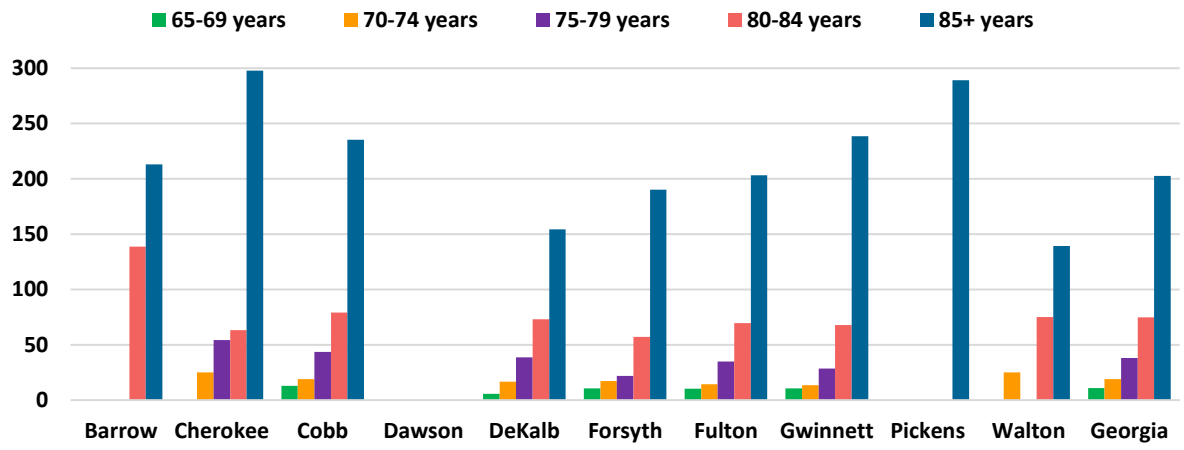
When compared by age cohort, the highest rates were among the 20-29-year cohorts and in the 75+ year cohorts **(Figure 41)**.

As seen in **Figure 42**, within the Community, Dawson (22.4) and Pickens (30.5), had rates among the male population that were higher than Georgia's male population rate of 21.6 and Barrow (14.8), Dawson (9.7), Pickens (9.0), and Walton (13.0), had rates among the female population that were higher than Georgia's female population rate of 8.7.

Falls

Falls include any accidental injuries caused by an individual losing balance. Deaths due to falls primarily affect the older adult population. Displayed in **Figure 43** are fall death rates for age cohorts 65 years and older. As age increases, so does the risk of death due to falls.

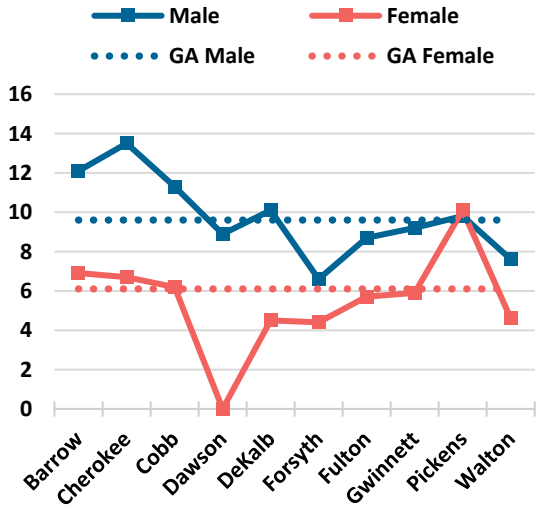
Figure 43: Falls, Death Rate by Age Cohort (65+ years), 2016-2020



Source: GA DPH OASIS, 2016-2020
Note: Death rates are per 100,000 population.

As displayed in **Figure 44**, deaths due to falls generally affect the male population at a higher rate than the female population. Among the male population, Barrow and Cherokee Counties had significantly higher death rates than other counties and compared to Georgia's male rate, five counties in the Community had male rates that were higher. Among the female population, Pickens County had a significantly higher death rate than other counties and compared to Georgia's female rate, four counties in the Community had rates that were higher than the state. When considered by race and ethnicity, the White population had the highest death rate due to falls in all ten counties in the Community and in the state overall (not shown).

Figure 44: Falls, Age-Adjusted Death Rate by Sex, 2016-2020

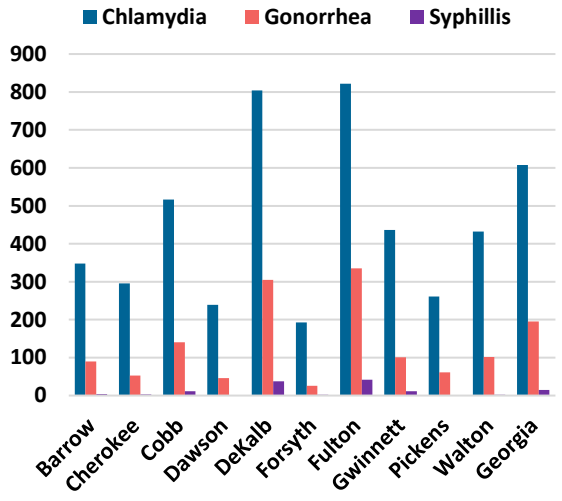


Source: GA DPH OASIS, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.
Values shown as "0" reflect data that has been suppressed.

Sexually Transmitted Diseases (STDs)

Three of the most common types of sexually transmitted diseases are syphilis, gonorrhea, and chlamydia. Many times, these diseases end up going undiagnosed and untreated, leading to future health issues such as infertility, ectopic pregnancy, stillbirth in infants, and increased risk for HIV (Centers for Disease Control and Prevention, 2021). The CDC (2021) states that health behaviors such as practicing abstinence, having fewer partners, talking with your partner, using condoms, getting vaccinated, and getting tested can help prevent STDs (Centers for Disease Control and Prevention, 2021).

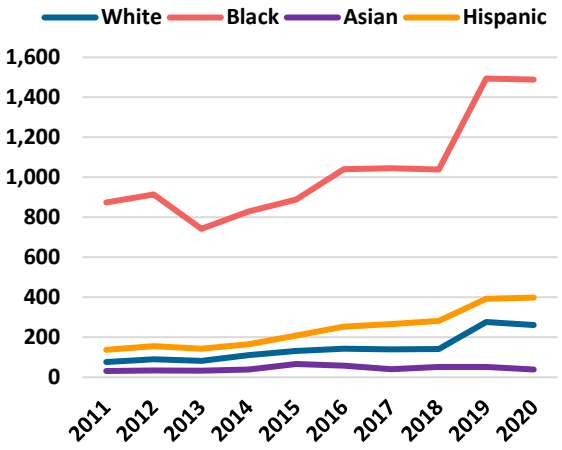
Figure 45: STDs, 3 Most Common Types, Age-Adjusted Rates, 2015-2019



Source: GA DPH OASIS, 2015-2019
Note: Age-adjusted rates are per 100,000 population.

Sexually transmitted disease rates within the Northside Community were highest in DeKalb and Fulton Counties, with chlamydia having the highest age-adjusted rate compared to other types **(Figure 45)**.

Figure 46: All STDs, Age-Adjusted Rate by Race and Ethnicity, Northside Community, 2010-2019



Source: GA DPH OASIS, 2015-2019
Note: Age-adjusted rates are per 100,000 population.
Excludes congenital syphilis.

"Although many sexually transmitted infections (STIs) are preventable, there are more than 20 million estimated new cases in the United States each year – and rates are increasing."

- Healthy People 2030

Between 2010 and 2019, rates rose moderately among the White, Asian, and Hispanic populations, while rates among the Black population saw a much more drastic increase **(Figure 46)**.

HIV/AIDS

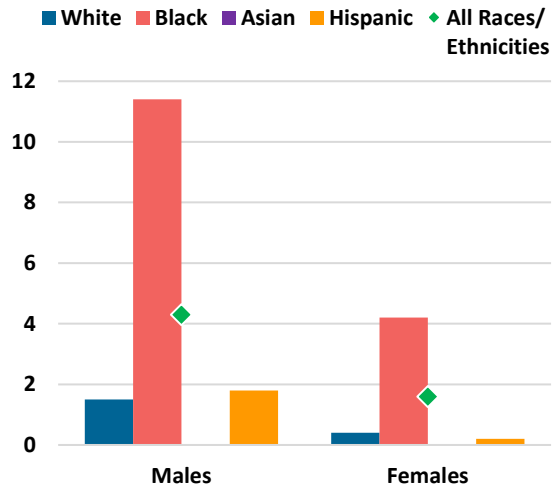
The Atlanta metro area was ranked number four of all major U.S. cities in HIV rate in 2018 (McKenzie, 2018). In the United States in 2019, 70% of new HIV infections were among gay and bisexual men. Forty-one (41%) of new infections during 2019 in the U.S. were among the African American population and 29% were among the Hispanic population (Centers for Disease Control and Prevention, 2021).

"People with HIV who are linked to HIV medical care soon after they're diagnosed can start getting treatment earlier. If they take their medication as prescribed, they're more likely to be able to control the virus, live long and healthy lives, and have effectively no risk of passing HIV to sexual partners."

- Healthy People 2030

Between 2016 and 2020, the Community had 3,430 inpatient discharges due to HIV (51% of Georgia's total HIV inpatient discharges) and 137 deaths due to HIV during this time period (42% of Georgia's total HIV deaths). Within the Northside Community, Fulton (30) and DeKalb County (24.3) had the highest inpatient discharge rates due to HIV and were both higher than the state's rate of 12.1 discharges per 100,000 population (Georgia Department of Public Health, 2016-2020). The other eight counties' discharge rates ranged from 1.2 to 7.6. Additionally, Fulton (5.5) and DeKalb County (3.7) had higher death rates than the state's rate of 2.9 deaths per 100,000 population due to HIV (Georgia Department of Public Health, 2016-2020). In comparison, the other eight counties in the Community had death rates ranging from 0.3 to 2.0.

Figure 47: HIV/AIDS, Age-Adjusted Death Rates, Georgia, 2016-2020



Source: GA DPH OASIS, 2015-2019
Note: Age-adjusted death rates are per 100,000 population.

Many of the counties in the Community did not have enough data to calculate rates by race and ethnicity but the state's rates were available. As seen in **Figure 47**, the Black male population had significantly higher death rates than any other group, followed by the Black female population.

Maternal & Infant Health

Northside is recognized as a leader in obstetrical and newborn care and consistently delivers more babies than any other Georgia hospital, and often even across all hospitals nationally. An important measure of the Community's health status is the health status of the Community's mothers and babies, a population of particular concern to Northside.

In Georgia, between 2015 and 2017, there were 25.1 pregnancy-related deaths per 100,000, 87% of which were preventable (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). Compared to other states in the U.S., in 2019, Georgia had the 6th highest premature birth rate, the 4th highest low birthweight rate, and 7th highest infant mortality rate (National Center for Health Statistics, Centers for Disease Control and Prevention, 2022)

WHY IS MATERNAL HEALTH IMPORTANT?

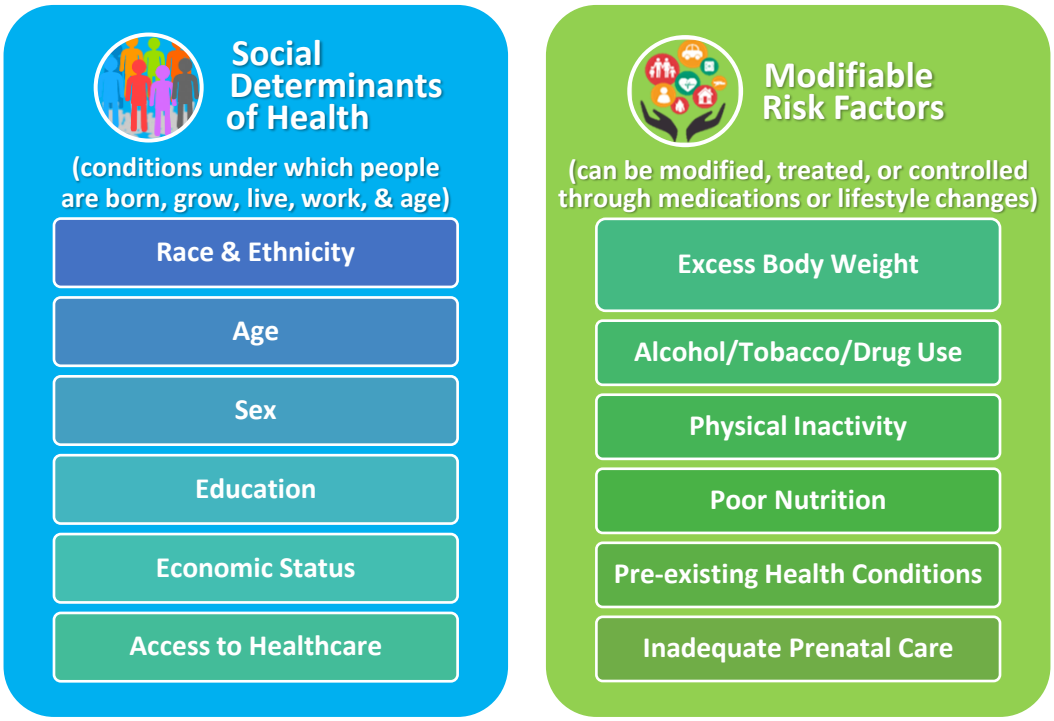
"Women in the United States are more likely to die from childbirth or problems related to pregnancy than women in other high-income countries. In addition, there are persistent disparities by race/ethnicity."

- Healthy People 2030

Social Determinants of Health & Modifiable Risk Factors

An individual's likelihood to experience adverse maternal and infant health outcomes is impacted by SDOH and modifiable risk factors. When considering race and ethnicity, non-Hispanic Black mothers are more likely to experience complications during pregnancy and 2.3x more likely to die from pregnancy-related causes than non-Hispanic White mothers (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). Educational attainment may affect the likelihood of pre-pregnancy obesity or obtaining adequate prenatal care, with the likelihood of receiving adequate care increasing as education level increases.

Certain modifiable risk factors may also be impacted by SDOH, for example, the effect that an individual's income may have on the ability to maintain a healthy diet or the presence of pre-existing medical conditions that may lead to complications during pregnancy or childbirth.



Information on many of these SDOH within the Northside Community can be found in the Our Community section of this report under Demographics and Socioeconomic Characteristics and information on many of the risk factors is included in the Healthy Lifestyle section of this CHNA report.

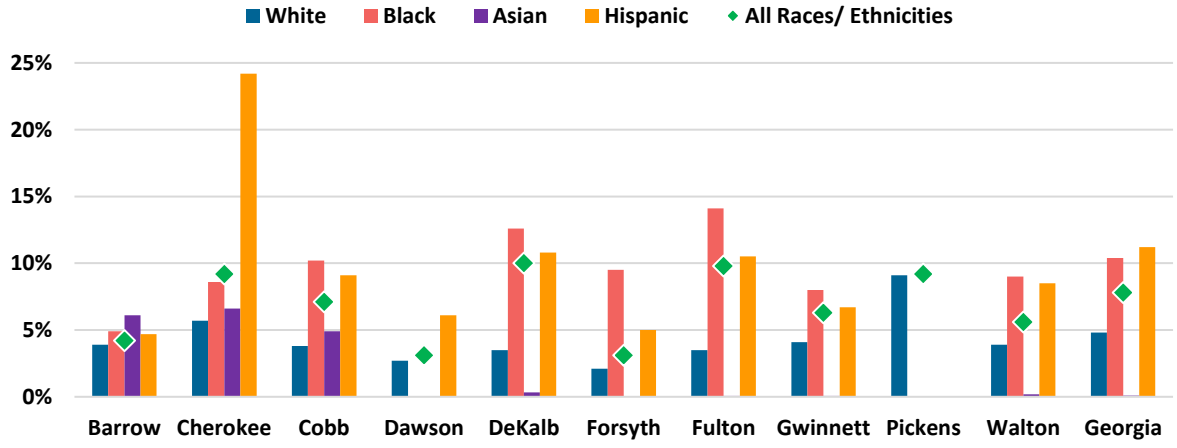
Prenatal Care

Prenatal care is a key component to maternal and infant health. Regular prenatal care is associated with reduced risk of pregnancy complications and complications during infancy by ensuring the mother is following a healthy and safe diet, controlling existing medical conditions, reducing or eliminating harmful substance use during pregnancy, and monitoring for more serious complications (National Institutes of Health, 2013). Between 2016 and 2020, within the Northside Community, eight % of births received late or no prenatal care, the equivalent of 19,131 births. Rates varied by county, from a high of 10% of births having received late or no prenatal care in DeKalb County to a low of three % in Dawson and Forsyth Counties (Georgia Department of Public Health, 2016-2020).

As displayed in **Figure 48,** rates of late or no prenatal care differed along racial and ethnic lines. Black mothers experienced the highest rates of births with late or no prenatal care in six of the ten counties in the Community, while Hispanic mothers also had high rates in many of the counties. Four counties in the Community had overall (all races/ethnicities) rates that were higher than Georgia's overall rate.

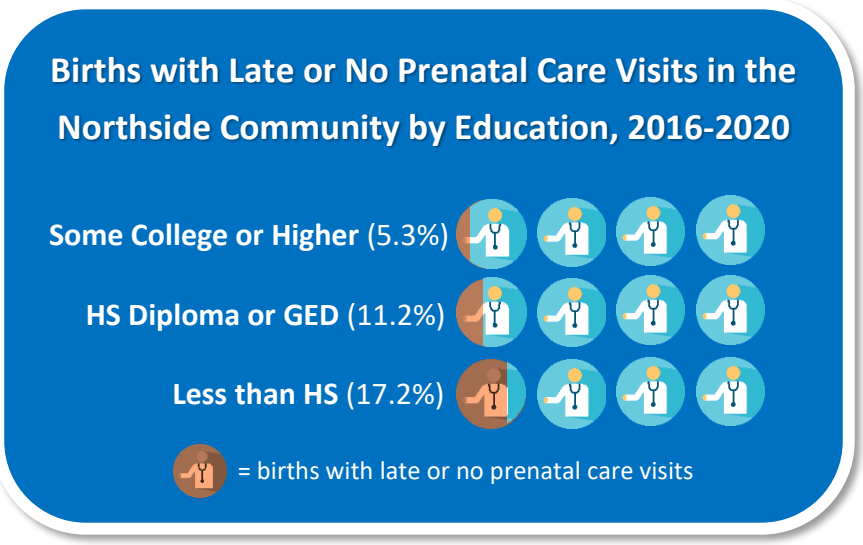
Late or no prenatal care: mother received prenatal care after 2nd trimester or not at all

Figure 48: Late or No Prenatal Care Visits, Percent of Births by Race and Ethnicity, Northside Community, 2016-2020



Source: Georgia DPH OASIS, 2016-2020

When considering education and prenatal care, the likelihood of obtaining timely prenatal care increased as maternal education level increased. Those with less than a high school education received late or no prenatal care in 17.2% of live births compared to those with some college or higher at 5.3% of live births (Georgia Department of Public Health, 2016-2020).

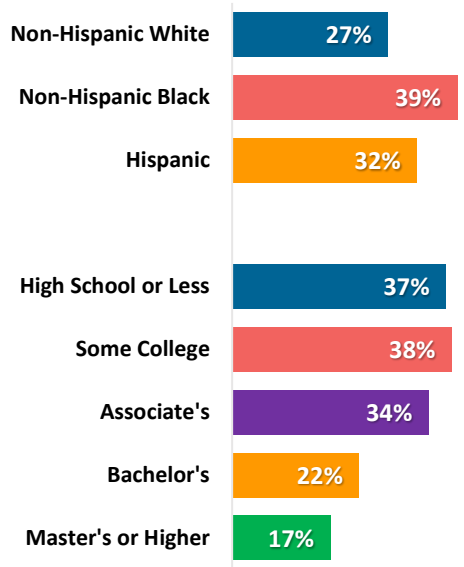


Health Outcomes

Conditions Related to Maternal and Infant Health

Hypertension and preeclampsia are two common conditions that may affect maternal and infant health outcomes and were among the most common conditions affecting pregnant women in the Northside Community. In the Community, Black women most often delivered a child while having hypertension or preeclampsia compared to other races and ethnicities (Georgia Discharge Data System, 2021).

Figure 49: Pre-pregnancy Obesity Rates in the United States, 2019



Source: National Center for Health Statistics, National Vital Statistics System, 2021

Pre-pregnancy obesity is another common condition that affects maternal and infant health outcomes. Data was not available for the Community, but pre-pregnancy obesity rates were available for Georgia for 2016 and 2019, 29.2% and 31.4% respectively (not shown). In comparison, the rate for the United States was slightly lower than Georgia's with a rate of 26.1% in 2016 and 29.0% in 2019 (not shown) (National Center for Health Statistics, National Vital Statistics System, 2021). As shown in **Figure 49**, nationally, the Black population had the highest rate of pre-pregnancy obesity of 39%, compared to 32% for the Hispanic population, and 27% for the White population. When considering maternal education, the rate of pre-pregnancy obesity was significantly higher for mothers with associate's degree or less when compared to those with a bachelor's or higher.

Gestational diabetes mellitus ("GDM") is another condition that impacts pregnant women. GDM is a type of diabetes that is developed during pregnancy and affects between 2% and 10% of pregnancies in the U.S. each year. According to the CDC (2021), about half of those who develop GDM will go on to develop type 2 diabetes. Infants born to mothers with GDM are more likely to be born very large, be born early, have low blood sugar, and develop type 2 diabetes later in life. Before getting pregnant, women may reduce the risk of developing GDM by losing weight, if overweight, and getting regular physical activity (Centers for Disease Control

and Prevention, 2021). More information on GDM can be found in the Our Community section of this report under Diabetes & Obesity.

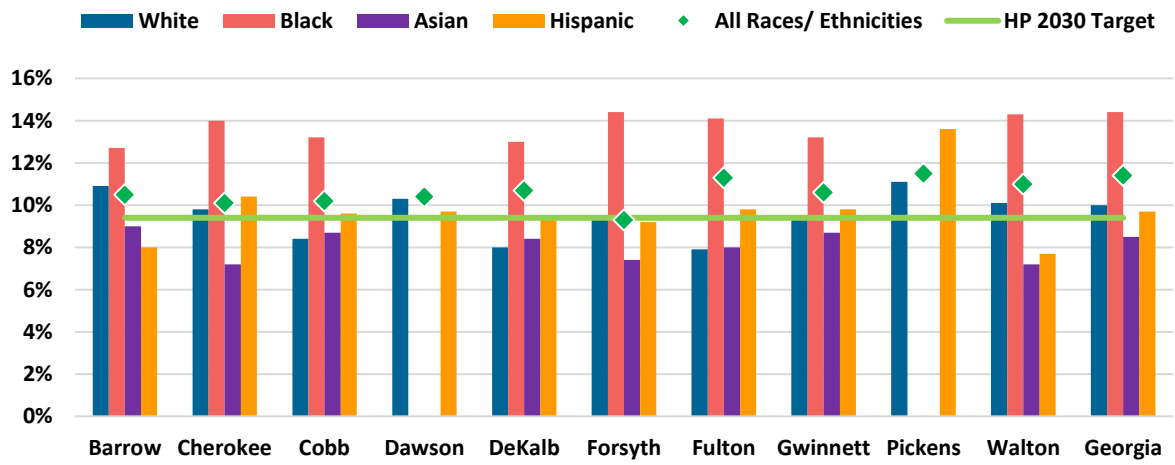
Premature Birth and Low Birthweight

Measures closely related to infant mortality include premature birth and low birth weight. Georgia had the 6th highest preterm birth rate among states in the U.S. and received a D- on the 2021 March of Dimes Report Card for Premature Births (National Center for Health Statistics, Centers for Disease Control and Prevention, 2022; March of Dimes, 2021).

Premature Birth: gestational age is less than 37 weeks

Between 2016 and 2020, Northside's Community performed slightly better than Georgia for percent of total births that were premature, with 10.6% of live births in the Community being premature compared to 11.4% in Georgia. When considered by race and ethnicity, the Black population experienced the highest rate of premature births in Georgia and almost all counties in the Community. Rates by race and ethnicity for each county in the Community and Georgia are displayed in **Figure 50**.

Figure 50: Premature Births, Percent of Births by Race and Ethnicity, Northside Community, 2016-2020

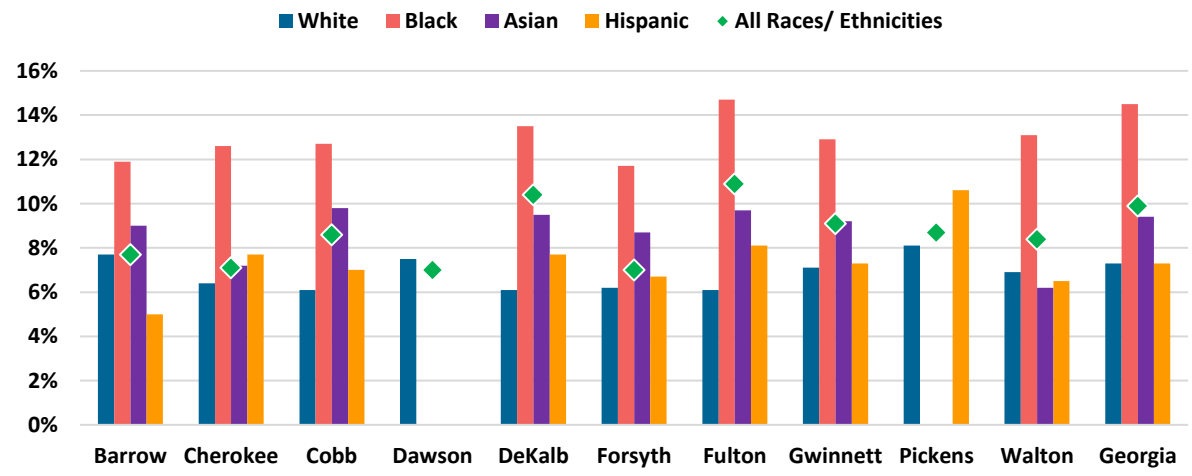


Source: Georgia DPH OASIS, 2016-2020

Low Birthweight: birthweight is less than 5lb 8oz

Compared to other states in the U.S., Georgia had the 4th highest low birthweight rate (National Center for Health Statistics, Centers for Disease Control and Prevention, 2022). The Community's low birthweight rate was slightly better than the state's with a rate of 9.5% of live births being low birthweight compared to Georgia's rate of 9.9% (Georgia Department of Public Health, 2016-2020). Similarly to premature birth rates, there were racial disparities for low birthweight infants within the Community. The Black population experienced the highest rate of low birthweight births in eight of the Community's ten counties and in Georgia overall, as shown in **Figure 51**.

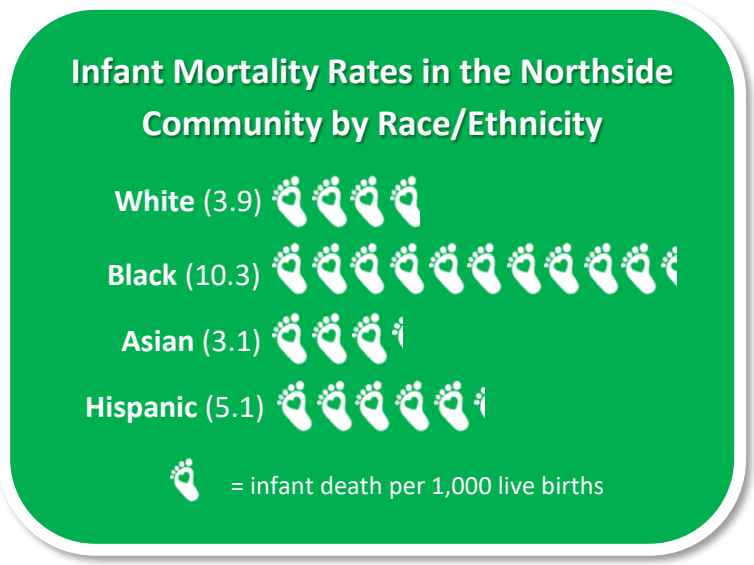
Figure 51: Low Birthweight Births, Percent of Births by Race and Ethnicity, Northside Community, 2016-2020

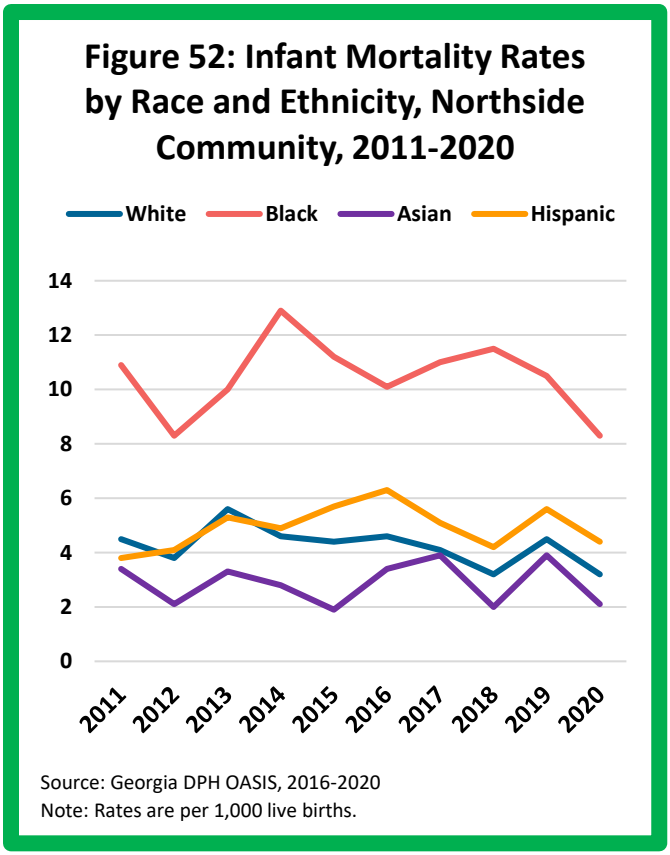


Source: Georgia DPH OASIS, 2016-2020

Infant Mortality

Infant Mortality Rates ("IMR") count the number of infant deaths per 1,000 live births before the age of one. According to the Centers for Disease Control, Georgia had the 7th highest rate of infant mortality in the U.S. (National Center for Health Statistics, Centers for Disease Control and Prevention, 2022). Two of the main causes of infant mortality are that babies are born prematurely or that they do not weigh enough at birth, or both.

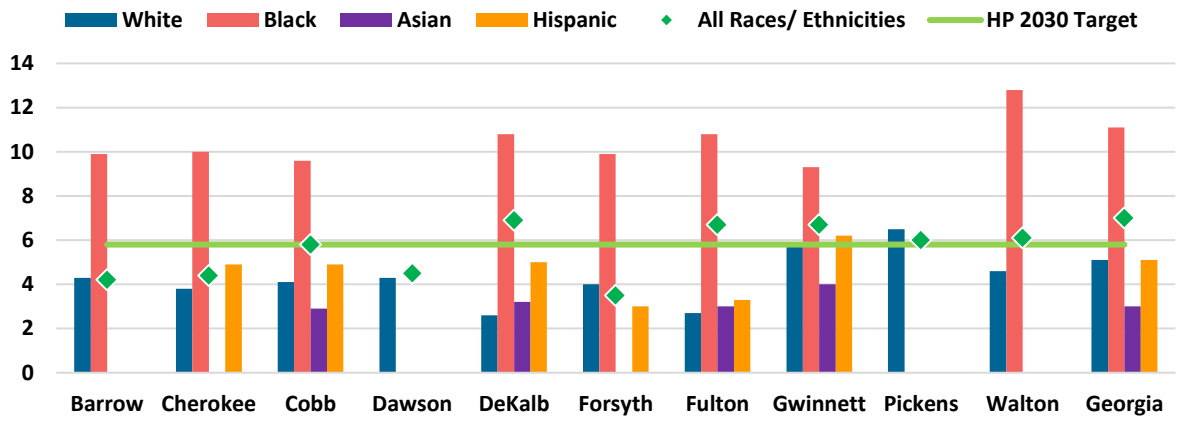




Northside analyzed IMRs for the Community over a 10-year period, 2011 - 2020, and although rates did not show a clear growth or decline, the disparity between the Black population and other racial/ethnic groups was consistent across the 10-year time period. In 2020, the Northside Community's IMR was 5.1, compared to Georgia's of 6.3. Georgia has made progress, with a decline in its infant mortality rate from 6.8 in 2011 to 6.3 in 2020. The Community's rate also declined in this time frame from a high of 6.5 in 2011 to 5.1 in 2020 (Georgia Department of Public Health, 2016-2020).

Within Georgia and the Community, between 2016 and 2020, there were significant racial differences in IMRs. In the Community, Black infants had more than double the IMR of White, Asian, or Hispanic infants with an IMR of 10.3 compared to 3.9, 3.1, and 5.1, respectively (not shown).

Figure 53: Infant Mortality Rates by Race and Ethnicity, Northside Community and Georgia, 2016-2020



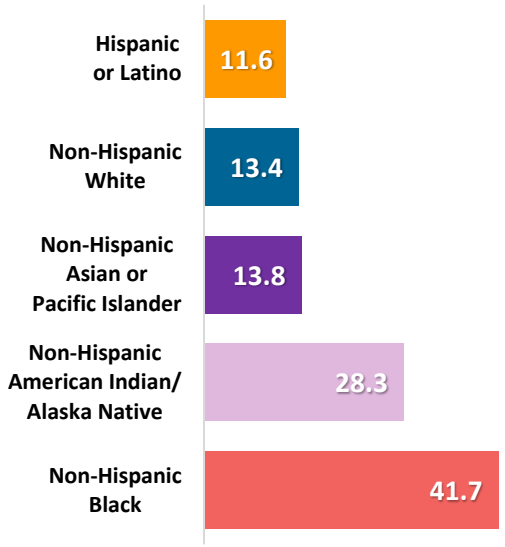
Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 1,000 live births.

Maternal Mortality

In Georgia, between 2015 and 2017, there were 25.1 pregnancy-related deaths per 100,000 live births, 87% of which were preventable. Pregnancy-related deaths are deaths that occur "during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy" (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). Non-Hispanic Black mothers were 2.3x more likely to die from pregnancy-related causes than non-Hispanic White mothers (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). Nationally, pregnancy-related mortality followed a similar trend of non-Hispanic Black mothers having the highest rate per 100,000 live births (Pregnancy Mortality Surveillance System, Centers for Disease Control and Prevention, 2020). **Figure 54** (next page) displays pregnancy-related mortality rates by race and ethnicity in the United States between 2014 and 2017.

The top five leading causes of pregnancy-related deaths in Georgia between 2015 and 2017 included cardiovascular/coronary, cardiomyopathy, hemorrhage, infection, and cerebrovascular accidents (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). The CDC shares that an "increasing number of pregnant women in the United States have chronic health conditions such as hypertension, diabetes, and chronic heart disease" which may put them at a higher risk of complications during pregnancy or postpartum (Pregnancy Mortality Surveillance System, Centers for Disease Control and Prevention, 2020).

Figure 54: Pregnancy-Related Mortality Rates, Race and Ethnicity, United States, 2014-2017



Source: Pregnancy Mortality Surveillance System, 2014-2017
Note: Rates are per 100,000 live births.

In Georgia, between 2015 and 2017, there were 68.9 pregnancy-associated deaths per 100,000 live births. Pregnancy-associated deaths occur during pregnancy or within one year of the end of pregnancy due to a cause unrelated to pregnancy. The leading causes of pregnancy-associated death included motor vehicle accidents, drug toxicity, homicide, cancer, and cardiovascular (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). In terms of insured status and insurance type, between 2012 and 2016 in Georgia, 69% of pregnancy-associated deaths were experienced by women who were insured through Medicaid compared to 31% by women with non-Medicaid insurance (Maternal Mortality Review Committee, Georgia Department of Public Health, 2021).

Diabetes & Obesity

Within the Northside Community and in Georgia, between 2016 and 2020, diabetes mellitus was the seventh leading cause of death (Georgia Department of Public Health, 2016-2020).

Social Determinants of Health & Modifiable Risk Factors

An individual's likelihood to have an obesity or diabetes diagnosis is impacted by SDOH and modifiable risk factors. When considering race and ethnicity, the Black and Hispanic populations are more likely to have obesity and the Black population is more likely to be hospitalized for diabetes. In addition to race and ethnicity, family history may also impact the likelihood of having an obesity or diabetes diagnosis. As education level increases, the likelihood of obesity and/or a diabetes diagnosis decreases. Similarly, as income increases, the likelihood of obesity decreases. This may in part be due to the effect that economic status has on an individual's ability to purchase healthy foods or have opportunities to exercise. When considering insurance type, those with Medicare had the highest inpatient discharge rates for diabetes. This is not surprising since as age increases so does the likelihood of developing diabetes. Access to healthcare may impact the ability to effectively manage diabetes or bring body weight back down to a desirable level after receiving an obesity

WHY IS OBESITY IMPORTANT?

"About 2 in 5 adults and 1 in 5 children and adolescents in the United States have obesity, and many others are overweight."

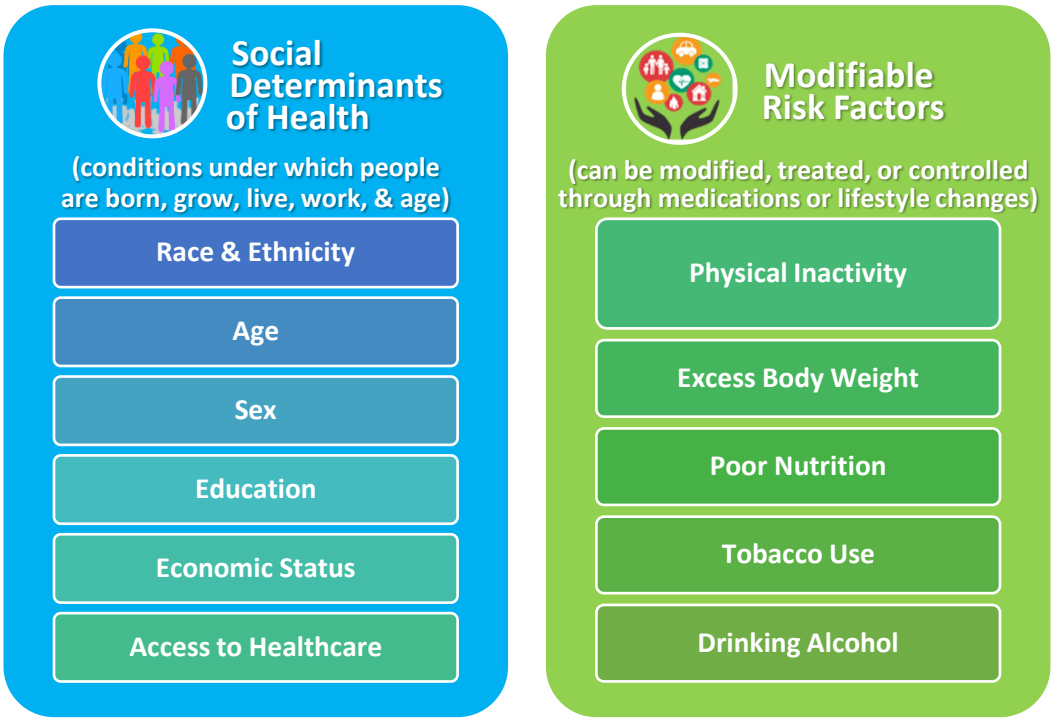
- Healthy People 2030

WHY IS DIABETES IMPORTANT?

"More than 30 million people in the United States have diabetes, and it's the seventh leading cause of death."

- Healthy People 2030

diagnosis. Modifiable risk factors may also be managed in efforts to decrease the likelihood of an obesity or diabetes diagnosis. Physical activity is a modifiable risk factor that is related to obesity and the effective management of diabetes. Excess bodyweight may make an individual more likely to become obese or develop diabetes and poor nutrition may contribute to the likelihood of becoming obese. The use of tobacco and consumption of alcohol may also make an individual more likely to get diabetes.

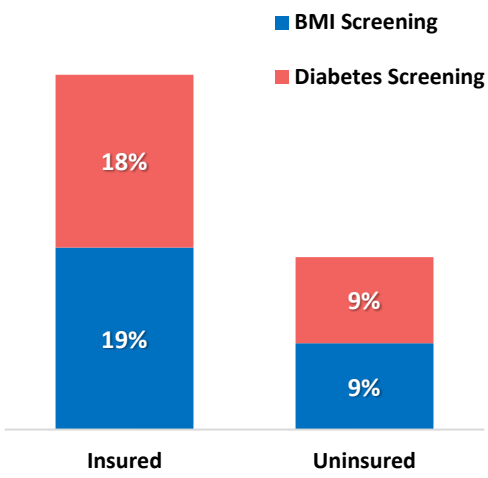


More information on these SDOH and modifiable risk factors in the Northside Community may be found in the Our Community section of this report under Demographics, Socioeconomic Characteristics, and Healthy Lifestyle Behaviors.

Screenings

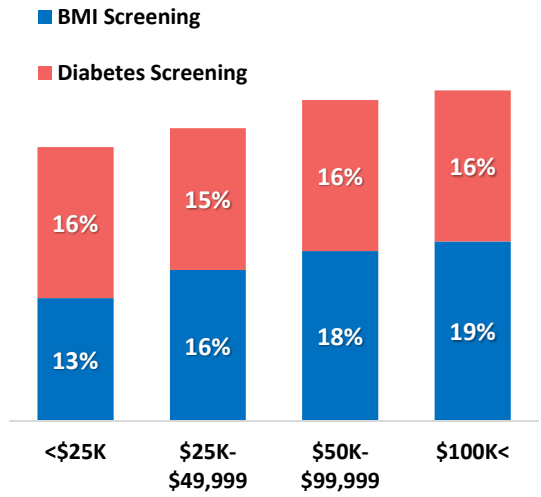
Screenings such as body mass index ("BMI") screenings and diabetes screenings play an important role in early detection of diabetes and obesity. When examined by insured status and income, screening rates differed among Community members. Community members who were insured were twice as likely to have had BMI and diabetes screenings compared to those who were uninsured. Income also appeared to impact the likelihood of having a BMI screening with the percentage increasing as income increased.

Figure 55: BMI and Diabetes Screening Rates in the Community by Insured Status, 2018-2020



Source: National Research Corporation, 2018-2020

Figure 56: BMI and Diabetes Screening Rates in the Community by Income, 2018-2020

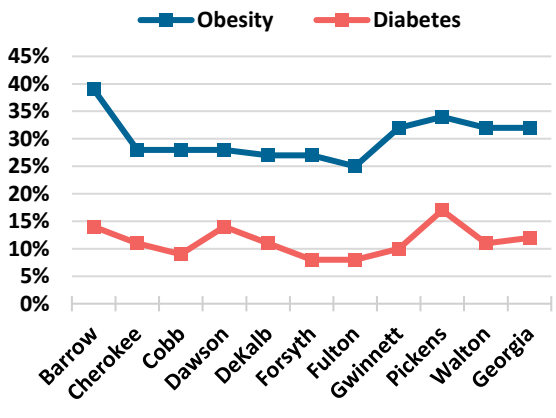


Source: National Research Corporation, 2018-2020

Health Outcomes

Compared to Georgia, many counties in the Community have lower percentages of adults with obesity or diabetes. As shown in **Figure 57**, Barrow and Pickens Counties are the only counties in the Community with obesity rates that were higher than the state's rate of 32%. Pickens, Barrow, and Dawson Counties had diabetes rates that were higher than the state's rate of 12%.

Figure 57: Obesity and Diabetes, Percent of Adults (Age 20+), Northside Community, 2017



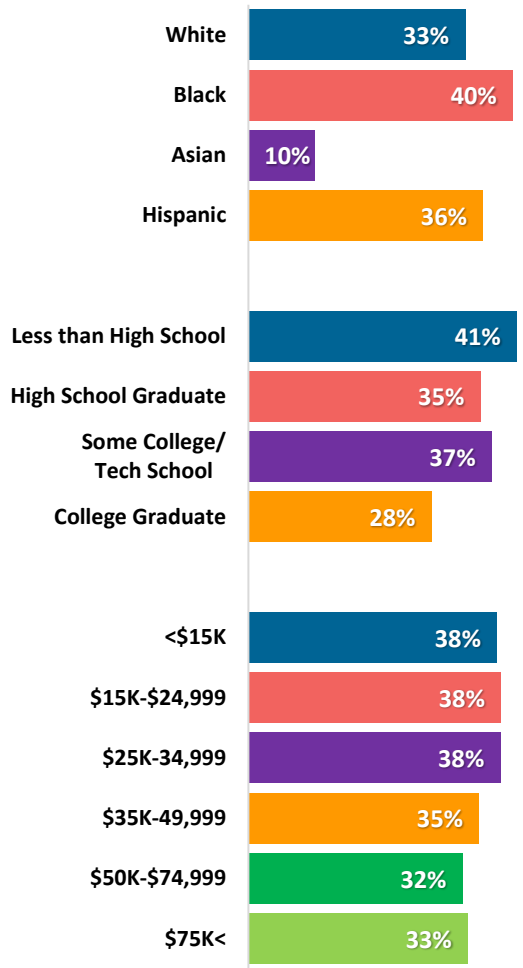
Source: CDC BRFSS and US Census Bureau, 2017. Accessed via countyhealthrankings.org.

Obesity

Obesity is defined as having a BMI equal than or greater to 30 kg/m^2 (County Health Rankings & Roadmaps, 2021). Within the Community's ten counties, rates of obesity varied between 25% and 39% of adults (aged 20 or older) reporting that they were obese (BMI over 30) (County Health Rankings & Roadmaps, 2021). Although detailed data was not available for obesity in the Community, it was available for the state. In Georgia, the Black population had the highest percentage of obesity. When considering education level, those with less than a high school education had the highest obesity rate at 41% compared to those a college degree who had a rate of 28%. Also, as income level increased, obesity rates decreased, with those making less than $35,000 per year having a rate of 38% compared to those with an income above $75,000 per year having a rate of 33% (Centers for Disease Control and Prevention, 2020).

Between 2018 and 2020, 3% of surveyed Community members had participated in a weight loss program (National Research Corporation, 2018-2021).

Figure 58: Obesity, Percent of Adults (Age 20+), Georgia 2020

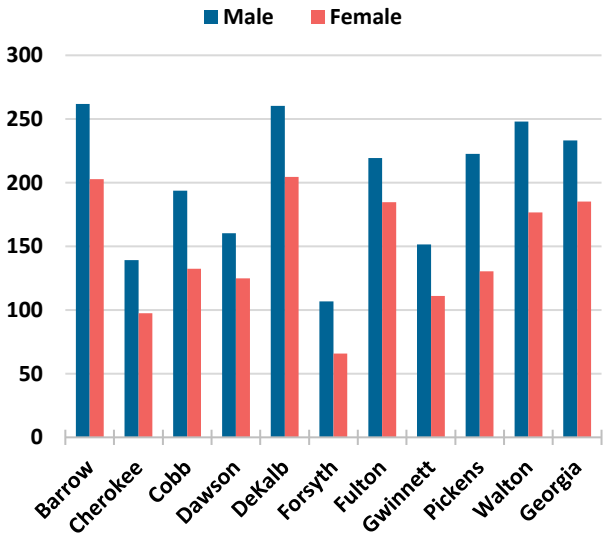


Source: Centers for Disease Control and Prevention, BRFSS, 2020

Diabetes

Within the Community's ten counties, rates of diabetes varied between 8% and 17% of adults (aged 20 or older) reporting that they had been diagnosed with diabetes (County Health Rankings & Roadmaps, 2021). Although the rate of diabetes was not available stratified by sex, race or ethnicity, or insurance type at the county-level, hospital discharge rates for diabetes (based on principal diagnosis) were available.

Figure 59: Diabetes, Age-Adjusted Inpatient Discharge Rates by Sex, Northside Community, 2016-2020

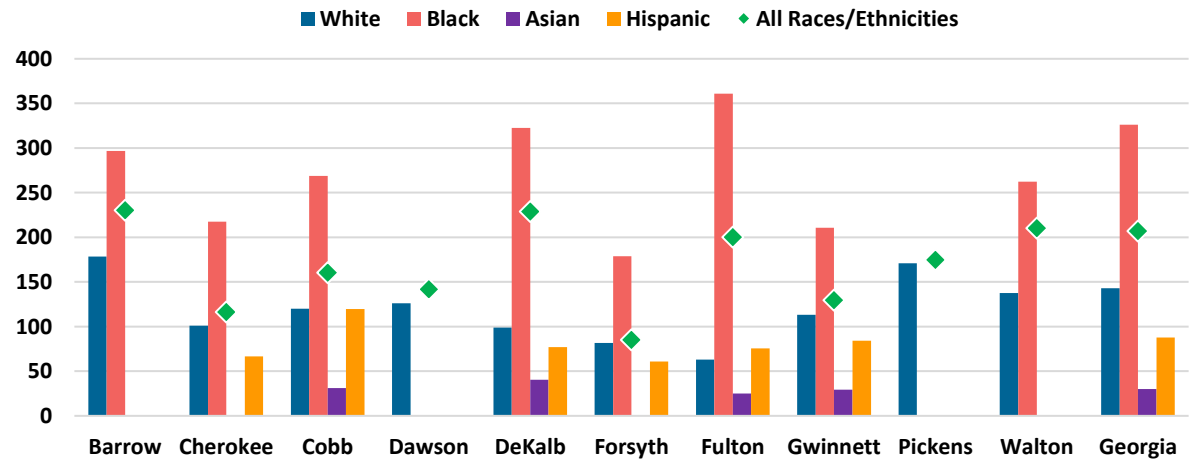


Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 100,000 population.

Barrow and DeKalb Counties had the highest inpatient discharge rates for both the female and male populations compared to all other counties in the Community and in Georgia overall, as seen in **Figure 59.** When compared to females, the male population had a higher rate in each of the Community's counties and in Georgia overall.

As shown in **Figure 60,** Barrow and DeKalb Counties had the highest overall rates for diabetes inpatient discharges. Barrow, DeKalb, and Walton Counties had overall rates that were higher than Georgia's overall rate. When considering race and ethnicity, the Black population's discharge rates were higher than the White, Hispanic, and Asian populations in both the Community and in Georgia overall.

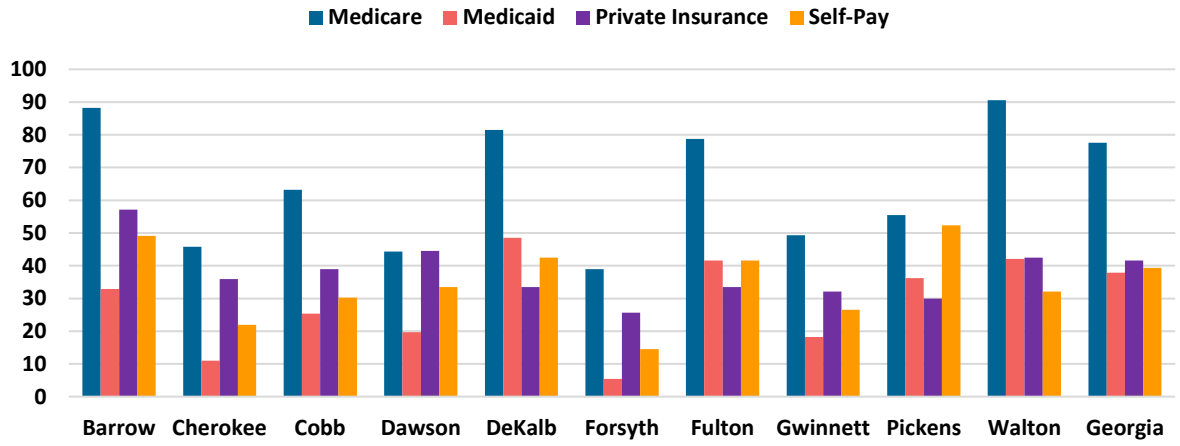
Figure 60: Diabetes, Age-Adjusted Inpatient Discharge Rates by Race and Ethnicity, Northside Community, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 100,000 population.

When considering insurance type, those with Medicare had discharge rates that were significantly higher than rates for those with Medicaid, private insurance, and self-pay. These rates are shown in **Figure 61.** The higher rates for Medicare patients may be due to the fact that the likelihood of having a diabetes diagnosis increases as age increases.

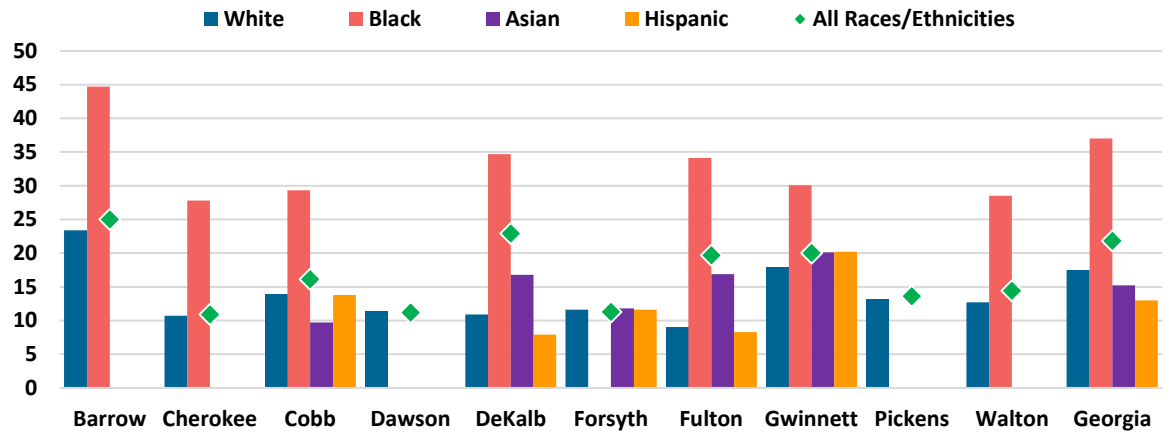
Figure 61: Diabetes, Age-Adjusted Inpatient Discharge Rates by Insurance Type, Northside Community, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 100,000 population.

Age-adjusted death rates due to diabetes were the highest in Barrow and DeKalb Counties, with rates of 25.0 and 22.9 respectively. Both of these counties' rates were higher than Georgia's rate of 21.8. Cherokee (10.9), Dawson (11.2), and Forsyth County (11.3) had the lowest death rates due to diabetes within the Community. Compared to females, males had higher deaths rates due to diabetes. When considering race and ethnicity, the Black population had the highest death rates.

Figure 62: Diabetes, Age-Adjusted Death Rates by Race and Ethnicity, Northside Community, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 100,000 population.

Gestational Diabetes

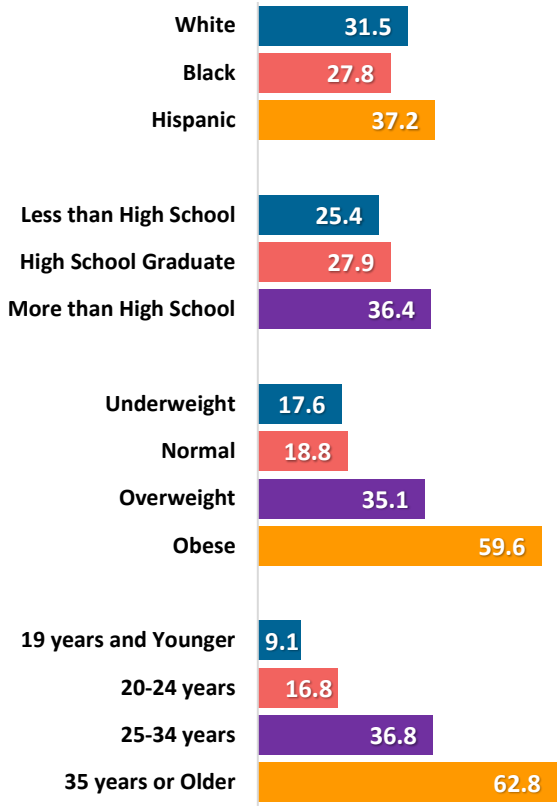
GDM is a condition that affects women during pregnancy, impacting health outcomes for both the mother and infant. The Georgia Department of Public Health (2013), reports that "immediately after pregnancy, 5%-10% of women with gestational diabetes were found to have diabetes" (Georgia Department of Public Health, 2013). Additionally, "women who have had gestational diabetes have a 35% to 60% chance of developing diabetes within the next 10 to 20 years (Georgia Department of Public Health, 2013).

Risk factors for GDM include:

- GDM during a previous pregnancy
- Previous delivery of a baby weighing over 9lbs
- Family history of diabetes
- BMI status of underweight, overweight, or obese
- African American, Hispanic, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander populations

Although data was not available for the Community, it was available for the state. When considering race and ethnicity, the Hispanic population had the highest incidence of GDM compared to White and Black populations. Incidence increased slightly as education level increased. Weight status was another significant predictor for development of GDM, with those who fell in to the underweight and normal BMI status having an incidence of less than 19 per 1,000 compared to those who were considered overweight with an incidence of 35.1 and those considered obese with an incidence rate of 59.6. Also, as age increases so does the risk of developing GDM, with the 35 years or older cohort having a significantly higher incidence rate compared to other age cohorts. More information on how GDM impacts the health of pregnant women and infants can be found in the Our Community section of this report under Maternal & Infant Health.

Figure 63: Gestational Diabetes, Incidence per 1,000 Women that Gave Birth, Georgia, 2011



Source: Georgia Department of Public Health, 2013

Access to Care

Although many counties in the Northside Community had better rates than the Georgia for metrics such as uninsured rates, preventable hospital stays, and provider to population ratios, when considered on the county level there were several within the Community who fared worse than the state.

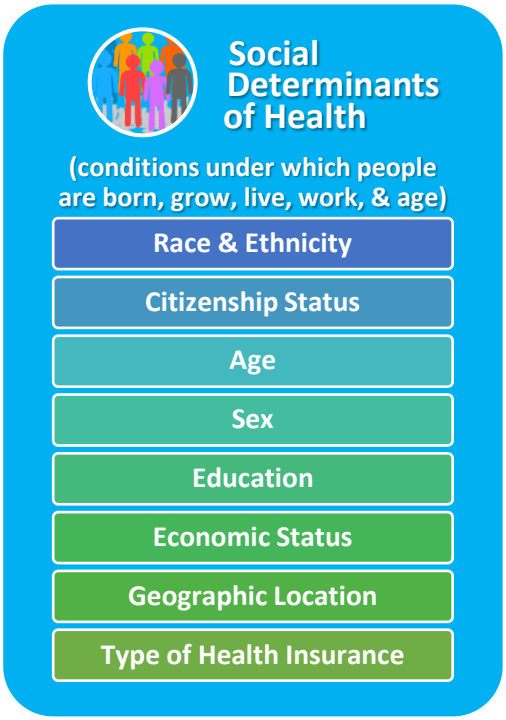
Social Determinants of Health

An individual's likelihood to have adequate access to healthcare is impacted by SDOH. When considering race and ethnicity, members of the Hispanic and "Other Race" populations in Georgia are most likely to be uninsured. Citizenship status also impacts an individual's likelihood of having health insurance, with members of the population who are foreign-born (not a citizen) having a significantly higher likelihood of being uninsured than any other group (Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2020). Within the Community, members of the Black population have the highest ER visit rates and inpatient discharge rates (Maternal Mortality Review Committee, Georgia Department of Public Health, 2022). Age also impacts an individual's ability to qualify for certain types of health insurance such as Peach Care for Kids and Medicare. Compared to males, females are more likely to have a regular healthcare provider and more likely to have visited a dentist in the last 12 months (Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2020). In terms of education attainment and income status, as education and/or income increases, the likelihood of having health insurance increases and so does the likelihood of having a regular primary care provider and receiving dental care within the previous 12 months (US Census Bureau, American Community Survey, 5-Year Estimates, 2019; Centers for Disease Control and Prevention, 2020).

WHY IS ACCESS TO CARE IMPORTANT?

"Delaying medical care can negatively impact health and increase the cost of care. People who can't get the care they need may have more preventable complications, hospitalizations, emotional stress, and higher costs."

- Healthy People 2030



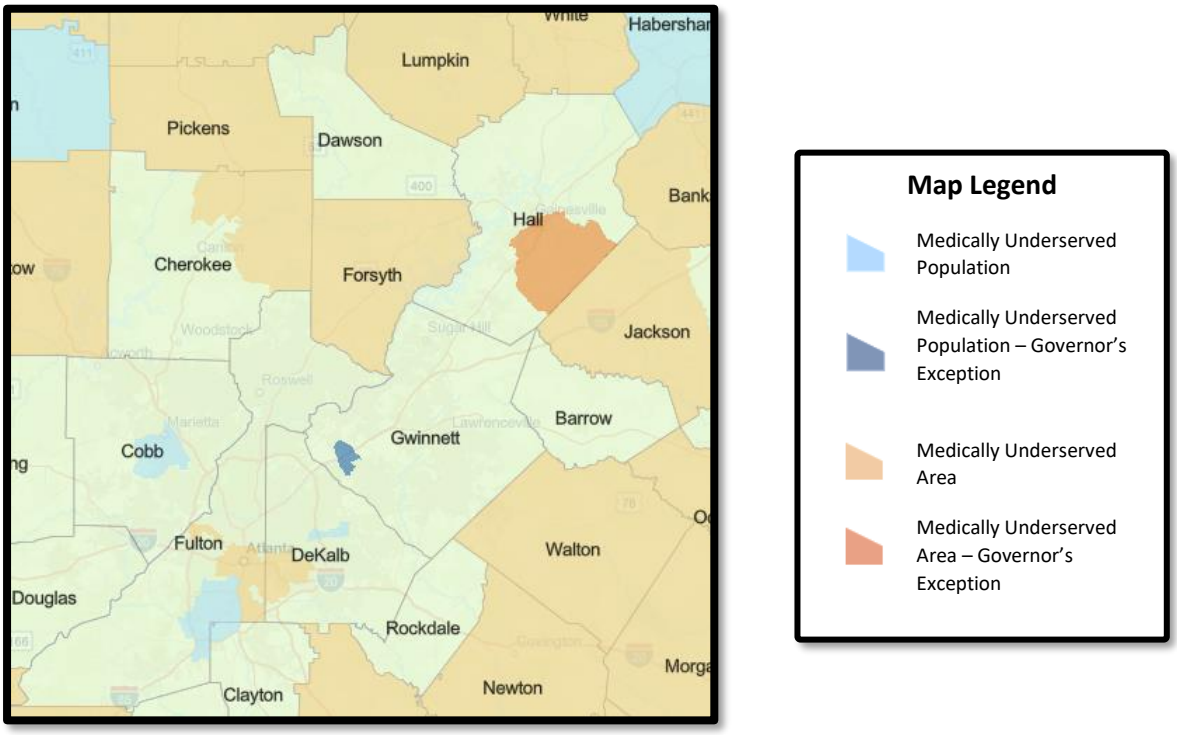
Economic status can influence an individual's likelihood of delaying medical care due to cost and geographic location may impact an individual's ability to access certain healthcare resources, such as FQHCs, or access quality healthcare providers due to availability of providers in their area. Lastly, even if an individual has health insurance, the type of insurance plan may influence an individual's ability to utilize healthcare services due to plan details such as required out-of-pocket costs or availability of in-network providers.

Information on many of these SDOH within the Northside Community can be found in the Our Community section of this report under Demographics and Socioeconomic Characteristics.

MUAs/MUPs and FQHCs

To highlight areas with low access to healthcare resources, Northside examined the location of MUAs and MUPs, along with locations of FQHCs. According to the U.S. Department of Health Resources and Services Administration (2021), MUAs may be a whole county or a group of contiguous counties, a group of county or civil divisions or a group of urban census tracts in which residents have a shortage of primary care providers, high infant mortality, high poverty, or a high elderly population (Health Resources and Services Administration, 2021). MUPs are similar to MUAs; however, instead of pertaining to the entire geographic area, MUPs are specific to a population group within the area. MUPs are usually limited to population groups with economic barriers, or cultural and/or linguistic access barriers to primary medical care services. The location of MUAs and MUPs within the Community are illustrated in **Figure 64 (next page).**

Figure 64: Medically Underserved Areas and Populations, Northside Community, 2021



Source: Health Resources and Services Administration, 2021

FQHCs include organizations that serve an underserved population or area by offering services on a sliding fee scale, providing comprehensive services, and ensuring the delivery of high-quality services. FQHCs are assets to the community because of the care they provide disparate/vulnerable populations (Health Resources and Services Administration, 2021). Within the Community, there were 59 FQHCs in the Northside Community. The number of FQHCs and population estimates for each county in the Community are shown in **Table 9**.

Table 9: Federally Qualified Health Centers, Northside Community, 2020

Geography	# of FQHC Locations	Population Estimate
Fulton	20	1M
Gwinnett	6	910K
Cobb	6	746K
DeKalb	18	743K
Cherokee	1	246K
Forsyth	3	228K
Walton	1	91K
Barrow	2	79K
Pickens	1	31K
Dawson	1	24K

Source: US Department of Health and Human Services, 2020. Accessed via sparkmap.org.

Physician Access and Utilization – Primary Care

Access to a primary care physician ("PCP") is an important step in maintaining good health. There are many reasons that a person may or may not have a regular PCP, including economics, transportation, or geographic access. Geographic access can, in part, be measured by the rate of PCPs within the population. Counties within the Community had varying ratios of PCPs to population based on 2018 estimates. Six counties had ratios that were worse than Georgia's ratio of 1,510:1, while four had better ratios. When considering these numbers, it is important to remember these ratios were calculated at the county-level, and that even within a county where there appears to be a significant number of PCPs, there could be pockets where there is low access, especially where there are MUAs/MUPs (Health Resources and Services Administration, 2021).

Table 10: Ratio of Population to Primary Care Providers, Northside Community, 2018

Geography	Ratio
Georgia	1,510:1
Barrow	4,250:1
Walton	3,900:1
Forsyth	2,520:1
Pickens	2,460:1
Cherokee	2,440:1
Gwinnett	1,540:1
Dawson	1,390:1
Cobb	1,350:1
DeKalb	910:1
Fulton	900:1

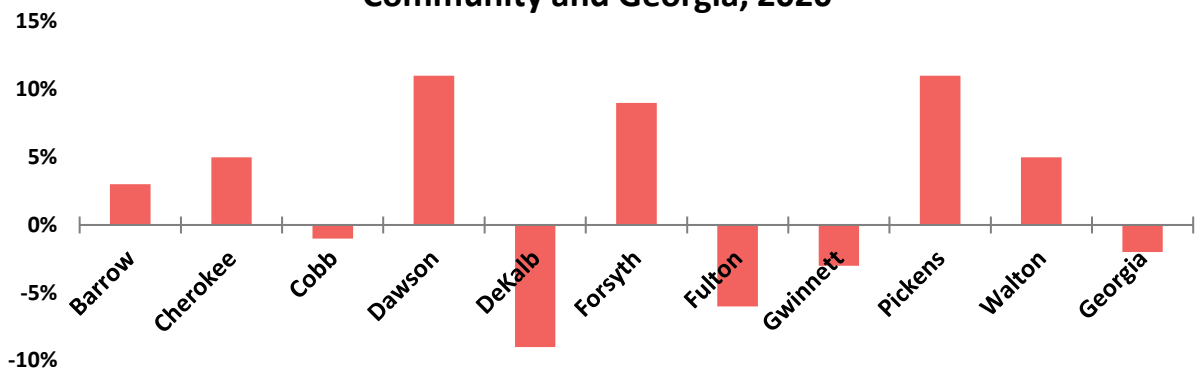
Source: Area Health Resource File, 2018. Accessed via countyhealthrankings.org.

To understand if access translates to utilization, the ESRI 2020 Market Potential Index was used to compare counties in the Community to the national average for the percent of the population to visit a general or family practitioner within the year. Members of the Community overall visited a general/family doctor approximately 3% less than the national average (ESRI, 2020). As shown in **Figure 69 (next page),** these rates varied by county, with six counties having rates that were higher than the national average and seven having rates that were higher than Georgia's average. DeKalb and Fulton Counties had the lowest visit rates with 9% and 6% less than the national average respectively, while Dawson and Pickens Counties had the highest, each with 11% higher than the national average.

"Having a primary care provider (PCP) is important for maintaining health and preventing and managing serious diseases. PCPs can develop long-term relationships with patients and coordinate care across health care providers."

- Healthy People 2030

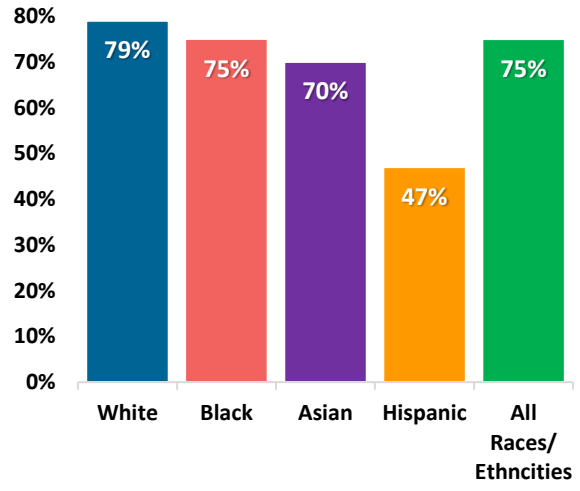
Figure 65: Visited General/Family Doctor in Last 12 months, Percent Above or Below National Average, Northside Community and Georgia, 2020



Source: ESRI, 2020

County level data was not available that stratified access to a consistent source of primary care by race or ethnicity; however, the data was available at the state-level and may broadly represent the Community. Within Georgia, only 47% of Hispanics who were surveyed indicated they had a person who they considered a personal doctor or healthcare provider compared to White, Black, and Asian respondents who answered "yes" at a rate of 70% or higher. Considering almost half of Georgia's Hispanic population is within the Community, this disparity is most likely present within the Community as well as Georgia. The female population also responded more often that they had someone they thought of as a personal doctor compared to the male population, 79% and 71% respectively. Lastly, as education and/or income level increased, so did the percentage of the population who reported having a dedicated healthcare provider (Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2020).

Figure 66: Do You Have a Person You Think of as Your Personal Doctor?, Percent Reporting "Yes," Georgia, 2020



Source: CDC BRFSS, 2020. Accessed via americashealthrankings.org.

Access and Utilization – Dental Care

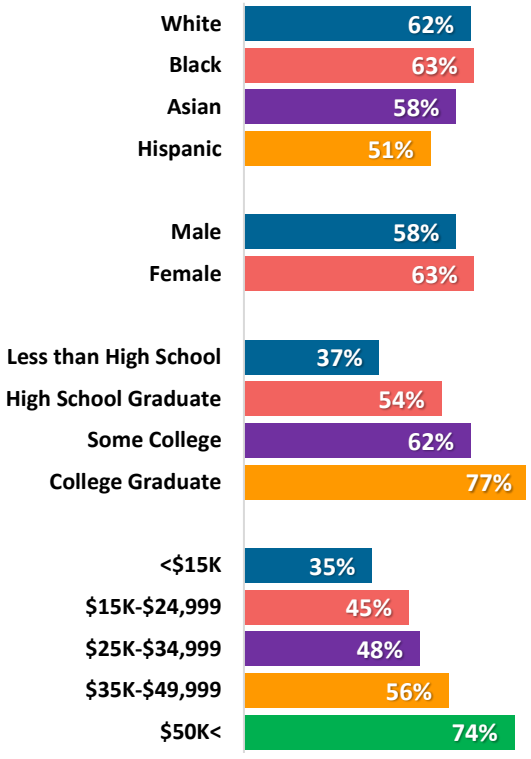
Dental health is closely associated with overall health. Certain oral conditions can exacerbate other chronic conditions, while certain chronic conditions also worsen many oral health conditions. Based on 2019 data, within the Community, there were varying availability of dentists based on county. Four counties in the Community had ratios that were better than the State's, as shown in **Table 11**. While county level data was not available for utilization of dentists, hygienists, or dental clinics, it was available for Georgia. When considering the percentage of adults who had not visited a dentist, hygienist or dental clinic in the past year, Georgia's rate of 39% was slightly higher than the U.S. rate of 33% (Centers for Disease Control and Prevention, 2020).

Table 11: Ratio of Population to Dentists, Northside Community, 2019

Geography	Ratio
Georgia	1,920:1
Barrow	5,950:1
Pickens	3,260:1
Walton	2,780:1
Forsyth	2,600:1
Dawson	2,180:1
Cherokee	2,020:1
DeKalb	1,700:1
Gwinnett	1,610:1
Cobb	1,450:1
Fulton	1,410:1

Source: NPI Registry, 2019. Accessed via countyhealthrankings.org.

Figure 67: Visited Dentist or Dental Clinic in Last 12 Months for Any Reason, Georgia, 2020



Source: CDC, BRFSS, 2020

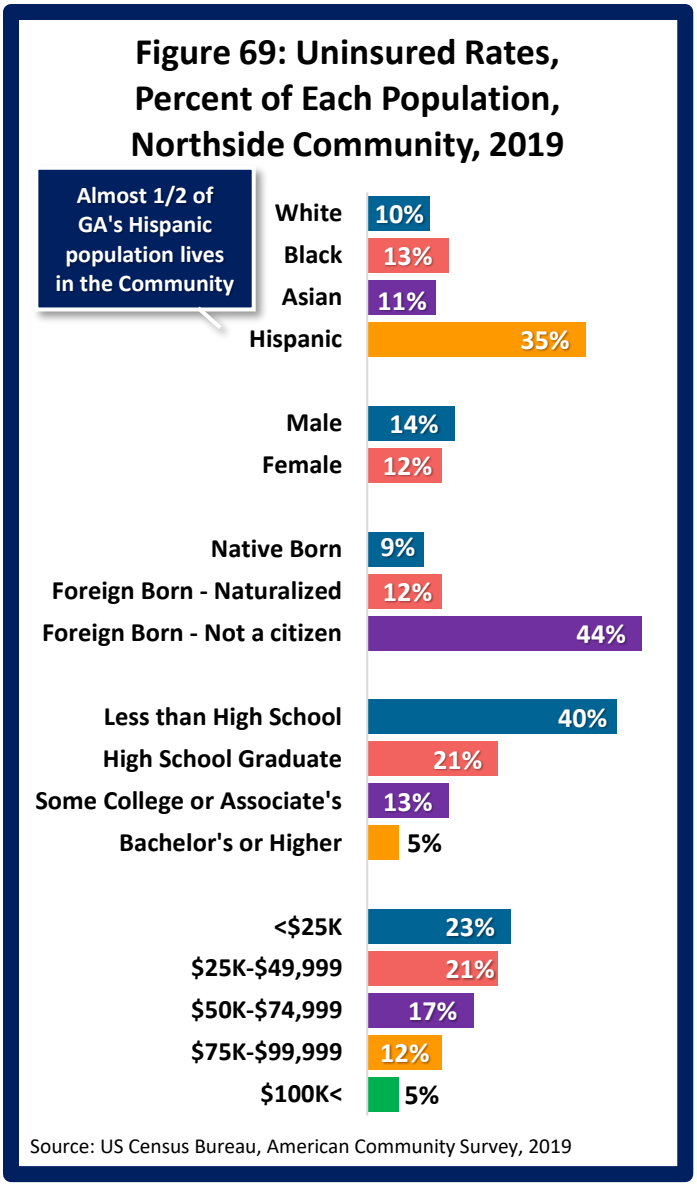
As shown in **Figure 67,** Georgia's Hispanic population had the lowest rate of visiting a dentist in the last 12 months compared to other racial and ethnic groups. Compared to females, the male population had a slightly lower rate. As education level increased and/or as income level increased, the likelihood of visiting a dentist in the previous 12 months increased.

Access and Utilization – Prenatal Care

"Strategies to help women adopt healthy habits and get health care before and during pregnancy can help prevent pregnancy complications" (Healthy People 2030, 2021). Information on access and utilization of prenatal care in the Northside Community can be found in the Our Community section of this report under Maternal and Infant Health.

Health Insurance Coverage

In terms of access to healthcare, having no health insurance is a large barrier to medical care. Persons who are uninsured are less likely to seek out or receive preventive care, less likely to obtain recommended treatments, are more likely to be admitted to the hospital for preventable conditions and are also more likely to die in the hospital compared to the insured (Majerol, 2015). Pathways to health insurance in the United States generally vary by age; the elderly in the United States are nearly all covered through Medicare and populations under 65 usually receive health insurance as a benefit through their job, a family member's job, or an exchange-based plan offered on the federally run healthinsurance.org. Additional programs, designed to help low-income populations, include Medicaid (limited) and Peachcare for Kids.



The uninsured rate within the Community was the same as Georgia's overall with 13% of each population being uninsured. The Community had a slightly higher rate of uninsured among its child population (under 19 years) than Georgia's rate, 8% compared to 7%. The Community also had a slightly lower rate of uninsured among the 19-

64-year age group than the state, with 17% compared 19% (US Census Bureau, American Community Survey, 5-Year Estimates, 2019). When compared by county, three counties, Gwinnett, Barrow, and DeKalb, had overall uninsured rates that were higher than Georgia's rate of 13% (US Census Bureau, American Community Survey, 5-Year Estimates, 2019). As shown in **Figure 69,** within the Community, the Hispanic population had the highest uninsured rate among the racial and ethnic groups compared, with 35% of the Community's Hispanic population not having health insurance. Citizenship status also impacted the likelihood of having health insurance with 44% of those who were foreign born (not a citizen) being uninsured. Lastly, as education level increased and income increased, the likelihood of being uninsured decreased.

"People without insurance are less likely to get the health care services and medications they need and more likely to have poor health outcomes."

- Healthy People 2030

In 2020, members of the Community, on average, spent 15% more than the national average on health insurance, or approximately $4,263 for the year, compared to the Georgia's average of $3,620. Forsyth County residents paid the most for health insurance in the Community at a rate of 51% above the national average, followed by Fulton, Cobb, and Cherokee County residents who paid 23%, 20%, and 19% above the national average respectively (ESRI, 2020).

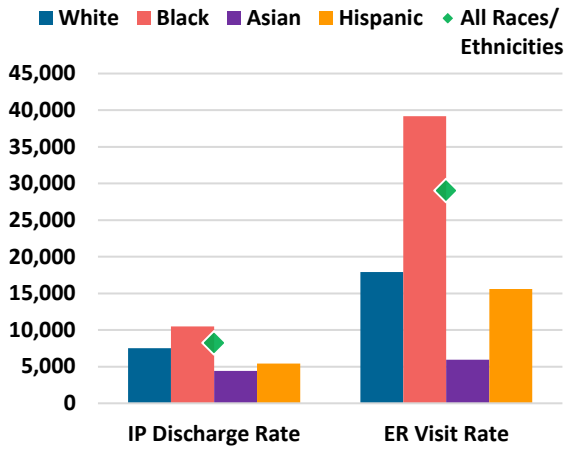
Healthcare Utilization

Without proper management of health through preventive and routine care, emergency care and inpatient services are often used at a higher rate and patients are first seen at a more advanced stage of their disease (County Health Rankings & Roadmaps, 2022). Between 2016 and 2020, Northside Community residents represented 35% of Georgia's total inpatient discharges and 31% of Georgia's total ER visits. The Community had a lower IP discharge rate than Georgia with 8,269 inpatient discharges per 100,000 population compared to Georgia's rate of 9,575; similarly, the Community's ER visit rate of 29,043 per 100,000 population was lower than Georgia's of 37,340 (Georgia Department of Public Health, 2016-2020). The top causes of IP hospitalizations and ER visits for the Community are included in the Our Community section of this report under An Overview of Health Behaviors and Health Outcomes.

As shown in **Figure 70,** when considered by race and ethnicity, the Black population had the highest age-adjusted rates per 100,000 population for inpatient discharges and ER visits when compared to the White, Asian, and Hispanic populations.

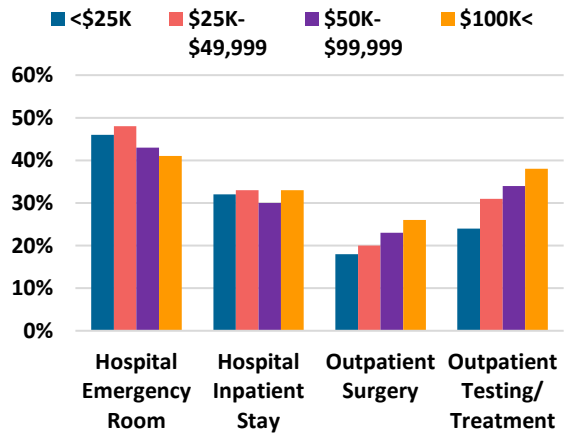
Inpatient discharge rates and ER visit rates per 100,000 population were also available by insurance type. In the Northside Community, inpatient discharge rates were highest among members of the population insured by Medicare (3,197). ER visit rates were highest among the Medicaid (7,792), self-pay (7,479), and private insurance (7,297) populations while the Medicare population had a much lower rate (4,736). Although self-pay members had the second highest ER visit rate, they had significantly lower inpatient discharge rates (813) compared to the other insured groups (Georgia Department of Public Health, 2016-2020).

Figure 70: Inpatient Discharge and ER Visit Age-Adjusted Rates by Race and Ethnicity, Northside Community, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population. IP discharge rate for all races/ethnicities excludes "unknown" ethnicity.

Figure 71: Utilization of Healthcare Services by Household Income, Percentage of Households Surveyed in the Northside Community, 2018-2020



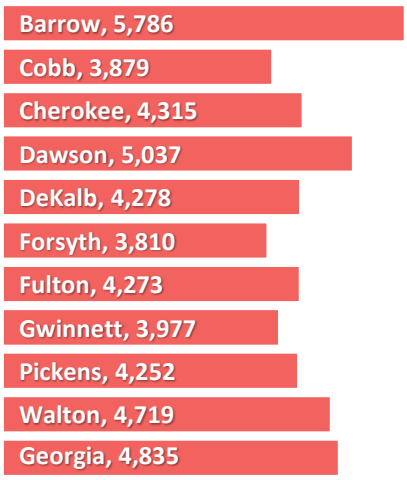
Source: National Research Corporation, 2018-2020

Figure 71 shows utilization of healthcare services by household income. In the Northside Community, the population with an annual income of less than $50,000 per year reported using the emergency room at a higher rate than those with an annual income over $50,000. Differences in percentage of those who experienced inpatient stays among each of the four income groups were minimal. Lastly, as income increased, outpatient surgery and outpatient testing/treatment increased, indicating a potential barrier to outpatient services for lower income populations due to financial constraints.

Preventable Hospital Events

One indicator that illustrates if sufficient primary care resources are available and accessible to community members is the number of preventable hospital events that occurred among residents. The conditions considered to be preventable include hospital admissions due to diabetes, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, dehydration, pneumonia, and urinary tract infections, because with access to proper primary care they would not have resulted in a hospital stay. Barrow County had the highest rate of preventable hospital stays with the rate of 5,786 per 100,000 Medicare enrollees while Forsyth had the lowest with a rate of 3,810. Two counties in the Community, Barrow and Dawson, had rates that were higher than Georgia's rate.

Figure 68: Preventable Hospital Stays (Medicare), Age-Adjusted Rate, 2018

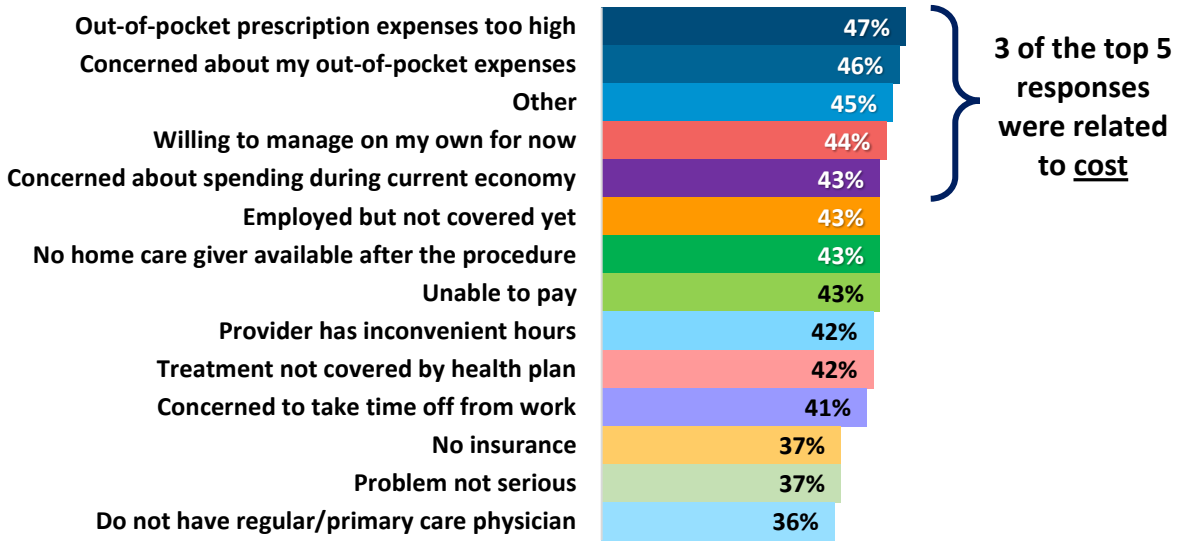


Source: Centers for Medicare & Medicaid Services, Mapping Medicare Disparities, 2018. Accessed via countyhealthrankings.org.
Note: Rate is per 100,000 Medicare enrollees.

Reasons for Delaying Medical Care

The number one reason Community members indicated they delayed medical care between 2018 and 2020 was that out-of-pocket prescription expenses were too high (National Research Corporation, 2018-2020). Additional reasons for delayed care are displayed in **Figure 72.** In this survey, more than one reason could be chosen by each survey respondent.

Figure 72: Reasons for Delayed Treatment in Last Six Months, Percentage of Households Surveyed in Northside Community, 2018-2020



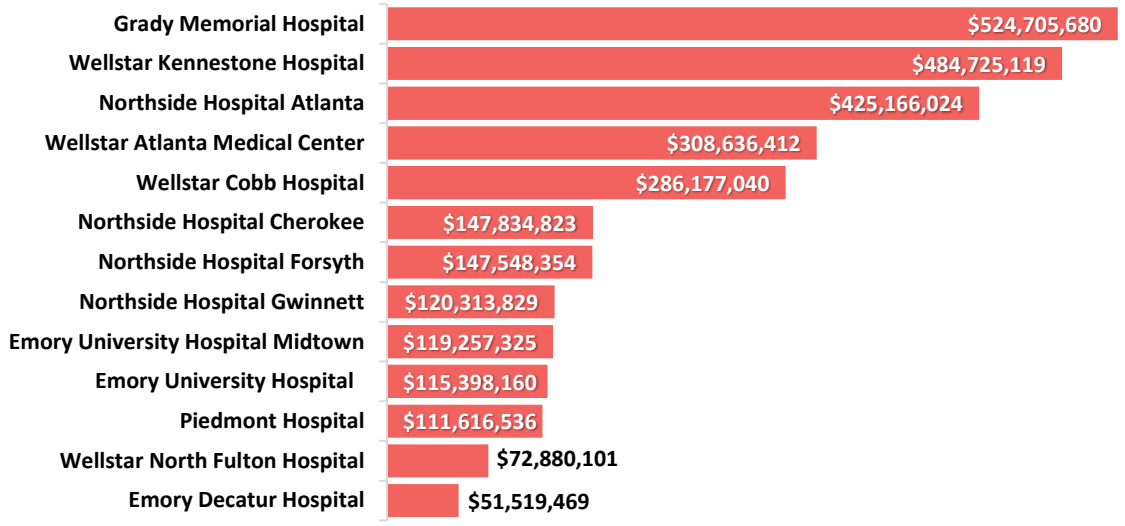
Source: National Research Corporation, 2018-2020

Indigent and Charity Care

Indigent and charity care is often used as a metric for assessing a community's access to healthcare services, particularly for individuals with limited financial means. The total amounts of indigent and charity care provided by the Community's general acute care hospitals varied. In FY 2020, the Community's 22 hospitals provided more than $2.5 billion in net uncompensated indigent and charity care combined, a 24% increase from FY 2017. Northside Hospital Atlanta provided the third largest dollar amount (approximately $425 million) in FY 2020, behind Grady Memorial Hospital (approximately $525 million) and Wellstar Kennestone Hospital (approximately $485 million), in indigent and charity care of all general acute care providers in the Community. Notably, although it provided the third largest dollar amount overall, Northside Atlanta ranked first in the largest dollar amount of indigent and charity care among similar hospitals that do not have a trauma center. Northside Hospital's five facilities combined provided over $874 million in net uncompensated indigent and charity care in FY 2020. Northside Hospital's indigent and charity care performance demonstrates that Northside is

providing community benefit and serving all patients regardless of their ability to pay (Georgia Department of Community Health, 2020).

Figure 73: CY 2020 Indigent and Charity Care by Hospitals for All Hospitals in Northside's Community with over $50M in Net Uncompensated Indigent and Charity Care



Source: Georgia Department of Community Health, Hospital Financial Surveys, CY 2020

Behavioral Health & Substance Use Disorder

Within the Northside Community, intentional self-harm (suicide) was the second leading cause of death for 10-14-year olds, third leading cause of death for 15-34-year olds, and fourth leading cause for 35-54 year olds (Georgia Department of Public Health, 2016-2020). Many counties in the Community also had accidental poisoning rates (primarily comprised of drug overdoses) that were higher than the State's.

Social Determinants of Health & Modifiable Risk Factors

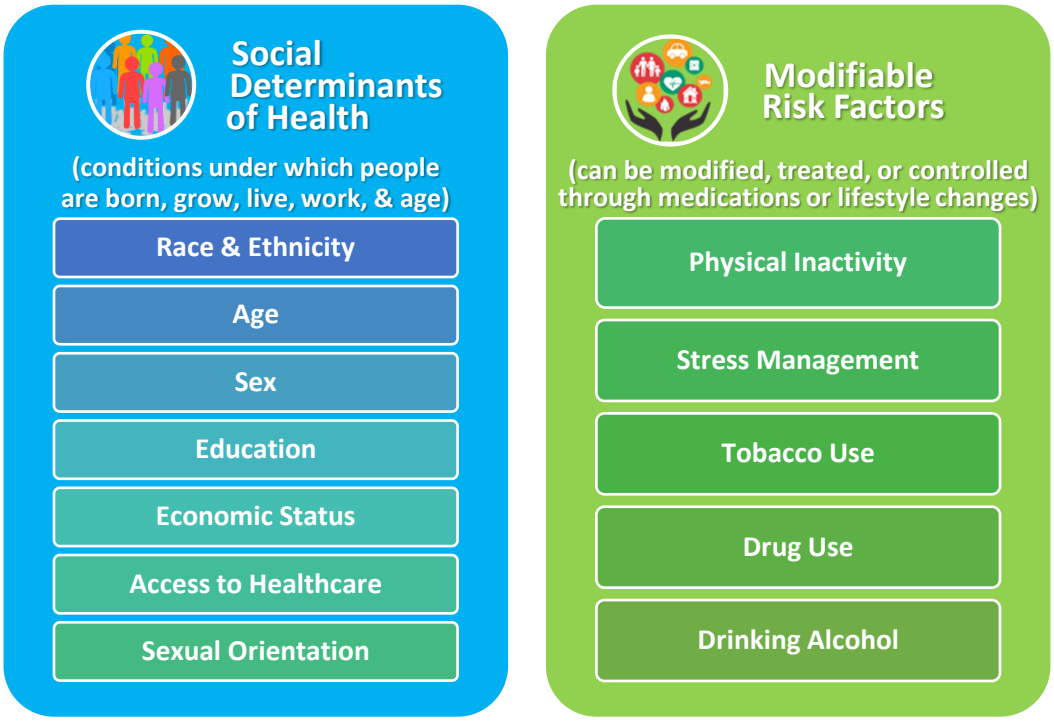
An individual's likelihood of experiencing behavioral health concerns or substance use disorder may be impacted by SDOH as well as modifiable risk factors. When considering race and ethnicity, the White population has the highest rate of suicide and accidental poisonings when compared to Black, Asian, and Hispanic populations. Males also have higher rates of suicide and accidental poisonings compared to females. Education level and economic status may impact an individual's ability to seek behavioral healthcare when concerns arise. Access to healthcare challenges may include difficulties that an individual experiences due to a lack of mental health providers in their area or barriers due to insured status and insurance type. Stigma surrounding behavioral health and substance use disorder may leave an individual less likely to acknowledge concerns, seek outside help, or receive support from family and loved ones. Traumatic life experiences may also leave an individual more likely to experience behavioral health concerns or substance use disorder. Modifiable risk factors, such as physical inactivity or lack of stress management abilities may contribute to a

WHY IS BEHAVIORAL HEALTH IMPORTANT?

"Mental and physical health are closely connected. Mental health disorders like depression and anxiety can affect people's ability to take part in healthy behaviors. Similarly, physical health problems can make it harder for people to get treatment for mental disorders."

- Healthy People 2030

higher likelihood of experiencing depression or anxiety. Usage of addictive substances may also make an individual more likely to develop dependency.



More information on these SDOH and modifiable risk factors in the Northside Community can be found in the Our Community section of this report under Demographics, Socioeconomic Characteristics, and Healthy Lifestyle Behaviors.

Health Outcomes

Access to Mental Health Providers

An individual's access to mental health providers in their area plays an important role in the ability to address behavioral health concerns. County Health Rankings' ratio of population to mental health providers utilizes data in the NPI registry, which provides the number of mental health providers by county. This metric defines mental health providers as "psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, and mental health providers that treat alcohol and other drug abuse, as well as advanced practice

Table 13: Population to Mental Health Provider Ratio, Northside Community, 2020

Geography	Ratio
Georgia	690:1
Barrow	5,950:1
Forsyth	1,650:1
Pickens	1,480:1
Walton	1,310:1
Cherokee	1,080:1
Dawson	930:1
Gwinnett	890:1
Cobb	540:1
Fulton	410:1
DeKalb	320:1

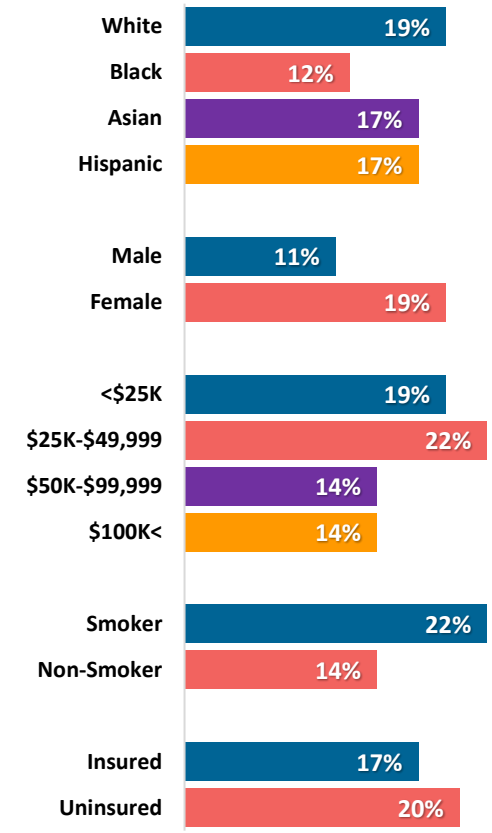
Source: NPI Registry, 2020. Accessed via countyhealthrankings.org.

nurses specializing in mental health care" (County Health Rankings & Roadmaps, 2021). Seven counties in the Community had ratios that were worse than Georgia's ratio of 690:1. Ratios for the Community's ten counties are included in **Table 13.**

Anxiety and Depression

In a survey conducted by the NRC (2018-2020), respondents in the Northside Community were asked if they had depression or anxiety. The results of this are included in **Figure 74.** When considering race and ethnicity, 19% of White respondents reported having anxiety or depression, followed by 17% of Asian respondents and 17% of Hispanic respondents. The Black population had the lowest percentage of self-reported anxiety and/or depression at 12%. Nineteen (19%) of females reported having anxiety and/or depression compared to 11% of males. When considering income, respondents with an annual income greater than $50k answered that they had anxiety and/or depression at a lower rate than those with income less than $50K. When considering smoking status, 22% of smokers reported having anxiety and/or depression compared to 14% of non-smokers. Lastly, when considering insured status, those who were uninsured reported having anxiety/depression more often.

Figure 74: Anxiety/ Depression, Percent of Respondents Self-Reported, Northside Community, 2018-2020



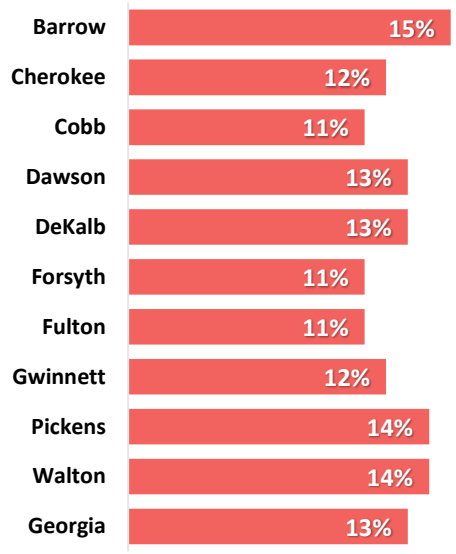
Source: National Research Corporation, 2018-2020

Frequent Mental Distress

Another way to measure behavioral health within a community is to survey members on perception of their personal level of mental distress or to self-report conditions such as anxiety or depression. Factors such as cultural stigma surrounding behavioral health may influence an individual's likelihood to report mental distress or to seek care for behavioral health concerns.

County Health Rankings' (2021) measurement of frequent mental distress provides the percentage of adults in each county who reported having poor mental health days for 14 or more days out of the last month. These percentages are displayed in **Figure 75.** Barrow County had the highest rate among the Community's ten counties followed by Pickens and Walton Counties, all three of which had rates that were higher than Georgia's.

Figure 75: Frequent Mental Distress, Percent of Adults, Northside Community, 2018



Source: CDC BRFSS, 2018. Accessed via countyhealthrankings.org

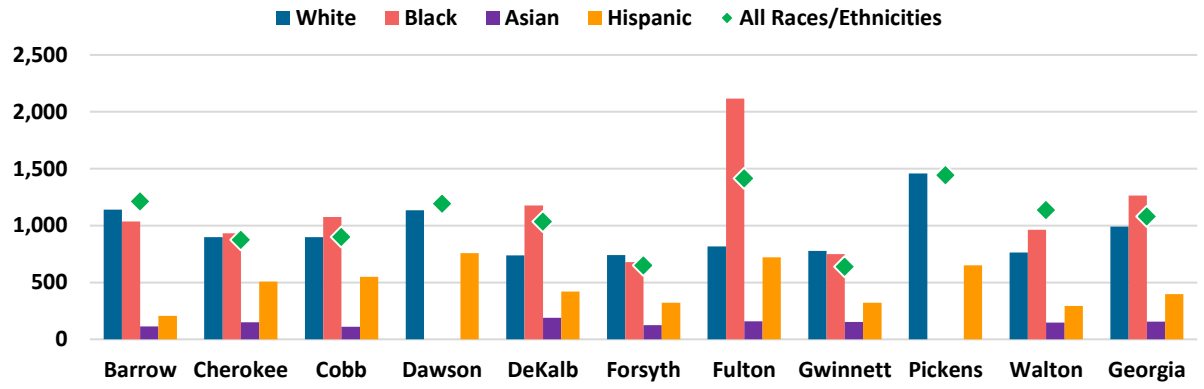
Emergency Room (ER) Visit Rates for Mental and Behavioral Disorders

A method useful for measuring the impact of behavioral health and substance abuse disorder on local hospitals is to examine age-adjusted emergency room (ER) visit rates for mental and behavioral disorders (including visits for disorders related to drug use). High ER visit rates may indicate a lack of access to or utilization of behavioral health management care. Insured status, provider ratios, and financial restrictions may be a few of the barriers that individuals face when obtaining behavioral health care or maintaining a care plan.

Between 2016 and 2020, the Northside Community had 212,717 ER visits for mental and behavioral disorders, comprising 38% of Georgia's total during this time period (Georgia Department of Public Health, 2016-2020). When considering age-adjusted ER visit rates by sex, the male population had slightly higher rates in seven of the Community's ten counties, as well as in Georgia.

When considering overall rates (all races/ethnicities), five out of the Community's ten counties had rates that were higher than Georgia. When considered by race and ethnicity, White and Black populations had the highest age-adjusted ER visit rates due to mental health and behavioral disorders in most of the Community's counties, as well as in Georgia overall.

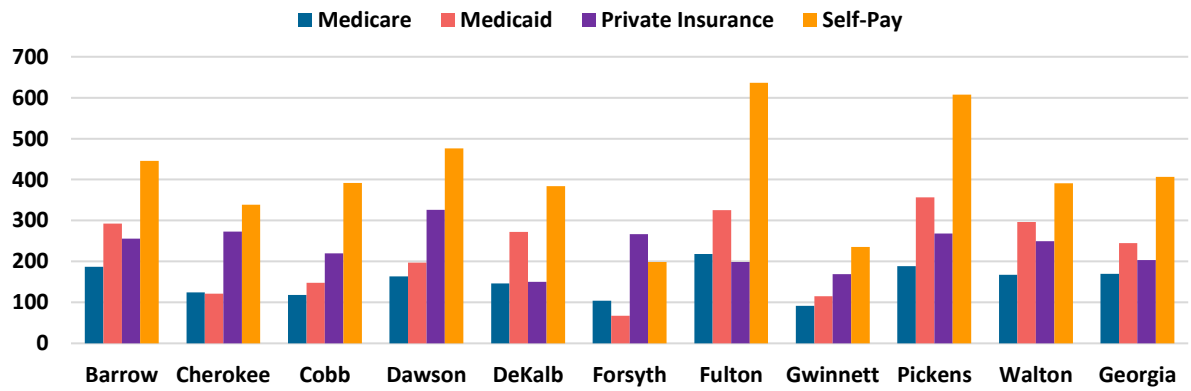
Figure 76: Mental Health & Behavioral Disorders, Age-Adjusted ER Visit Rate by Race and Ethnicity, Northside Community and Georgia, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

Age-adjusted ER visit rates due to mental and behavioral disorders were also available by insurance type. As shown in **Figure 77,** the self-pay population had the highest rates for each county aside from Forsyth County, whose private insurance population had the highest rate.

Figure 77: Mental Health & Behavioral Disorders, Age-Adjusted ER Visit Rate by Insurance Type, Northside Community and Georgia, 2016-2020



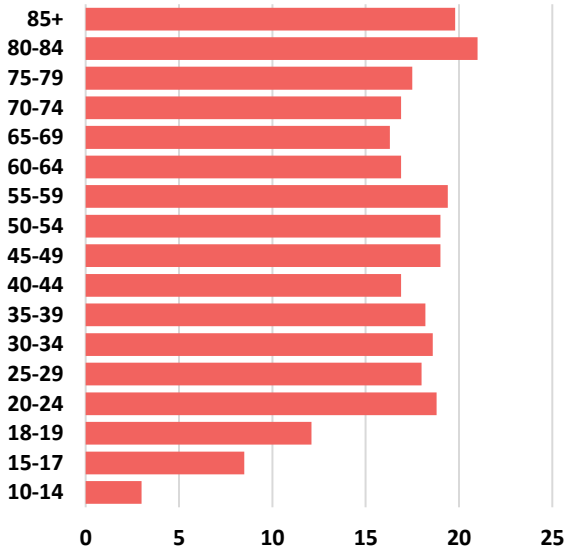
Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

Suicide

According to the CDC, there is one estimated suicide death for every 33 suicide attempts (Centers for Disease Control and Prevention, 2021). In 2020, there were a total of 1,488 suicide deaths in Georgia, 458 (31%) of which were in the Northside Community (Georgia Department of Public Health, 2016-2020). With intentional self-harm being at the top of the list of leading causes of death, an understanding of mental health status of the Community can assist with efforts to intervene.

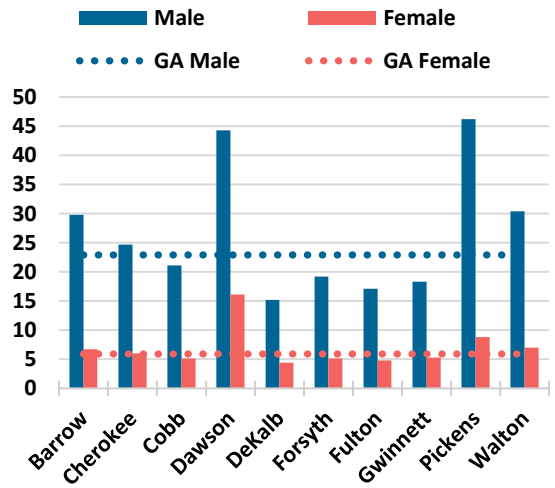
Displayed in **Figure 78**, are Georgia's death rates due to suicide by age cohort. Between 2016 and 2020, the ten to 19 years of age population's death rates due to suicide rose drastically and then leveled off between the ages of 20 and 59 years of age. After a slight decrease between 60 years of age and 79, rates again rose to the highest rate of any age group (21 suicide deaths per 100,000) for the 80-84 years of age cohort.

Figure 78: Suicide, Death Rates by Age Cohort, Georgia, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Rates are per 100,000 population.

Figure 79: Suicide, Age-Adjusted Death Rate by Sex, Northside Community and Georgia, 2016-2020

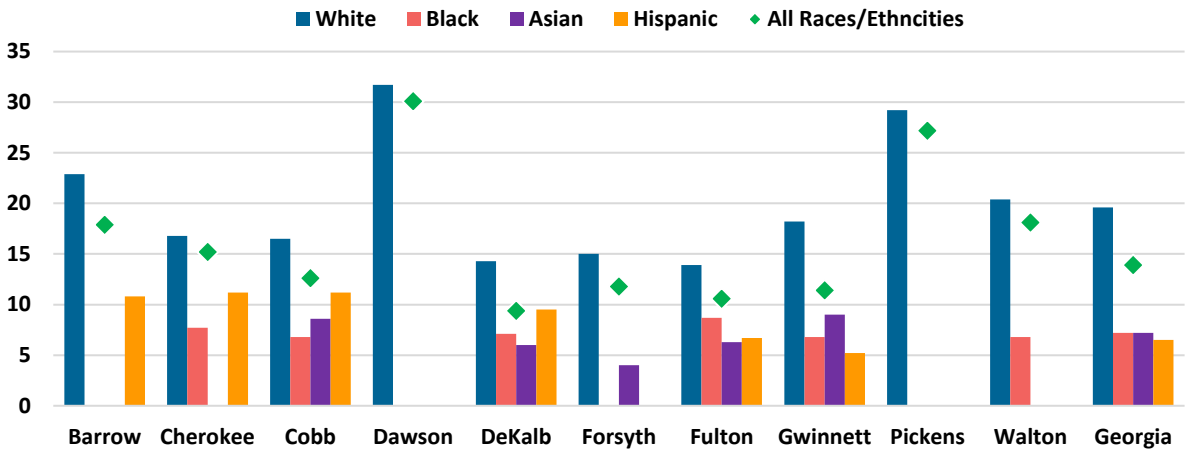


Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

As shown in **Figure 79,** males had significantly higher age-adjusted death rates due to suicide than females in all ten counties in the Community and in Georgia. Five counties in the Community had rates among the male population that were higher than Georgia's male population rate and five counties had rates that were higher among the female population than Georgia's female population rate.

Within the Northside Community, five counties had overall (all races/ethnicities) rates that were higher than the state's rate and Dawson and Pickens Counties had significantly higher overall rates than any other county in the Community. When considering race and ethnicity, the White population had the highest rate in all ten of the Community's counties and in Georgia.

Figure 80: Suicide, Age-Adjusted Death Rates, Northside Community and Georgia, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

Substance Use Disorder

According to the Substance Abuse and Mental Health Services Administration (SAMHSA) (2020), there were 23,465 people enrolled in a substance abuse treatment program in Georgia during a single-day count in 2019. Among those enrolled, 66.7% were in treatment for a drug problem, 9.7% were enrolled for an alcohol problem, and 23.6% were enrolled for both drug and alcohol problems (Substance Abuse and Mental Health Services Administration, 2020). It was estimated that in 2018 only 11.1% of those 12 years or older in need of substance abuse treatment had received treatment at a specialty program during the last 12 months (Substance Abuse and Mental Health Services Administration, 2020). Risk factors for substance use disorder include:

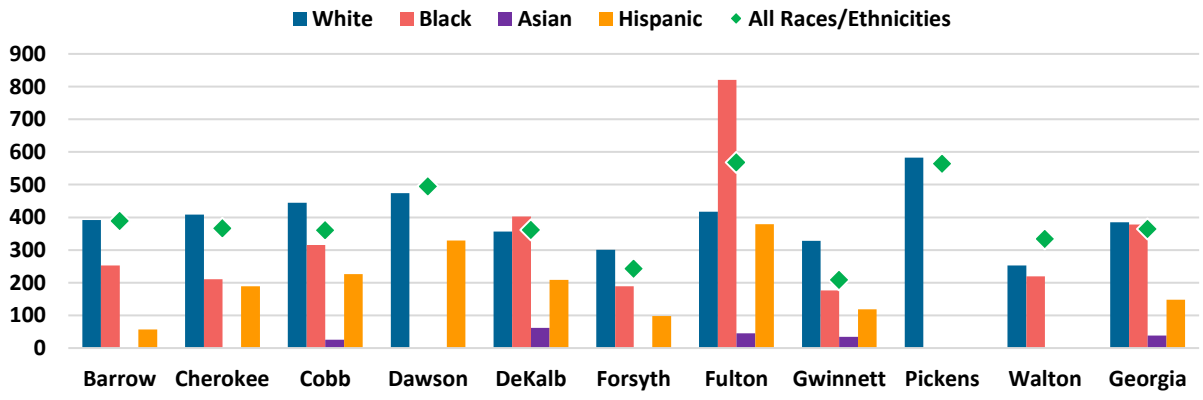
- Mental health disorder[2]
- Lack of family involvement[2]
- Peer pressure[2]
- Traumatic life experiences[3]
- Using drugs at an early age[2]
- Taking a highly addictive drug[2]
- Family history of addiction[2]

[2] Source: Mayo Clinic, Drug Addiction (Substance Use Disorder), 2022
[3] Source: International Society for Traumatic Stress Studies, 2021

ER Visits Related to Drug Use

Between 2016 and 2020, in the Northside Community there were 81,690 ER visits for mental and behavioral disorders related to drug use, making up 42% of Georgia's total during this time period (Georgia Department of Public Health, 2016-2020). Emergency room visit rates for mental and behavioral disorders related to drug use are included in **Figure 81.** Fulton and Pickens Counties had the highest overall (all races/ethnicities) rates in the Community. When considering race and ethnicity, the White population had the highest rate in Georgia and in eight of the Community's counties while Fulton County's Black population had a significantly higher rate compared to any other race or ethnicity in the Community's other nine counties or in Georgia.

Figure 81: Mental & Behavioral Disorders Related to Drug Use, Age-Adjusted ER Visit Rates by Race and Ethnicity, Northside Community and Georgia, 2016-2020



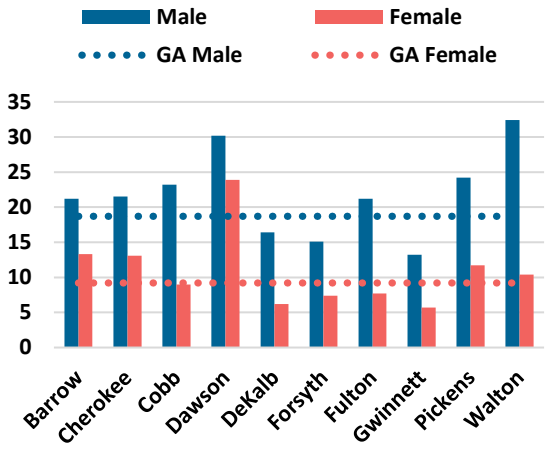
Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

Accidental Poisonings

Accidental poisonings include any deaths due to poisonings or exposure to noxious substances aside from those involving a homicide or suicide. Poisoning due to drugs comprises 94% of the total and poisoning due to alcohol comprises 4% of the total (Georgia Department of Public Health, 2016-2020).

Compared to females, males had higher death rates due to accidental poisoning in all ten counties within the Community and in the state **(Figure 82) (Next page)**. Seven counties within the Community had higher rates among the male population than the state's male rate of 18.7

Figure 82: Accidental Poisonings, Age-Adjusted Death Rate by Sex, Northside Community and Georgia, 2016-2020



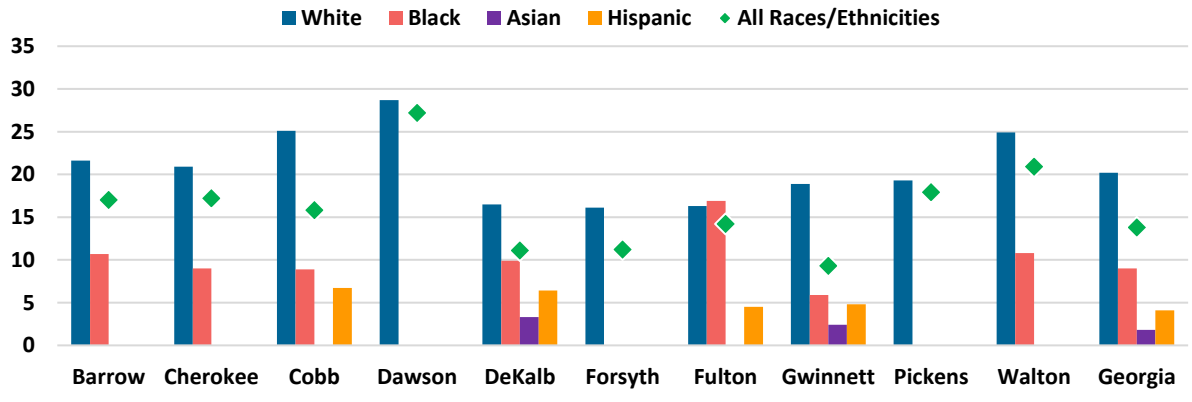
Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

and five counties within the Community had higher rates among the female population than the state's female rate of 9.2.

> "Drug overdose deaths are a national public health emergency."
>
> - Healthy People 2030

Within the Northside Community, Dawson County had the highest death rate (27.2) due to accidental poisonings followed by Walton County (20.9). Seven out of the ten counties in the Community had rates that were higher than Georgia's rate of 13.8 deaths per 100,000 population. When considered by race and ethnicity, the White population had significantly higher death rates due to accidental poisoning when compared to the Black, Asian, and Hispanic populations **(Figure 83)**.

Figure 83: Accidental Poisonings, Age-Adjusted Death Rates by Race and Ethnicity, Northside Community and Georgia, 2016-2020



Source: Georgia DPH OASIS, 2016-2020
Note: Age-adjusted rates are per 100,000 population.

Excessive Drinking

The physical effects of alcohol misuse on the body include increased risk of liver disease, heart disease, depression, stroke, stomach bleeding, and certain types of cancers. Alcohol misuse can also make managing certain health conditions like diabetes, high blood pressure, pain, and sleep disorders more difficult. Lastly, alcohol consumption is also associated with increased risk of drowning, injuries from violence, falls, and motor vehicle accidents (National Institute on Alcohol Abuse and Alcoholism, 2021).

Binge Drinking: Woman consuming more than 4 or man consuming more than 5 alcoholic drinks during single occasion

Heavy Drinking: Woman drinking more than 1 or man drinking more than 2 alcoholic drinks on average per day

Table 14: Excessive Drinking, Percentage Reporting Binge or Heavy Drinking in Past 30 Days, Northside Community and Georgia, 2018

Geography	Percentage
Georgia	17%
Dawson	20%
Fulton	20%
Cherokee	19%
Cobb	19%
Pickens	19%
DeKalb	18%
Forsyth	18%
Barrow	17%
Gwinnett	17%
Walton	16%

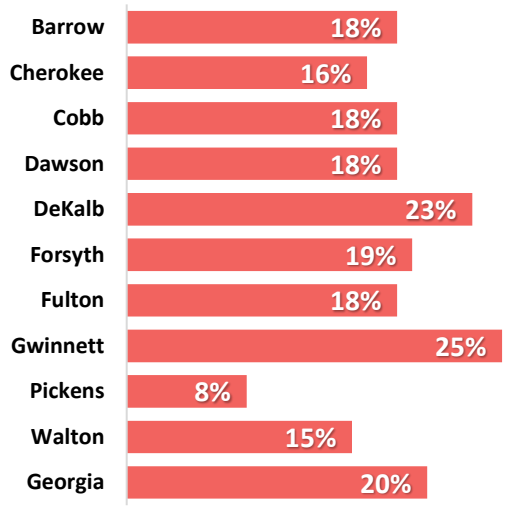
Source: CDC BRFSS, 2018. Additional analysis by countyhealthrankings.org.

Excessive drinking includes the percentage of a county's surveyed population that reported either binge or heavy drinking in the past 30 days (County Health Rankings & Roadmaps, 2021). As displayed in **Table 14,** Dawson and Fulton Counties had the highest rates at 20%. Seven counties in the Community had rates that were higher than Georgia's rate of 17%.

Alcohol Impaired Driving Deaths

According to County Health Rankings (2021), alcohol-impaired driving deaths (percent of total motor vehicle crash deaths that were alcohol related) accounted for between 8% and 25% of motor vehicle crash deaths between 2015 and 2019 in the Northside Community's ten counties (County Health Rankings & Roadmaps, 2021). Percentages for the Community and Georgia are displayed in **Figure 84.** Gwinnett County had the highest rate of driving deaths that were alcohol-related at 25%, followed by DeKalb County at 23%. These two counties also had rates that were higher than Georgia's rate of 20%. Pickens County had a significantly lower rate compared to the Community's other counties at 8%.

Figure 84: Alcohol Impaired Driving Deaths, Percent, Northside Community and Georgia, 2015-2019



Source: Fatality Analysis Reporting System, 2015-2019.
Additional analysis by countyhealthrankings.org.

Community Stakeholders

NORTHSIDE HOSPITAL

PART V: COMMUNITY STAKEHOLDERS

Process for Identifying Stakeholders

Stakeholder interviews provided additional insight into the health needs of the Community for this CHNA. Northside identified individuals in the Community who could provide a unique perspective and connection to the Community and its members' health needs. Northside made specific efforts to identify stakeholders with special knowledge of or expertise in public health. After identifying stakeholders to interview, Northside developed the Stakeholder Assessment Discussion Guide, a copy of which is included in Appendix A. This guide was used to lead a discussion with each stakeholder to learn about the needs and resources within the Northside Community. For this process, Northside reached out to 65 stakeholders, including representatives from several county-level public health departments in the Community. This outreach effort resulted in the completion of 24 stakeholder interviews. **Table 15** summarizes the completed stakeholder interviews by organization and type.

Table 15: Summary of Stakeholder Interviews

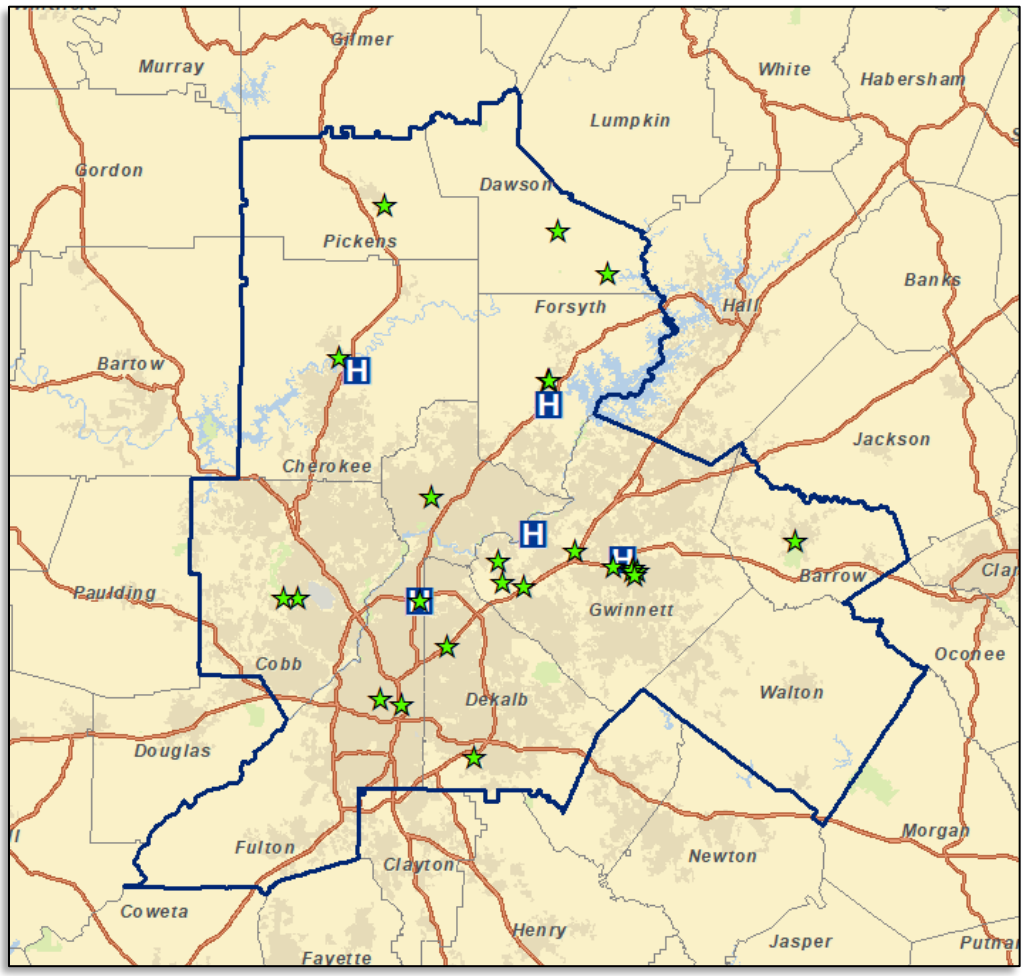
Safety Net Clinics	Community Organizations	Health Departments
CIMA International Women's Services	Atlanta Cancer Care Foundation	Cobb and Douglas Public Health
Georgia Highlands Medical Services	Crossroads Atlanta	Department of Public Health – Northeast Georgia
Good Samaritan Atlanta	Dawson Family Connection	Gwinnett, Newton, & Rockdale Health Departments – Gwinnett County
Good Samaritan Cobb	HealthMPowers	
Good Samaritan Gwinnett	Healthy Mothers, Healthy Babies Coalition of Georgia	
Good Samaritan Health & Wellness Center	Gwinnett Coalition	
Hope Clinic	Navigate Recovery	
MedLink – Gwinnett	Next Generation Youth Development	
Medshare	North Fulton Community Charities	
View Point Health		
United Way Forsyth		

PART V: COMMUNITY STAKEHOLDERS

Description of Our Participating Stakeholders

The map below is a general representation of the various Community stakeholders from whom Northside sought input during the CHNA process. The map includes the stakeholders' office locations; however, many of the stakeholders served communities and populations beyond their direct location or home-county. Thus, the map is not intended to be a literal representation of the population served by the stakeholders interviewed. **Table 16** provides a summary of each stakeholder's mission and population served.

Figure 85: Northside Community Stakeholder Locations



Northside sought stakeholders who represent the medically underserved, uninsured, and disparate populations within the Community. Northside conducted two separate rounds of interviews via phone and email. One round of interviews occurred between February 2021 – March 2021 and the next round between October 2021 – December 2021.

PART V: COMMUNITY STAKEHOLDERS

Table 16: Northside Community Stakeholder Summaries

Type	Organization	Stakeholder's Title	Geographic Area Focus for Interview	Mission
Community Organization	Atlanta Cancer Care Foundation	Executive Director	CHNA Community	To assist adult cancer patients in the Metro Atlanta area through: • financial assistance to those financially challenged by cancer • funding for professional and public education regarding cancer related issues • funding cancer research
Safety Net Clinic	CIMA International Women's Services	CEO/Owner	DeKalb County	CIMA offers a friendly hand to pregnant women and their families. We offer the finest maternity and family planning services utilizing the highest medical standards in America and the facilities of the best woman's hospital in Atlanta. CIMA loves what it does and is committed to your care during this special time in the life of your family—the time of pregnancy and parenthood regardless of income, insurance, citizenship, ethnic or national origin, or immigration status. CIMA believes and treats its patients with care and respect.

(continued on next page)

Table 16 (continued)

Type	Organization	Stakeholder's Title	Geographic Area of Focus for Interview	Mission
Health Department	Cobb and Douglas Public Health	Deputy Director, Director of Epidemiology and Infectious Diseases, Health Equity and Community Engagement Director (3 representatives)	Cobb County	Cobb & Douglas Public Health, with our partners, promotes and protects the health and safety of the residents of Cobb and Douglas counties. We work to achieve healthy people in healthy communities by: • Preventing epidemics and spread of disease • Protecting against environmental hazards • Preventing injuries • Promoting and encouraging healthy behaviors • Responding to disasters and assisting in community recovery • Assuring the quality and accessibility of health care By excelling at our core responsibilities, we will achieve healthier lives and a healthier community.
Community Organization	Crossroads Atlanta	Case Manager	Fulton County	Crossroads Community Ministries seeks to provide access to resources that empower people experiencing homelessness to progress on the road toward economic and personal stability.
Community Organization	Dawson Family Connection	Coordinator	Dawson County	Providing leadership through collaboration with all segments of the community for the well-being of families and children.
Health Department	Department of Public Health – Northeast Health District	Program Manager	Barrow County	The goal of the Nort0303heast Health District is to offer free or low-cost services to all people within our area and to promote healthy lifestyles among all member of our community.
Safety Net Clinic	Georgia Highlands Medical Services	CEO	Cherokee, Dawson & Forsyth Counties	We are committed to serving all people with compassion, dignity, and integrity while providing excellent, affordable and integrated health care.

Table 16 (continued)

Type	Organization	Stakeholder's Title	Geographic Area of Focus for Interview	Mission
Safety Net Clinic	Good Samaritan Atlanta	CEO	DeKalb & Fulton Counties	Spreading Christ's love through quality healthcare to those in need.
Safety Net Clinic	Good Samaritan Cobb	CEO	Cobb County	To spread the love of Christ by providing quality healthcare to those in need.
Safety Net Clinic	Good Samaritan Gwinnett	Executive Director	Gwinnett County, North Metro Atlanta Area	Demonstrate the love of Christ through providing quality, affordable, and accessible health and dental services to the poor and uninsured.
Safety Net Clinic	Good Samaritan Health & Wellness Center	Development and Communications Director	Pickens County	The mission of Good Samaritan Health and Wellness Center is to provide quality, compassionate, and complete healthcare for all in an atmosphere of dignity and respect.
Community Organization	Gwinnett Coalition	Executive Director	Gwinnett County	Drive positive community impact.
Health Department	Gwinnett, Newton, & Rockdale Health Departments	Performance Management and Community Health Director	Gwinnett County	To protect and improve the health of our community by monitoring and preventing disease; promoting health and well-being; and preparing for disasters.
Community Organization	Healthy Mothers, Healthy Babies Coalition of Georgia	Executive Director & CEO, Research and Policy Analyst	CHNA Community	To improve maternal and infant health through advocacy, education, and access to vital resources.
Community Organization	HealthMPowers	Program Director & Programs Officer	CHNA Community	Empowering healthy habits and transforming environments where children live, learn, and play.
Safety Net Clinic	Hope Clinic	Executive Director	Gwinnett County	To provide the very highest quality of medical care to those with unlimited or no access to healthcare, and to treat each patient with the utmost respect and kindness without regard to language, national origin, religion, or ability to pay.

Table 16 (continued)

Type	Organization	Stakeholder's Title	Geographic Area of Focus for Interview	Mission
Safety Net Clinic	MedLink – Gwinnett	Operations Support Specialist and Physician	Gwinnett County	To partner with patients to support their wellness through compassionate quality care.
Safety Net Clinic	MedShare	CEO & President	Cobb, DeKalb, & Fulton Counties	MedShare is a 501c(3) humanitarian aid organization dedicated to improving the quality of life of people, communities and our planet by sourcing and directly delivering surplus medical supplies and equipment to communities in need around the world.
Community Organization	Navigate Recovery	Co-Founders	Gwinnett County	To serve individuals and families impacted by addiction, connecting them to the resources they need and removing barriers that prevent them from getting and staying well.
Community Organization	Next Generation Youth Development	Development Director	Dawson County	To close the opportunity gap for under-resourced students in Atlanta through exposure and support to graduate prepared for college and career.
Community Organization	North Fulton Community Charities	Executive Director	Fulton County	To help ease hardship and foster financial stability in our community.
Safety Net Clinic	View Point Health	Executive Board	Gwinnett County	To protect and improve the health of our community by monitoring and preventing disease; promoting health and well-being; and preparing for disasters.
Safety Net Clinic	United Way of Forsyth	Executive Director	Dawson & Forsyth Counties	To improve lives in our community by mobilizing the caring power and spirit of our citizens.

Summary of Stakeholder Input

The following sections summarize the stakeholders' responses to the Stakeholder Assessment Discussion Guide. A thematic analysis was performed to analyze the interview sessions in aggregate. While the stakeholders provided a wide range of responses to all questions, there were several recurring themes or sentiments that were mentioned more frequently than others. The thematic analysis allowed frequencies to be applied to the recurring themes. Frequencies represent the total number of times a particular theme arose, versus the number of unique respondents. For example, many of the questions were phrased to have the respondent name the top three factors within the stakeholder's community. If the respondent named three unique economic factors, the frequency of the theme "economic" was counted three times. This methodology was chosen to illustrate the relative importance of a category versus a respondent count. The stakeholders' responses are summarized throughout the next sections based on the question that was asked.

Positive Health Assets

Stakeholders were asked "What are the top three factors or assets that positively impact the health of the community you serve?" This question was designed to identify areas of strength currently existent within the stakeholder's community. Additionally, by identifying areas of strength within the Community, possible areas for collaboration between organizations in the Community could be formed. **Table 17** illustrates the frequency of the stakeholders' responses.

Table 17: Positive Factors/Assets Impacting Health

Themes	Frequency
Community Org Partnerships & Collaboration	15
Abundance of Healthcare Resources	13
Green Space/Parks & Rec	8
Access to Primary/Preventive Care	5
Healthy Lifestyle Behaviors	4
Local Hospitals	4
Social Support	3
Access for Uninsured/Indigent	2
Affordable Housing/Cost of Living	2
Financial Resources	2
Financial Solvency/Funding Opportunities	2
Health Education Resources/Efforts	2
Resources for Homeless	1
Food availability	1
Transportation	1

PART V: COMMUNITY STAKEHOLDERS

Community organization partnerships and collaboration was the most commonly discussed asset within the Northside Community. Abundance of resources and access to primary/preventive care were also among the most commonly mentioned assets. Most participants noted their partnerships with Northside, as well as with other organizations in the Community, as essential components to their ability to serve.

Respondents also considered the green space/parks and recreation resources and healthy lifestyle behaviors in the Community as top assets positively impacting the health of the Community.

One stakeholder mentioned that there are a lot of non-profits doing good work in the community and that there has been continued improvement in collaboration between organizations.

Negative Health Factors

Stakeholders were asked, "What are the top three factors/hindrances that negatively impact the health of the community you serve?" This question was intended to assess what the stakeholder thought the most pressing health needs in their community were, as well as help prioritize these factors. The responses are represented in the following table:

Table 18: Negative Factors/Hindrances Impacting Health

Themes	Frequency
Transportation	10
Poverty/Lack of Financial Resources	9
General Lack of Access to Healthcare/Gaps in Accessibility	6
Increased Cost of Living/Lack of Affordable Housing	6
Lack of Access to Healthy Foods	5
Lack of Access to Mental Health Services	5
Lack of Health Insurance	5
Social Determinants of Health	5
Lack of Translation Services and Cultural Competency	4
Poor Health Literacy	3
Lack of Services Available for Uninsured/Indigent	3
Lack of Access to Primary/Preventive Care	3
Stigma (Mental Health/Addiction)	3
Challenges Navigating the Healthcare System	2
Provider Trust and Implicit Bias	2
Lack of Specialty Providers/Services for Uninsured/Indigent	2
Inability to Take Time Off Work/Scheduling Challenges	2
Lack of Healthy Lifestyle Behaviors	1
Long Commute	1
Physical Environment/Crime Rate	1
Postponed Healthcare Services Due to COVID	1
Lack of Sidewalks/Parks & Rec	1
Lack of Access to Specialty Care/Surgery	1
Lack of Awareness/Knowledge of Resources	1
Lack of Prenatal and Postpartum Support	1
Lack of Social Support for Immigrant Population	1
Mental/Behavioral Health & Addiction	1

Responses to this question largely focused on SDOH (access to health resources, socioeconomic conditions, and transportation options) versus health outcomes (chronic diseases, illnesses, death). Transportation was the most commonly mentioned hindrance followed by poverty/lack

of financial resources. While access to primary/preventive care was mentioned as an asset by some stakeholders, general lack of access to healthcare/gaps in accessibility was mentioned as a negative factor by others. Lack of access to mental health services and lack of insurance were also identified by stakeholders as a top hindrance for Community members.

Increased cost of living and lack of access to resources such as affordable housing and healthy foods, along with SDOH in general, were also mentioned as hindrances commonly impacting the health of the Community. Many of the negative health factors are strongly interconnected, illustrating the complexity of issues leading to negative health outcomes in the Community.

Several stakeholders representing multiple counties mentioned increased cost of living and lack of affordable housing in the area as a negative factor impacting community members.

Another stakeholder mentioned that there is only one public transportation option in the area where their organization is focused and that it is overloaded, has to be scheduled ahead of time, and that drop-off and pick-up times are unreliable.

Physical Health Needs

Stakeholders were asked, "Could you describe and prioritize the top three physical health needs that negatively impact the health of the community members you serve." This question was intended to identify the major physical health needs (health outcomes) within the Community.

Table 19: Physical Health Needs/Concerns

Themes	Frequency
Heart Disease/Hypertension	22
Mental/Behavioral Health & Addiction	19
Diabetes	15
Obesity	7
Respiratory Disease	4
Cancer	2
Chronic Diseases	2
Modifiable Risk Factors (smoking)	2
Oral Health	2
HIV	2
Embolisms	1
Hep C (in IV drug users)	1
PTSD (post COVID)	1
Stroke	1
Thyroid Issues	1
Nutrition	1
Tuberculosis	1
STIs	1

Stakeholders identified heart disease/hypertension, mental/behavioral health and addiction, and diabetes as the top three health needs within the Community. Many stakeholders also acknowledged the interconnectedness of these needs, and how one of the conditions can easily cause or exacerbate one of the others.

Barriers to Accessing Primary/Specialty Healthcare

Stakeholders were asked, "Can you identify any barriers that community members face in obtaining healthcare services (e.g., preventive/routine, specialty)?" This question was asked to identify barriers to access within the Community. Many of the barriers to care were initially discussed as a negative health factor and further expounded upon during discussions surrounding this question.

Table 20: Barriers to Care

Themes	Frequency
Transportation	14
Insurance-Related Barriers	10
Lack of Specialty Providers/Services	8
Inability to Pay	7
Lack of Care Coordination	6
Lack of Services Available for Uninsured/Indigent	6
Scheduling-Related Barriers or Lack of Childcare	5
Lack of Access to Primary/Preventive Care	3
Lack of Knowledge/Awareness of Available Resources	3
Provider Trust/Implicit Bias/Culturally Competent Care	3
Lack of Access to Chronic Disease Management	2
Language Barriers	2
Distance to Healthcare Facilities	2
Lack of Documentation	2
Poor Health Literacy	2
Lack of Preventive/Awareness Events (due to COVID)	1
Poverty/Lack of Financial Resources	1
Fear of a Diagnosis	1
Distrust of Healthcare System	1
Social Determinants of Health	1
Generational Patterns (Health Issues & Poverty)	1

Transportation was the most frequently mentioned barrier to care. Insurance-related barriers was the second most common response, and includes factors such as quality of insurance, lack of coverage, and challenges for Medicaid enrollees. Lack of specialty care providers and services was also mentioned by stakeholders. Inability to pay was mentioned as another common challenge that Community members encounter when trying to obtain healthcare services.

One stakeholder shared that services are available to identify issues but when it comes to referrals to resources for next steps there are challenges navigating within the confines of the individual's circumstances (e.g., financial situation, location).

Another stakeholder shared about a homeless patient who was discharged from the hospital to an emergency shelter following a stroke, but the patient was unable to stay at the shelter because it was out of space. The patient was supposed to follow-up with a stroke program but the hospital was unwilling to help because the patient was outside of the post-care window of two weeks.

PART V: COMMUNITY STAKEHOLDERS

Vulnerable Populations

Many of the stakeholders that were interviewed for Northside's CHNA work directly with vulnerable/disparate populations within the Community. Each stakeholder was asked, "Would you consider any population within your community to be vulnerable or disparate?" This question was designed to identify the vulnerable populations within the Northside Community and subsequent questions were then asked to gain an understanding of this population's unique health needs. The way stakeholders defined "disparate/vulnerable population" is summarized in **Table 21**.

Table 21: Description of Vulnerable Populations

Themes	Frequency
Low-income/Fixed-income	11
Immigrants	9
Seniors	9
Persons with Mental Illness/Substance Abuse	8
Homeless/Housing Insecure	8
Uninsured/Under-insured	6
Hispanic/LatinX	6
People of Color	5
Rural Communities	5
Black	4
Non-English Speaking/ESOL	4
Disabled	3
High School/Young Adult	2
Single Parent Families	2
Food Insecure	1
LGBTQ+	1
Persons with Transportation Challenges	1
Those Who Travel Outside of County for Work	1
Veterans	1
Hmong (Barrow)	1
COVID-Affected	1
Guatemalan (Cherokee)	1
Domestic Violence/Child Assault Victims	1
Recently Incarcerated	1

Stakeholders were asked if they considered the top negative factors/hindrances impacting the health of the vulnerable to be different than those for the broader community. Their responses are listed in **Table 22**.

Table 22: Negative Factors/Hindrances Impacting Health of the Vulnerable

Themes	Frequency
Transportation	6
Poverty/Lack of Financial Resources	6
Poor Health Literacy	5
General lack of access to healthcare/gaps in accessibility	5
Lack of Health Insurance	5
Social Determinants of Health	4
Lack of Translation Services and Cultural Competency	3
Mental/Behavioral Health & Addiction	3
Long Commute	2
Provider Trust and Implicit Bias	1
Stigma (Mental Health/Addiction)	1
Lack of Access to Mental Health Services	1
Lack of Healthy Lifestyle Behaviors	1
Physical Environment/Crime Rate	1
Postponed Healthcare Services Due to COVID	1
Lack of Specialty Providers/Services for uninsured/indigent	1
Lack of Sidewalks/Parks & Rec	1
Lack of Access to Primary/Preventive Care	1
Homelessness	1
Lack of Awareness/Knowledge of Resources	1
Unhealthy Diet/Poor Nutrition	1
Lack of Educational Opportunities	1

Most stakeholders stated that they considered the negative health factors for the vulnerable population to be the same as the general population's, but often at a more severe or pronounced level. One negative factor that was much higher on the list for the vulnerable population in comparison to the broader community is poor health literacy. Based on the analysis, transportation and poverty/lack of financial resources were the top two factors negatively influencing the health of vulnerable populations within the Community.

One stakeholder mentioned that factors related to lack of permanent housing such as inconsistent contact information (changing phone numbers) and lack of documentation can make follow-up difficult.

Another stakeholder shared that many women "wait it out" and do not get necessary prenatal care due to accessibility issues. This same stakeholder also mentioned that there are many poor Hispanic children who do not receive pediatric primary care services due to lack of pediatricians that accept Medicaid.

Similarly, stakeholders were asked if they considered the physical health needs of the vulnerable populations they mentioned to be different than the overall population. Their responses are displayed in **Table 23**.

Table 23: Physical Health Needs/Concerns of the Vulnerable

Themes	Frequency
Mental/Behavioral Health & Addiction	13
Heart Disease/Hypertension	11
Diabetes	7
Obesity	6
Cancer	2
Respiratory Disease	2
Chronic Diseases	2
Nutrition	2
Oral Health	2
Embolisms	1
Stroke	1
Cancer Care Coordination	1
STIs	1
Modifiable Risk Factors (smoking)	1
Alzheimer's Disease	1

The top physical health concerns among the vulnerable were very similar to those of the overall population, but in slightly different order. Mental/behavioral health and addiction was the most frequently mentioned concern for the vulnerable population. Cancer care coordination, nutrition, and Alzheimer's disease were the only themes not mentioned for the general population.

One stakeholder mentioned that the most vulnerable populations may not have access to healthy foods and that most food banks are stocked primarily with carbohydrates.

Additional Stakeholder Comments

In addition to the formalized questions, each discussion ended with an opportunity for the stakeholder to share any additional thoughts or comments regarding the health status of their community that had not been discussed during the interview. Many stakeholders took this opportunity to mention health needs they saw in the Community, but they had not ranked in the "top three."

One stakeholder took this opportunity to reemphasize the importance of mental health support for new mothers.

One stakeholder mentioned resources and education for teens surrounding sexual health. This stakeholder referred to restrictions surrounding what schools are able to cover, birth control options for teens without parent permission, and cultural barriers that may prevent this topic from being discussed within the home.

One stakeholder mentioned that there are eligibility challenges when a person's income may deem them ineligible for certain programs but in reality they may not be as financially secure as they appear on paper, specifically in terms of long-term treatment.

Two stakeholders reemphasized upstream issues impacting health of the Community such as housing issues, environmental health, government, and SDOH.

Another mentioned the limitations of medical practice laws in the state which restricts ability of advanced practice providers (APPs) to deliver medicine.

Opportunity for Public Comment

In addition to conducting stakeholder interviews, Northside provided an opportunity for members of the general public to provide continued feedback on the Northside Hospital FY 2019-2021 CHNA. Northside published its FY 2019-2021 CHNA on its website and also created a dedicated email, Northside.chna@northside.com, so that members of the public could provide feedback on the prioritized health needs. The email address is prominently listed in its FY 2019-FY 2021 CHNA. To-date, no emails have been received.

Needs Prioritization

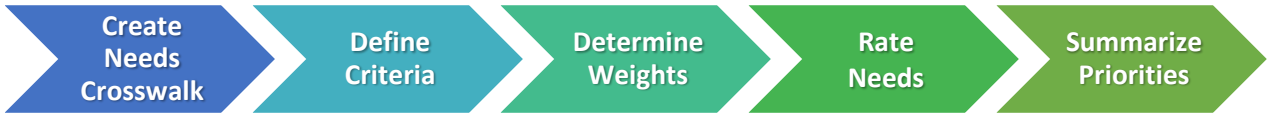
NORTHSIDE HOSPITAL

PART VI: NEEDS PRIORITIZATION

Our Prioritization Process

Northside developed a 5-step process for prioritizing the health needs identified through this CHNA as illustrated in **Figure 86** and described throughout this section.

Figure 86: Northside's Hospital System's Community Health Needs Prioritization Process



Step 1: Create a Crosswalk of all the Identified Needs

An array of health needs was identified through Northside's CHNA process. Oftentimes, the needs overlapped in meaning, support, and populations affected. With 33 needs identified, Northside grouped these needs into 15 categories with two broader health need classifications to assist with strategy development. These two overarching need classifications are called Health Outcomes and SDOH. SDOH are upstream issues that have an impact on the downstream health outcomes. We identified nine health outcomes and six SDOH.

The list is provided in **Table 23**.

Table 23: Northside's FY 2022-FY 2024 CHNA Needs Categories

Health Outcomes (9)	Social Determinants of Health (6)
1. Access to Care* 2. Behavioral Health and Substance Use Disorders 3. Diabetes and Obesity 4. Cardiovascular 5. Healthy Lifestyle Behaviors 6. Respiratory Disease and Smoking 7. Cancer 8. Maternal and Infant Health 9. HIV/AIDs	1. Transportation 2. Poverty/Income 3. Language and Culture 4. Poor Health Literacy 5. Affordable Housing/Homelessness 6. Physical Environment and Crime

PART VI: NEEDS PRIORITIZATION

*Access to Care was included in Health Outcomes need category due to the direct impact Northside has on access to care issues as it related to clinical interventions. Access to Care is multidimensional and includes other issues like poverty, transportation, health literacy, etc. that are classified as SDOH.

Numerous stakeholder feedback centered on SDOH and how addressing these would improve overall health outcomes. To improve health outcomes, we must understand what specific upstream SDOH concerns are impacting these health outcomes, so that we can tailor our strategies and interventions to best meet the needs of our community's most vulnerable and disparate populations. Rather than focusing on addressing a SDOH on an individual basis as an identified need, we will include SDOH as strategies to improve our interventions in addressing the "health outcome based" identified needs. See **Table 24** flowchart of this concept.

Table 24: Northside's FY 2022-FY 2024 CHNA Needs Categories: Flow Chart to Programs and Interventions

Health Outcomes	Social Determinants of Health as Strategies to Improve Health Outcomes	Programs and Interventions
1. Access to Care* 2. Behavioral Health and Substance Use Disorders 3. Diabetes and Obesity 4. Cardiovascular 5. Healthy Lifestyle Behaviors 6. Respiratory Disease and Smoking 7. Cancer 8. Maternal and Infant Health 9. HIV/AIDs	➢ Transportation ➢ Poverty/Income ➢ Language and Culture ➢ Poor Health Literacy ➢ Affordable Housing/ Homelessness ➢ Physical Environment and Crime	

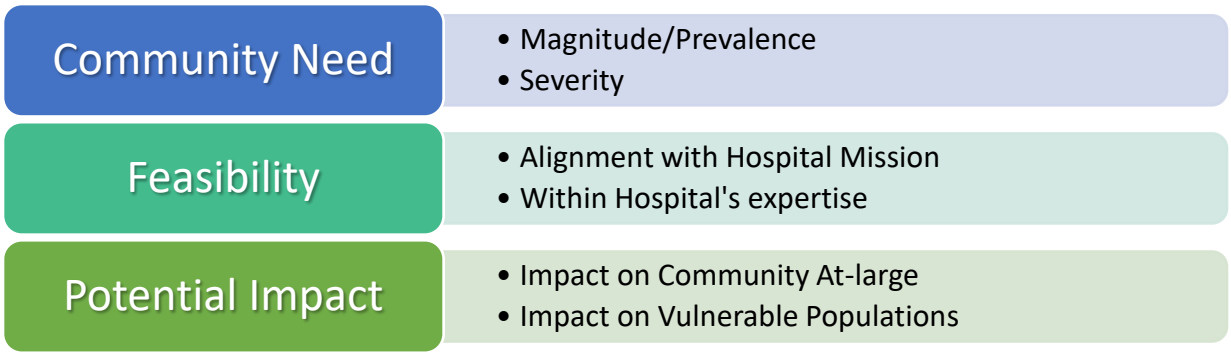
Step 2: Define the criteria used to guide the ranking process

After researching the various methodologies for establishing the criteria against which the identified needs would be scored, Northside adopted the Catholic Health Association's ("CHA") guidance (Catholic Health Association of the United States, 2015 Edition II). According to CHA, examples of criteria include:

1) Magnitude. The magnitude of the problem includes the number of population impacted by the problem.
2) Severity. The severity of the problem includes the risk of morbidity and mortality associated with the problem.
3) Historical trends.
4) Alignment of the problem with the organization's strengths and priorities (mission).
5) Impact of the problem on vulnerable populations.
6) Importance of the problem to the community.
7) Existing resources addressing the problem.
8) Relationship of the problem to the other community issues.
9) Feasibility of change, availability of tested approaches.
10) Value of immediate intervention versus any delay, especially for long-term or complex threats (Catholic Health Association of the United States, 2015 Edition II).

For Northside's prioritization process, Northside elected to focus on the criteria presented in **Figure 87.**

Figure 87: Northside Hospital's CHNA Ranking Criteria FY 2022-2024



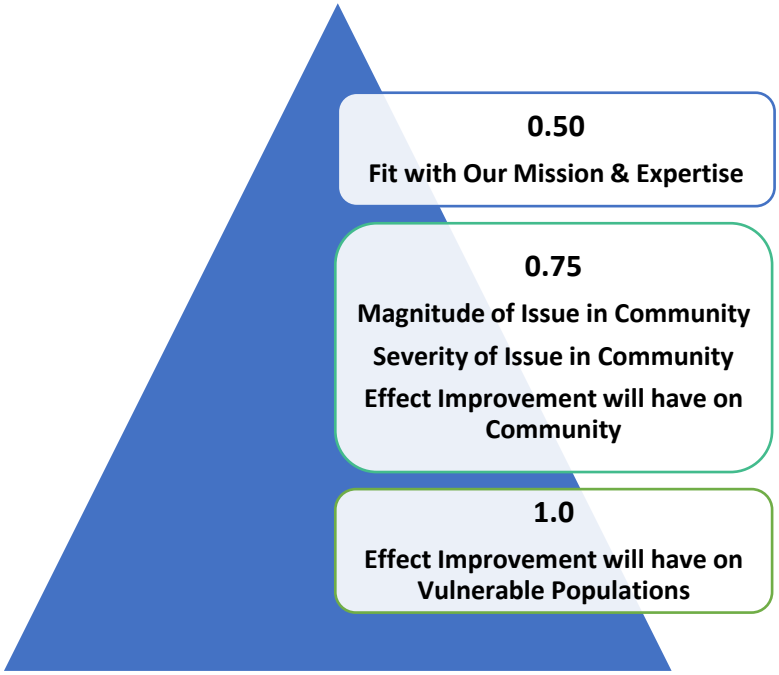
Step 3: Determine the weight of each criterion

Based on the CHA guidance, Northside researched ranking methodologies and decided to utilize the National Association of County and City Health Officials ("NACCHO") for guidance regarding the common practices used by county and city health departments for prioritizing the needs in their communities. NACCHO outlined five commonly used prioritization techniques:

1) Multi-Voting Technique
2) Strategy Grids
3) Nominal Group Technique
4) The Hanlon Method
5) Prioritization Matrix

Northside adopted the prioritization matrix methodology given the number of prioritization criteria selected and the number of community needs identified. This methodology assisted Northside in prioritizing the health needs which will have the greatest impact on the Community. Northside's weight assignment to the prioritization criteria is provided in **Figure 88.**

Figure 88: Northside's CHNA Prioritization Criteria Weight Assignment



Step 4: Create a Community Health Profile presentation to assist with prioritization

A Community Health Profile was created to highlight the demographics, morbidity, mortality, and health status within the Northside Community. This was somewhat of a precursor to the CHNA report's data indicators and graphs. The Community Health Profile was presented to the Community Benefit Steering Committee to get them ready to assist with prioritization.

Step 5: Rate each identified need against the prioritization criteria using the Community Health Profile

Throughout the CHNA process, Northside compiled and analyzed a variety of quantitative and qualitative data from a myriad of sources. After thoughtful consideration of the prevalence, frequency, and severity of the identified needs combined with any disparities and disproportionate impact an identified need may have on vulnerable populations, Northside utilized health need scorecards to evaluate each need category against each prioritization criterion and assigned that need category a priority score of one through four. Each member of the Community Benefit Steering Committee (CBSC) filled out a scorecard, "CBSC Scorecard" that ranked each of the nine health needs (see **Table 25**).

1 = Not a Priority

2 = Low Priority

3 = Medium Priority

4 = High Priority

Table 25: CBSC Scorecard

Select a Ranking in the **Green boxes** (drop down):
1 - Not a Priority
2 - Low Priority
3 - Medium Priority
4 - High Priority

		1. Access to Care	2. Behavioral Health and Substance Use Disorders	3. Diabetes and Obesity	4. Cardiovascular	5. Healthy Lifestyle Behaviors	6. Respiratory Disease and Smoking	7. Cancer	8. Maternal and Infant Health	9. HIV/AIDs
Data Location (slide numbers)		21-24; 60-66	11-20; 67-77	29-32; 78-84	33-36; 85-92	37-40; 93-104	41-44; 105-110	45-49; 111-117	50-53; 118-126	54-57; 127-132
Step 1	**Assess the Magnitude of Issue in the Community (weight of 75%)**									
		0	0	0	0	0	0	0	0	0
Step 2	**Assess the Severity of Issue in the Community (weight of 75%)**									
		0	0	0	0	0	0	0	0	0
Step 3	**Does it Fit Within NH Mission/Expertise? (weight of 50%)**									
		0	0	0	0	0	0	0	0	0
Step 4	**Assess the Effect Improvement will have on Community (weight of 75%)**									
		0	0	0	0	0	0	0	0	0
Step 5	**Assess the Effect Improvement will have on Vulnerable Population (weight of 100%)**									
		0	0	0	0	0	0	0	0	0
Grand Total		0	0	0	0	0	0	0	0	0

PART VI: NEEDS PRIORITIZATION

Step 5: Summarize the identified needs according to the prioritization methodology employed

The table below summarizes the final prioritization score of each identified need. The priority score of each need (e.g., 1, 2, 3, or 4) is multiplied by the prioritization criterion's assigned weight (e.g., 0.50, 0.75, or 1.00); the results are then summed for the total priority score for each identified need. The results were further prioritized using a methodology that was inclusive of both the CBSC's and the Strategic Planning Department's CHNA health needs scorecards.

Table 26: Northside's FY 2022 – FY 2024 CHNA's Prioritization Total Score

1	Cancer	14.47
2	Cardiovascular	14.06
3	Maternal & Infant Health	13.86
4	Behavioral Health & Substance Use Disorders	13.58
5	Diabetes & Obesity	13.06
6	Access to Care	13.03
7	Healthy Lifestyle Behaviors	12.03
8	Respiratory Disease & Smoking	11.11
9	HIV/AIDS	8.97

PART VI: NEEDS PRIORITIZATION

The Needs Northside Will Address

Ideally, Northside would have unlimited resources to address all of the Community's identified needs. However, it is not realistic for any single organization to address all of a community's needs, hence the importance of prioritizing the identified needs. Northside selected those needs that impact the greatest number of population in the Community; those needs that disproportionately impact the most vulnerable populations; those needs that are most severe and/or prevalent; and those needs that Northside has the wherewithal to address.

Table 27: Northside's FY 2022-FY 2024 CHNA's Prioritization Total Score

1	Cancer	14.47
2	Cardiovascular	14.06
3	Maternal & Infant Health	13.86
4	Behavioral Health & Substance Use Disorder	13.58
5	Diabetes & Obesity	13.06
6	Access to Care	13.03
7	Healthy Lifestyle Behaviors	12.03
8	Respiratory Disease & Smoking	11.11
9	HIV/AIDS	8.97

The CHNA priorities in FY 22 - FY 24 differed in order of priority compared to FY 19 - FY 21 CHNA. While Cancer and Cardiovascular remained the top two priorities from both CHNA cycles, Behavioral Health & Substance Use Disorder moved up the priority list from number seven (in the previous CHNA cycle) to number four in the current. Maternal and Infant Health moved from number four to number three. Healthy Lifestyle Behaviors did not make the priority list in FY 22 - FY 24 due to the direct correlation with Diabetes and Obesity. A lot of the movement of priorities can be attributed to the impact of COVID-19 on these health outcomes. COVID -19 exacerbated a lot of social determinants of health which made it more difficult for individuals to access care at the appropriate time.

The Needs Northside Will Not Address

For the reasons explained above, Northside is unable to address all of the identified community needs at this time due to limited resources, magnitude/severity of the issue, or the presence of existing resources already in place to address the need.

1) Healthy Lifestyle Behaviors
2) Respiratory Disease & Smoking
3) HIV/AIDS

Available Resources in Our Community

There are a rather sizeable number of existing and available resources in the Community to help meet the identified needs of Community members. This abundance of existing resources is not surprising given that the majority of Northside's Community is located in a densely populated metropolitan area. A summary of the number of resources in the Community is provided in **Table 28.** The community resources identified by Northside were divided into groups based on the health needs found in the Community, several categories were combined.[4]

Table 28: Count of Existing Resources

Resource Category	Need Category	Count
National & Local Cancer Resources Cancer Resources Offering Free Screenings	Cancer	21
Cardiovascular Resources	Cardiovascular Disease	6
Healthy Lifestyle Resources	Healthy Lifestyle Behaviors Respiratory Diseases/Smoking	33
Maternal & Infant Health Resources	Maternal & Infant Health	37
Health Care Access & Quality, Primary Care Resources	Access to Care	79
Diabetes & Obesity Resources	Obesity & Diabetes	28
Behavioral & Mental Health Resources	Behavioral Health and Substance Use	123
HIV/AIDS Resources	HIV/AIDS	30
Additional Resources	Affordable & Adequate Housing/ Homelessness Transportation	335
Total Community Resources		**719**

[4] Given the large number of community resources available in the Northside Community, a detailed listing is not provided in the Appendix, but will instead be made available on Northside's website at https://www.northside.com/community-wellness/in-the-community/community-health-needs-assessment for the Community to easily access it.

References

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REFERENCES

American Cancer Society. (2017, November 21). *More than 4 in 10 Cancers and Cancer Deaths Linked to Modifiable Risk Factors*. Retrieved from https://www.cancer.org/latest-news/more-than-4-in-10-cancers-and-cancer-deaths-linked-to-modifiable-risk-factors.html

American Heart Association. (2016). *Understand Your Risks to Prevent a Heart Attack*. Retrieved from https://www.heart.org/en/health-topics/heart-attack/understand-your-risks-to-prevent-a-heart-attack

American Heart Association. (2021). *The Benefits of Quitting Smoking Now*. Retrieved from https://www.heart.org/en/healthy-living/healthy-lifestyle/quit-smoking-tobacco/the-benefits-of-quitting-smoking-now

Braveman, P., Dekker, M., Egerter, S., Sadegh-Nobari, T., & Pollack, C. (2011). *Exploring the Social Determinants of Health: Housing and Health.* Retrieved from Robert Wood Johnson Foundation: http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70451

Centers for Disease Control and Prevention. (2020). BRFSS Prevalence Trends & Data.

Centers for Disease Control and Prevention. (2021). *Gestational Diabetes*. Retrieved from https://www.cdc.gov/diabetes/basics/gestational.html

Centers for Disease Control and Prevention. (2021). *HIV*. Retrieved from https://www.cdc.gov/hiv

Centers for Disease Control and Prevention. (2021). *Suicide Prevention*. Retrieved from https://www.cdc.gov/suicide/facts/index.html

Centers for Disease Control and Prevention. (2021). *The Lowdown on How to Prevent Sexually Transmitted Diseases*. Retrieved from https://www.cdc.gov/std/prevention/lowdown/the_lowdown_infographic_poster_30x20.pdf

Centers for Disease Control and Prevention. (2021). *Tips from Former Smokers.* Retrieved from https://www.cdc.gov/tobacco/campaign/tips

Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. (2020).

County Health Rankings & Roadmaps. (2013-2017). *County Health Rankings & Roadmaps*. Retrieved 2021, from http://www.countyhealthrankings.org

County Health Rankings & Roadmaps. (2021). Retrieved from countyhealthrankings.org

County Health Rankings & Roadmaps. (2022). *Access to Care.* Retrieved from https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/clinical-care/access-to-care

County Health Rankings & Roadmaps. (2022). *County Health Rankings Model*. Retrieved from https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model

ESRI. (2020).

FBI. (2015-2017). *Uniform Crime Reports.* Retrieved October 13, 2015, from communitycommons.org

REFERENCES

Georgia Department of Community Affairs. (2019). *Georgia Balance of State Continuum of Care Point in Time Homeless Count, 2019 Report.* Georgia Department of Community Affairs.

Georgia Department of Community Health. (2020).

Georgia Department of Public Health. (2013). *2013 Georgia Gestational Diabetes Burden Report.*

Georgia Department of Public Health. (2016-2020). Online Analytical Statistical Information System (OASIS).

Georgia Department of Public Health. (2021). *Georgia: Maternal Mortality*.

Georgia Discharge Data System. (2021, September).

Health Resources and Services Administration. (2021).

Healthy People 2030. (2021).

Johns Hopkins Center to Eliminate Cardiovascular Health Disparities. (n.d.). *Stable Housing*. Retrieved from http://www.jhsph.edu/research/centers-andinstitutes/johns-hopkins-center-to-eliminate-cardiovascular-healthdisparities/about/influences_on_health/stable_housing.html

Majerol, M. N. (2015). *The Uninsured: A Primer, Key Facts About Health Insurance and The Uninsured In the Era of Health Reform.* Retrieved from https://files.kff.org/attachment/primer-the-uninsured-a-primer-key-facts-about-health-insurance-and-the-uninsured-in-the-era-of-health-reform

March of Dimes. (2021). *March of Dimes Report Card*.

McKenzie, M. (2018). AIDS in Atlanta. *Emory Health Digest*.

National Center for Health Statistics, Centers for Disease Control and Prevention. (2022). *Infant Mortality Rates by State*. Retrieved from https://www.cdc.gov/nchs/pressroom/sosmap/infant_mortality_rates/infant_mortality.htm

National Center for Health Statistics, National Vital Statistics System. (2021). Retrieved from Natality File.

National Highway Traffic Safety Administration, United States Department of Transportation. (n.d.). *Seat Belts*. Retrieved from https://www.nhtsa.gov/risky-driving/seat-belts

National Institute on Alcohol Abuse and Alcoholism. (2021). *Alcohol Facts and Statistics*. Retrieved from https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics

National Institutes of Health. (2013).

National Research Corporation. (2018-2020).

National Research Corporation. (2018-2021).

Northside Hospital. (2022).

Northside Hospital Internal Data System. (2020).

REFERENCES

Pregnancy Mortality Surveillance System, Centers for Disease Control and Prevention. (2020). *Reproductive Health*. Retrieved from https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm?CDC_AA_refVal=https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm

Reblin, M., & Uchino, B. (2008, Mar). Social and Emotional Support and its Implication for Health. *Curr Opin Psychiatry*, 201-205.

Robert Wood Johnson Foundation. (2011, April). *Exploring the Social Determinants of Health: Education and Health.*

Robert Wood Johnson Foundation. (2013, January 14). *Stable Jobs = Healthier Lives.* Retrieved 10 9, 2015, from http://www.rwjf.org/en/culture-of-health/2013/01/stable_jobs_health.html

Stafford, M., Chandola, T., & Marmot, M. (2007, November). Association between Fear of Crime and Mental Health and Physical Functioning. *American Journal of Public Health, 91*(11), 2076-2081.

Substance Abuse and Mental Health Services Administration. (2020). Retrieved from Behavioral Health Barometer, Georgia, Volume 6.

U.S. Census Bureau. (2010). Decennial Census. Accessed via CHNA.org.

U.S. Census Bureau. (2015-2019). American Community Survey. Accessed via American Fact Finder (census.gov).

U.S. Census Bureau, American Community Survey, 5-year estimates. (2014-2018).

United Health Foundation. (2021). *America's Health Rankings*. Retrieved from www.americashealthrankings.org

US Census Bureau, American Community Survey, 5-Year Estimates. (2019).

US Census Bureau, County Business Patterns. (2017).

US Department of Agriculture, Economic Research Service, USDA-Food Access Reserach Atlas. (2019). Retrieved from careshq.org

Appendix A

Northside Hospital FY 2022 – FY 2024 Community Health Needs Assessment Stakeholder Interview Guide

APPENDIX A

Northside Hospital
2022-2024 Community Health Needs Assessment
Stakeholder Interview Guide

Stakeholder Name:

Organization Name:

Organization Address:

Stakeholder Title/Position:

Organization Mission:

Population Served by Organization:

Geographic Area Served by Organization:

Date: *Start Time:* *End Time:*

Privacy and Consent Statement

Thank you [interviewee's name] for agreeing to participate in our interview today for Northside Hospital's FY 2022-2024 Community Health Needs Assessment. My name is _____ and this is _____ (2nd interviewer) who will be taking notes during the interview. The interview is expected to only take about 30 minutes and is meant to gather your opinions, input, and observations regarding the health needs of your community. Your input will be integrated into Northside Hospital's FY 2022-2024 Community Health Needs Assessment. Northside hopes to use this assessment to evaluate its current community programs and services as well as plan new ones, all in order to best meet the health needs of the community it serves.

Please keep in mind that this interview is completely voluntary and you may choose not to answer any question or stop the interview at any time. As stated before, we will be taking notes throughout the interview. We will produce a report, based on our findings, where your answers will be included. The report will be made available publicly once complete through the Northside Hospital website.

APPENDIX A

Stakeholder Interview Guide

1. What is your role with your organization and in what capacity do you work with members of your community in this role? What counties do you serve?

2. Based on your experience, what are the top three factors/assets that positively impact the health of the community you serve? These factors can be more abstract like "healthy lifestyle mentality" or assets can be more concrete like numerous parks or accessible public transportation.
    a. If you serve more than one county, do these assets differ from county to county? If so, please explain.

3. In contrast to question #2, what are the top three factors/hindrances that negatively impact the health of the community you serve?
    a. Can you prioritize these factors in order of importance to the community you serve?

4. Would you consider any populations within your community to be vulnerable/disparate populations? If so, could you please describe this population?

5. Based on your experience with these vulnerable/disparate populations in your community, would the top three factors/hindrances that negatively impact health (answered in #3) differ in this vulnerable population from the broader community as a whole? If so, how?

6. Based on your experience, what are the top physical health needs/concerns (heart disease, diabetes, etc.)? Can prioritize these in order of severity or magnitude?

7. Based on your experience with vulnerable/disparate populations in your community, would the top three physical health needs/concerns (answered in #6) differ within this population compared to the community as a whole? If so, how?

8. Thinking about the community your organization serves, can you identify any barriers that community members face in obtaining health care services (e.g., preventive/ routine, specialty)? Please explain any barriers identified.
    a. Keeping these barriers in mind, tell me about a negative experience that someone your organization serves has had while trying to obtain health care services.

9. Are you aware of any resources or organizations, outside of Northside Hospital and your organization, which the community relies on to meet their health needs?
    a. If so, please explain.

10. Hypothetically speaking, if you had unlimited resources, what program(s) or service(s) would you develop in order to meet the health needs of the community you serve?

11. Do you have any other thoughts or comments regarding the health status/needs of the community that we did not discuss?

Appendix B

Additional Data on Northside Community's Top 10 Leading Causes of Death

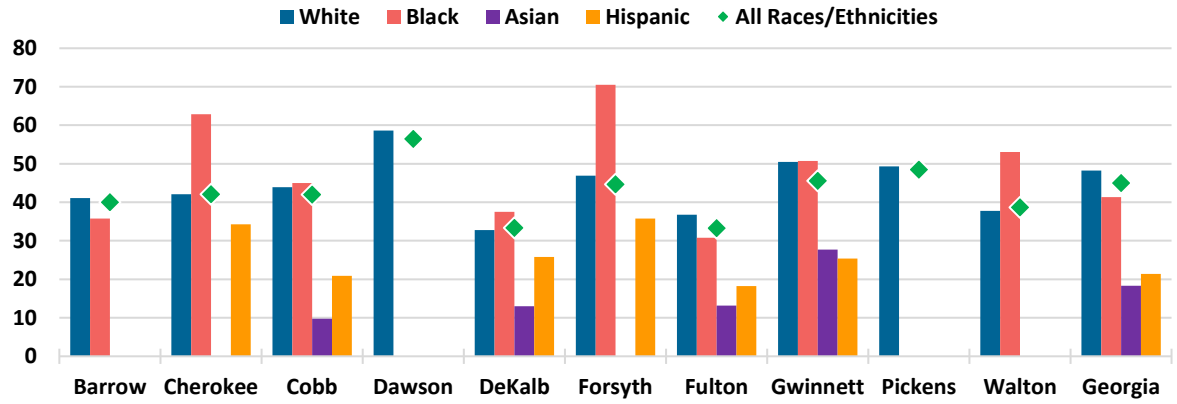
Figures 89 - 92

APPENDIX B

Additional Data on Northside Community's Top 10 Leading Causes of Deaths

#5 Alzheimer's Disease Age-adjusted death rates due to Alzheimer's disease varied by county and by race and ethnicity as shown in **Figure 89**. Dawson, Pickens, and Gwinnett Counties had the highest rates in the Community and each were also higher than Georgia's rate. The White and Black populations had the highest rates in each of the counties and in Georgia overall.

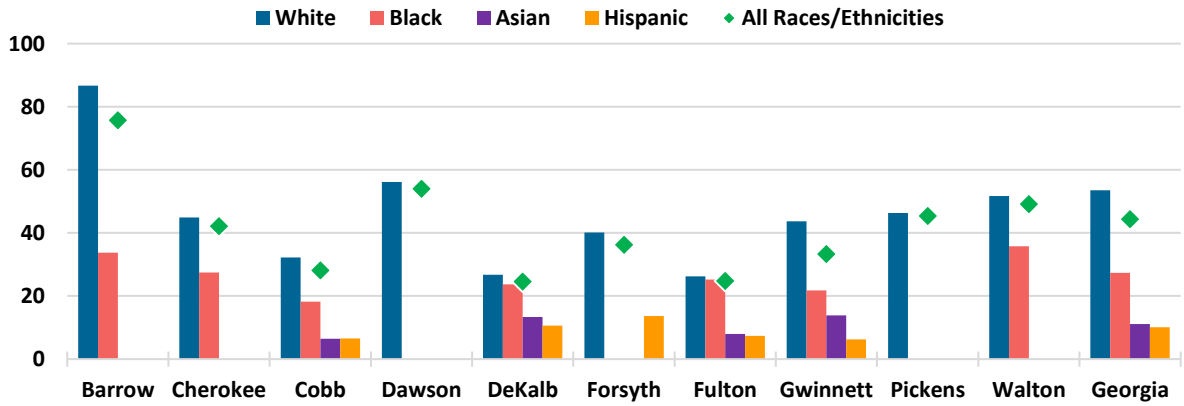
Figure 89: Alzheimer's Disease, Age-Adjusted Death Rate, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

#6 Chronic Lower Respiratory Disease (CLRD) Age-adjusted death rates due to chronic lower respiratory disease varied by county and by race and ethnicity. Barrow, Dawson, Walton, and Pickens Counties had the highest death rates compared to other counties and each were higher than Georgia's rate. When comparing races and ethnicities, the White population had the highest rate in each county and in Georgia overall.

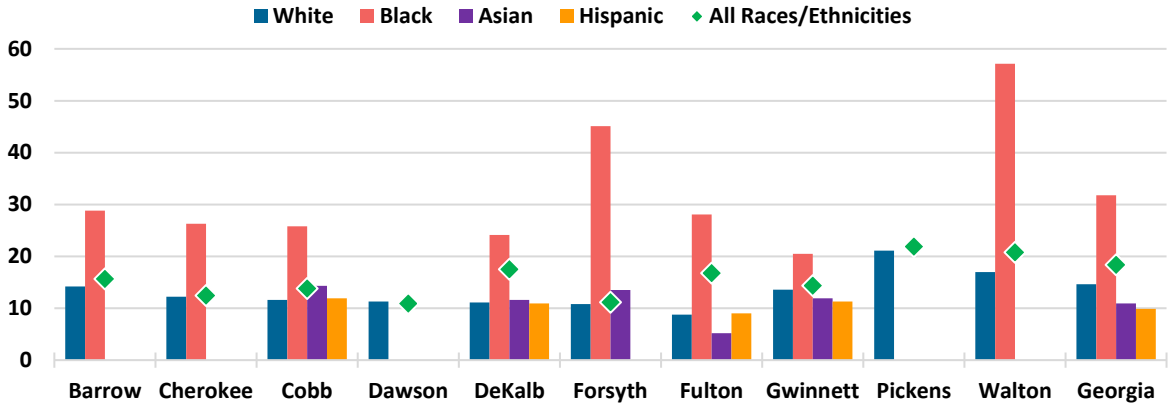
Figure 90: Chronic Lower Respiratory Diseases, Age-Adjusted Death Rates by Race and Ethnicity, 2016-2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

#8 Nephritis, Nephrotic Syndrome, and Nephrosis Age-adjusted death rates due to nephritis, nephrotic syndrome, and nephrosis varied by county and race and ethnicity. Within the Community, Walton and Pickens Counties had the highest rates and each were higher than Georgia's rate. When comparing race and ethnicity, the Black population had the highest rate in almost all of the counties in the Community and in Georgia overall.

Figure 91: Nephritis, Nephrotic Syndrome, and Nephrosis, Age-Adjusted Death Rate, 2016-2020

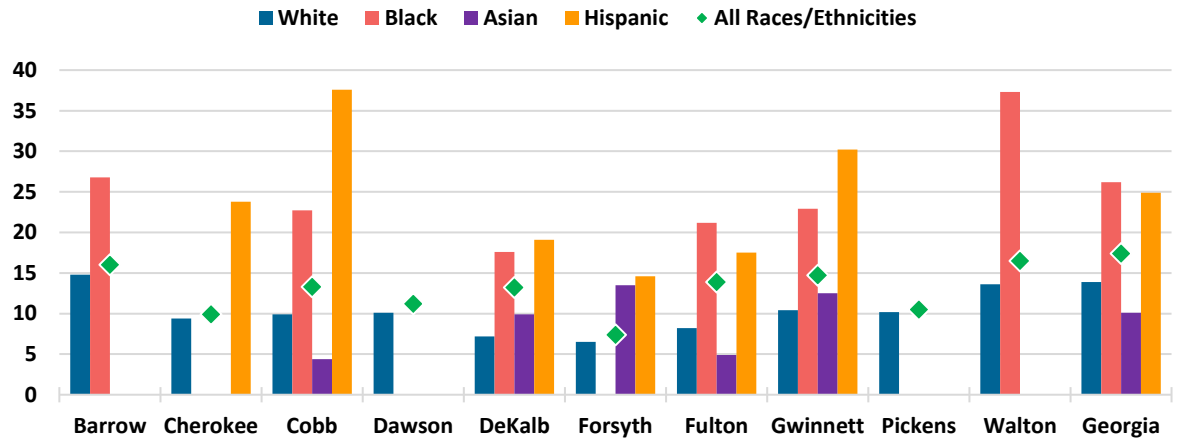


Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2016-2020
Note: Age-adjusted death rates are per 100,000 population.

#10 COVID-19 Leading causes of death in **Table 4** were calculated based on years 2016-2020; however, COVID-19 did not exist during years 2016-2019. When considered for year 2020 alone, COVID-19 was the third leading cause of death, causing 8% of the Community's total deaths.

As shown in **Figure 92**, age-adjusted death rates varied by county and race and ethnicity. None of the counties in the Community had death rates that were higher than Georgia's. When examined by race and ethnicity, the Black and Hispanic populations had significantly higher death rates when compared to the White and Asian populations.

Figure 92: COVID-19, Age-Adjusted Death Rate, 2020



Source: Georgia Department of Public Health Online Analytical Statistical Information System, 2020
Note: Age-adjusted death rates are per 100,000 population.