FY2016–2018

NORTHSIDE HOSPITAL

Community Health Needs Assessment

Adopted by the Northside Hospital, Inc. Planning Committee, July 19, 2016

Table of Contents

Executive Summary 1

Part I: Introduction to Northside Hospital System 6

Part II: CHNA Methodology 8

- Our Community Health Needs Assessment Process 8
- Framework for CHNA 8

Part III: Our Community 11

- Defining Northside's Community Geographically 11
- Demographics of Northside's Community 14
- Socioeconomic Characteristics 18
- Healthcare Access and Quality 25
- Health Behaviors 42
- Physical Environment 50
- Health Outcomes 55
- Health Outcomes: Morbidity 56
- Health Outcomes: Mortality 64

Part IV: Community Stakeholders 71

- Process for Identifying Stakeholders 71
- Description of Our Participating Stakeholders 72
- Summary of Stakeholder Input 76

Part V: Summary of Needs Identified 83

- Our Community's Needs 83

Part VI: Needs Prioritization 84

- Our Prioritization Process 84
- The Needs Northside Will Address 87
- Available Resources in Our Community 88
- The Needs Northside Will Not Address 89

Works Cited 92

Executive Summary

NORTHSIDE HOSPITAL

Executive Summary

About Us

Northside Hospital, Inc.'s commitment to health and wellness in the Atlanta community began in 1970 with the opening of Northside Hospital Atlanta, a 250-bed acute care hospital in a sparsely populated area north of downtown Atlanta. Since then, the Northside Hospital System has grown to include three general acute care hospitals, 942 inpatient beds, a network of more than 2,500 physicians, and 11,000 employees. Additionally, Northside operates outpatient locations in 22 counties across the greater metropolitan-Atlanta area.

Northside Hospital Atlanta is now a 590-bed general acute care hospital that consistently delivers more babies than any other hospital in the country and remains a leader in obstetrical and newborn care. Northside Hospital Atlanta is also one of the leading providers of cancer care, surgical services, emergency services, and radiology services.

In 1997, Northside Hospital, Inc. began operating R.T. Jones Memorial Hospital, now known as Northside Hospital Cherokee, a 105-bed general acute care hospital in Canton, GA. In addition to other hospital-based services, Northside Hospital Cherokee provides critical access services such as emergency services, neonatal intermediate care services and therapeutic cardiac catheterization.

In 2002, Northside acquired Georgia Baptist Medical Center, now known as Northside Hospital Forsyth, a 247-bed general acute care hospital located in Cumming, GA. Northside Hospital Forsyth provides critical access services such as emergency services, Level III NICU services, and therapeutic cardiac catheterization services.

Northside's commitment to health and wellness to the community is evident by the more than $283M in indigent and charity care provided in 2014; the second most of any hospital system in the state of Georgia.

Our Community

Northside began the Community Health Needs Assessment process by defining each hospital's community, which included (i) defining each facility's primary patient catchment area; (ii) mapping the medically underserved areas around each facility to ensure that no medically underserved, low income, or minority populations were excluded within or near the primary catchment areas; and (iii) mapping each facility's distribution of outpatient services across the region. The results of this process revealed significant overlap between

the communities served by each Northside Hospital facility. Thus, Northside Hospital Atlanta, Northside Hospital Cherokee, and Northside Hospital Forsyth developed a single community definition in compliance with IRS Section 501(r) Final Rule. The Northside Community consists of Fulton, Forsyth, Cherokee, DeKalb, Cobb, Gwinnett, Dawson, and Pickens Counties.

In 2015, the estimated 3,741,308 residents of the Northside Community accounted for 37% of Georgia's total population. The Northside Community is slightly younger than Georgia overall, with a median age of 35.6 compared to Georgia's 36.2. Overall, the 2015 Northside Community was comprised of a diverse population. Individual counties, however, have varying racial compositions, including two counties that have 90 percent of their populations belonging to just one racial group.

Overall, the Northside Community has a high level of educational attainment and affluence, when compared to Georgia as a whole. The median disposable income, household income, household net worth, and housing unit value in the Northside Community are all higher than Georgia's averages. Despite this general picture of affluence, however, disparities do exist, especially along racial and ethnic lines and between counties that Northside's Community Health Needs Assessment and Implementation Strategy aim to address.

Our Community's Access to Care

Many factors converge to determine if healthcare is easily accessible to a community, ranging from the availability of health insurance to the ability to find a regular source of care. Access to care is a significant issue for the Northside Community. Several counties or portions of counties within the Community are designated by the U.S. Department of Health & Human Services as Medically Underserved Areas. The vulnerable populations that reside in these areas often rely on Federally Qualified Health Centers for healthcare services. Unfortunately, the Community is still underserved by Federally Qualified Health Centers compared to Georgia overall. Further, the utilization of general/family practitioners was lower in the Community than the national average.

In addition to these difficulties, the Northside Community and Georgia as a whole have a large uninsured population (19%). The uninsured population varies between counties, as well as between races and ethnicities. Disparities in inpatient and emergency room utilization appear when comparing low income Community members to high income ones, as well as when comparing the uninsured and Medicaid populations to managed care and fee-for-service populations. High rates of inpatient and emergency room utilization point to gaps in preventive and primary care for these populations.

Our Community's Health Status

Preventive health behaviors can help both individuals and communities maintain good health status. Northside's Community had higher rates of participating in preventive health behaviors when compared to Georgia and the United States. Still, preventive health behaviors were less common in low income households, among minority racial and ethnic groups, and among the uninsured. The Community as a whole had lower smoking rates, better nutrition, and higher amounts of physical activity when compared to Georgia overall. Despite outperforming the state on most preventive health measures, the Community still has several areas for improvement. These findings highlight the progress that still must be made on tobacco control, nutrition, and physical activity, both in the Community and statewide.

Preventive screenings also play an important role in maintaining good individual and community health. Much like other health behaviors, there are disparities in the practice of preventive health behaviors between low income and high income populations, between racial and ethnic groups, and 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. Health outcomes like morbidity and mortality measures help to assess the state of health of a community. High blood pressure, being obese or overweight, and high cholesterol were the most common chronic conditions in the Northside Community, impacting more than 25% of Community members. These findings align with the two leading causes of death in the Community: cardiovascular disease and cancer. In fact, the Northside Community has a higher incidence of cancer than Georgia, overall. Prostate, breast, lung and bronchus, colon and rectum, and melanoma cancers have the highest incidence in the Community. Other chronic conditions affecting the Community include smoking and depression/anxiety disorders.

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 America's Health Rankings, Georgia has one of the highest rates of infant mortality in the U.S.

Our Community's Stakeholders

Stakeholder interviews were conducted for this Community Health Needs Assessment 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 41 stakeholders, which included representatives at all county-level public health departments in the Community. These efforts resulted in the completion of 23 stakeholder interviews. 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 was 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 Health Needs Assessment process viewed the Community's needs through a variety of "lenses": (i) health access needs; (ii) health status needs; and (iii) barriers to care. As a result of this process, Northside identified a variety of health access needs, health status needs, and barriers to care. The health access and health status needs were further grouped in the prioritization process, while the several barriers to care were considered and integrated into the design and implementation of Northside's community benefit programs that address the Community's health needs.

Northside then developed a 5-step prioritization process for prioritizing the health needs identified in the CHNA. This process prioritized those needs that (i) impact the greatest number of Community members; (ii) disproportionately impact the most vulnerable populations; (iii) are most severe and/or prevalent; (iv), and Northside has the capacity to address. Those needs are:

1. Cancer
2. Cardiovascular Disease
3. Healthy Lifestyle Behaviors
4. Maternal and Infant Health
5. Preventive Health Behaviors
6. Obesity and Diabetes

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, lack of expertise to effectively address the need, or the presence of existing resources already in place to address the need. The Community needs Northside will not address are:

1. Respiratory Disease and Smoking
2. Affordability, Access to Care, and Uninsured

3. Primary Care
4. Mental Health & Addiction
5. HIV/AIDS

Introduction to the Northside Hospital System

NORTHSIDE HOSPITAL

Part I: Introduction to 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. In 2016, the Northside Hospital System is now a not-for-profit healthcare system composed of three general acute care hospitals.[1] The Northside System's 942 Certificate of Need-authorized inpatient beds are supported by a network of more than 2,500 physicians and 11,000 employees with locations in 22-counties across greater metropolitan-Atlanta.

Northside is committed to serving all patients regardless of their ability to pay as evidenced by the $283.7M in indigent and charity care provided by NHA, NHF, and NHC combined in 2014. This amount represented 7.5% of Northside's 2014 adjusted gross revenue.

Our Mission

Through all of the growth, Northside has remained steadfast and committed to its 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 healthcare. 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

[1] Northside Hospital Atlanta ("NHA") located in Fulton County, Georgia; Northside Hospital Cherokee ("NHC") located in Cherokee County, Georgia; and Northside Hospital Forsyth ("NHF") located in Forsyth County, Georgia.

- Teamwork
- Progress & Innovation

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 590-bed general acute care hospital. NHA is a leading provider of obstetrical and newborn care, cancer care, surgical services, emergency services, and radiology services. NHA consistently delivers more babies than any other hospital in the country; is the only hospital in Metro-Atlanta selected to participate in the National Cancer Institute Community Oncology Research Program ("NCORP"); and has one of the largest surgical programs in Georgia.

Northside Hospital Forsyth

In 2002, Northside Hospital, Inc. acquired then 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 247-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, Level III NICU services, and therapeutic cardiac catheterization services in addition to other important hospital-based services and state-of-the-art technology including Gamma Knife® to treat brain tumors, surgery, cancer care, and radiology.

Northside Hospital Cherokee

In 1960, R.T. Jones Memorial Hospital was established by the Cherokee County Hospital Authority as a 64-bed general acute care hospital. Today, this hospital is known as Northside Hospital Cherokee ("NHC") and is a 105-bed general acute care hospital located in Canton, GA. As the only hospital in Cherokee County, NHC provides critical access services such as emergency services, neonatal intermediate care services and therapeutic cardiac catheterization in addition to other important hospital-based services such as surgery, cancer care, and radiology.

CHNA Methodology

NORTHSIDE HOSPITAL

Part II: CHNA Methodology

Our Community Health Needs Assessment Process

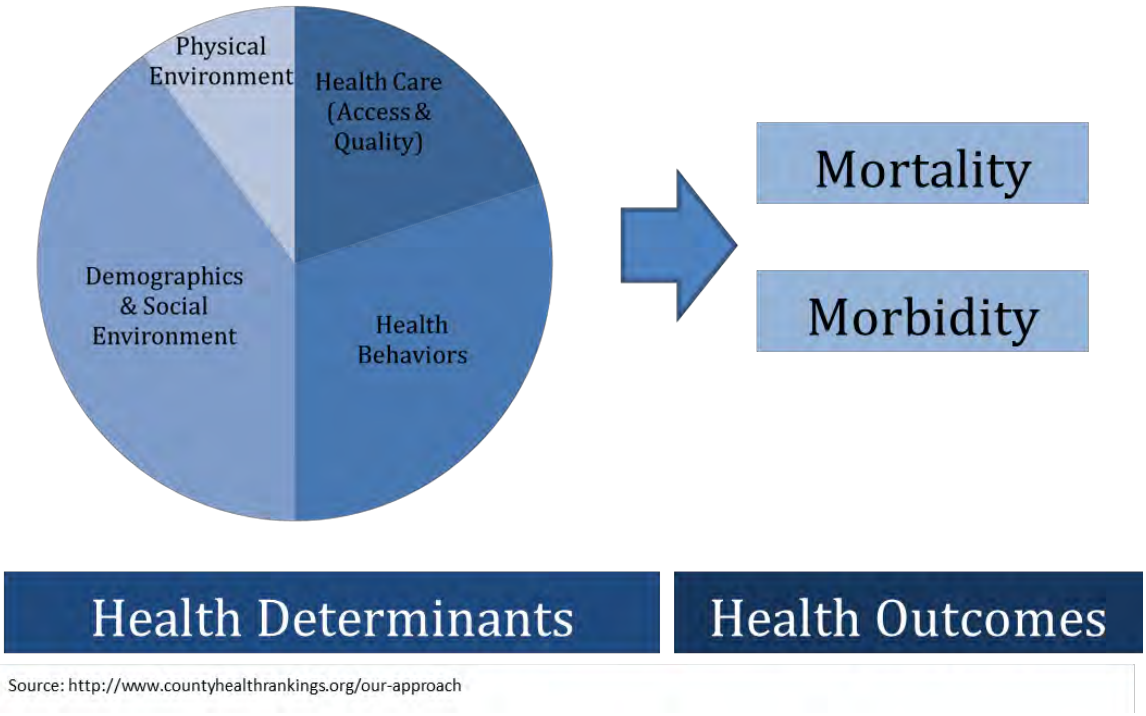
Northside developed a standardized process for conducting its Community Health Needs Assessment ("CHNA"). In short, Northside's CHNA process included:

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 Strategy to address the identified needs.
8) Presenting the finalized CHNA report and Implementation Strategy to the Board of Directors of Northside Hospital, Inc. for adoption.
9) Providing continued public access to Northside's CHNA report via www.Northside.com/Community and providing an opportunity for public feedback via Northside.chna@northside.com.

Framework for CHNA

To perform its FY 2016–FY 2018 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 [1]. 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 FY 2016-FY 2018 CHNA



The Centers for Disease Control and Prevention ("CDC") performed 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 2016–FY 2018 CHNA. Northside utilized the CDC's recommended variables and metrics when they were readily available at the county level [2]. The variables analyzed for Northside's FY 2016-FY 2018 CHNA for each health determinant and outcome category are outlined in Table 1.

Table 1: Health Metrics for Northside's FY 2016 – FY 2018 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 Income Poverty Level Marital Status/Social Support Violence and Crime
Healthcare (Access & Quality)	Health Professional Shortage Areas Medically Underserved Areas Federally Qualified Health Center 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 Substance Use (Tobacco, Alcohol) Nutrition Physical Activity
Physical Environment	Housing Transportation Food Access Access to Recreational Facilities
Health Determinant	**Variables Considered**
Morbidity	Cancer Rates Chronic Conditions Health Status AIDS
Mortality	Leading Cause of Death Maternal/Infant Health Suicide Homicide

Our Community

Part III: Our Community

Defining Northside's Community Geographically

Northside began the CHNA process by defining the scope of each hospital's community, separately, by using the following methodology:

1) Defined each facility's (NHA, NHF, NHC) primary patient catchment area based on a contiguous area that represented over 80% of each facility's inpatient and outpatient volume.
2) Determined where the medically underserved areas were around each facility's patient catchment area to ensure no medically underserved, low income, or minority populations were excluded within or near the facility's catchment area.
3) Mapped each facility's distribution of outpatient services 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 three hospitals, this result is not surprising. Thus, NHA, NHF, and NHC developed a single community definition for the FY 2016 – FY 2018 CHNA. With a single community definition and in compliance with IRS Section 501(r) Final Rule, NHA, NHF, and NHC conducted a joint CHNA on what will be referred to as the Community or the Northside Community for FY 2016-FY 2018.

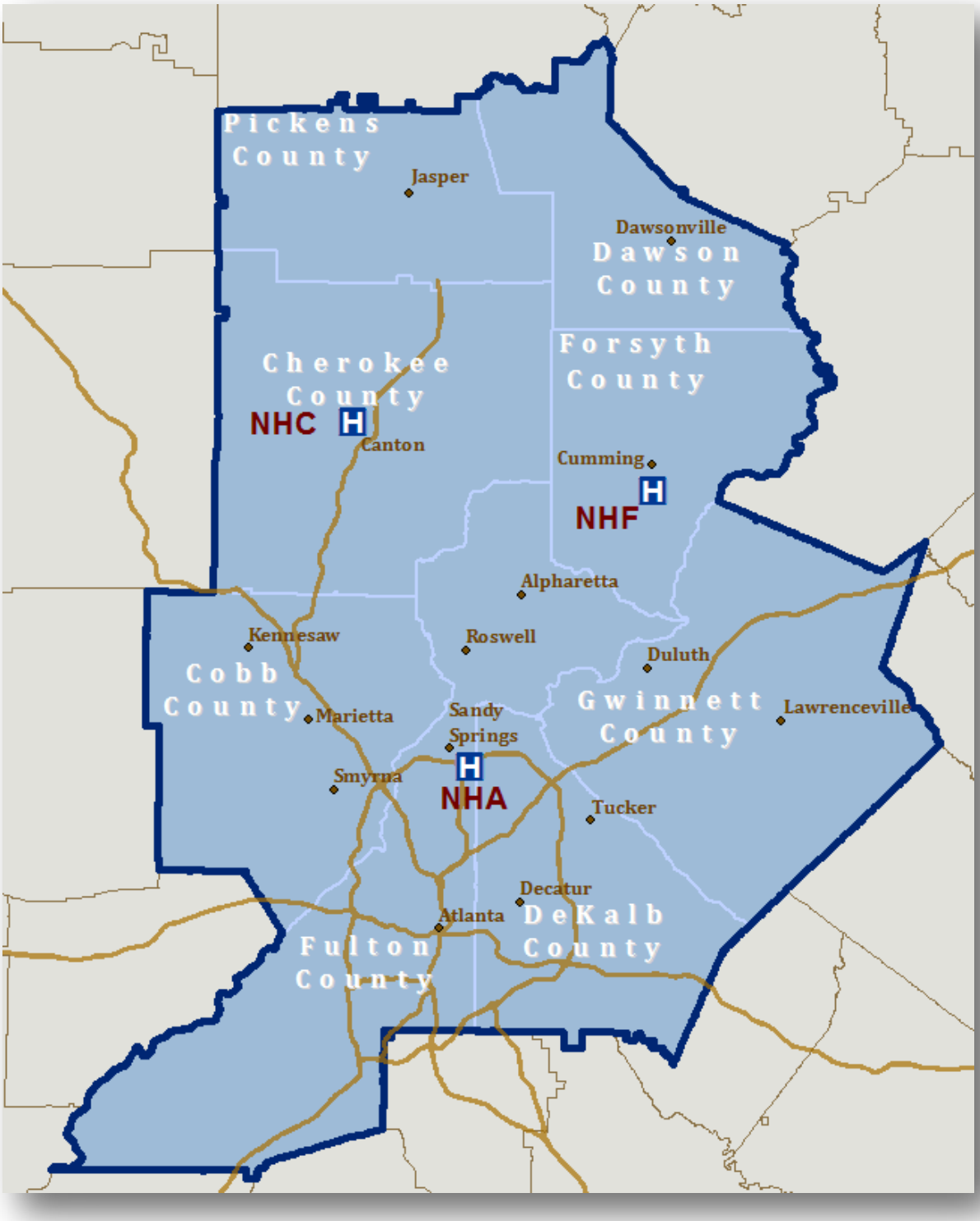
Northside Community Defined:

Fulton, Forsyth, Cherokee, DeKalb, Cobb, Gwinnett, Dawson, and Pickens Counties

In CY 2014, patients from the Northside Community represented 84% of the System's total patient volume, including 81% of NHA's, 89% of NHF's, and 92% of NHC'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. Furthermore, Dawson County cases represent 9% of NHF's total patient volume and Pickens County cases represent 6% of NHC's total patient volume. Additionally, NHA serves as an important tertiary hub for residents of these counties.

Table 2: Northside Patient Origin Within the Northside Community	
County	**% Total Northside Cases**
Fulton	*23%*
Forsyth	*13%*
Cherokee	*12%*
DeKalb	*12%*
Gwinnett	*11%*
Cobb	*10%*
Dawson	*2%*
Pickens	*1%*
Total	*84%*

Figure 2: Northside's FY 2016-FY 2018
CHNA Community Definition



Demographics of Northside's Community

Background and Overview

In 2015, the Northside Community represented over ⅓ of Georgia's population and is both younger and growing at a faster rate than Georgia's population overall. As will be illustrated throughout this report, populations within the Community varied greatly by county. For example, counties in Northside's Community varied in size from less than 25,000 people to close to 1,000,000 people. The Northside Community is racially and ethnically more diverse compared to Georgia. Within the Community, there is a 70% chance that two people randomly chosen will belong to different racial or ethnic groups, compared to a 64% chance in Georgia overall. Approximately half of Georgia's total Hispanic population lives within the Northside Community.

Population

In 2015, the estimated 3,741,308 residents of the Northside Community represented 37% of Georgia's total population. 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, accounting for 87% of the Community's total population [3].

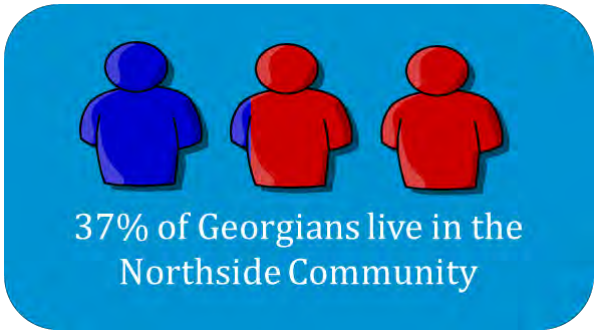
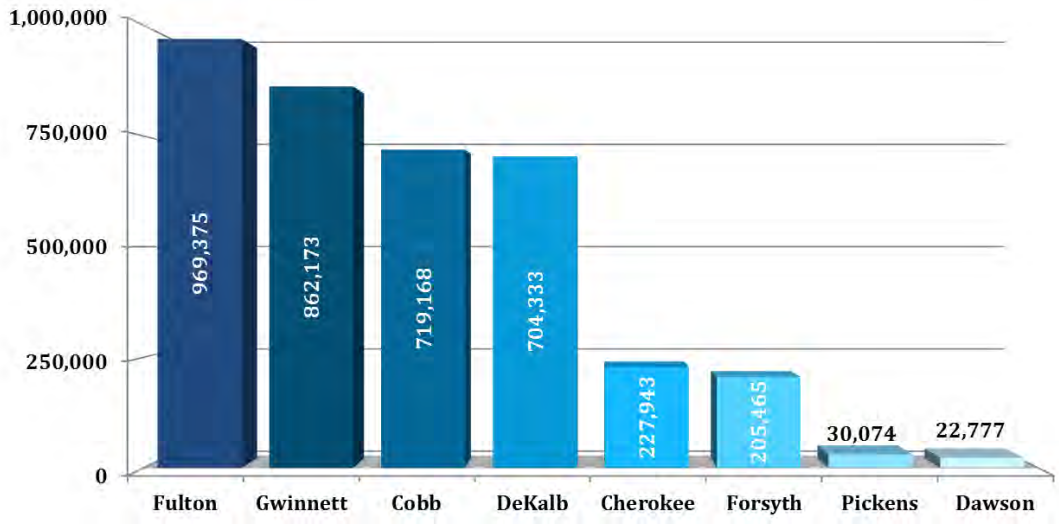


Figure 3: CY 2015 Northside Community Total Population by County

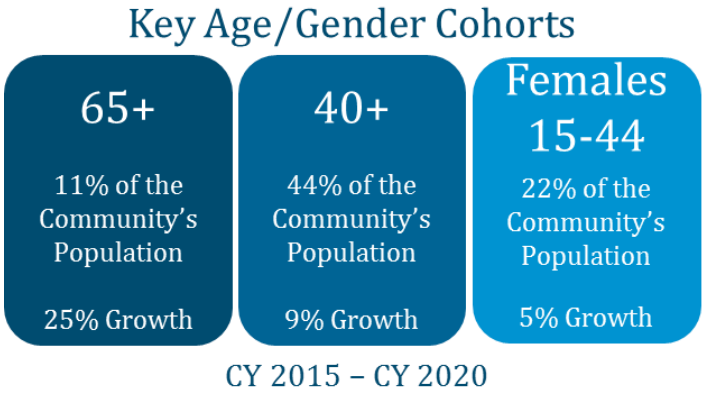


Source: Esri, 2015

Population growth projections between 2015 and 2020 estimate a 7% population increase in the Northside Community compared to 5% in Georgia. Within the Northside Community, Forsyth County's population is projected to grow the fastest of all counties at 18% and DeKalb County the slowest at 3% [3].

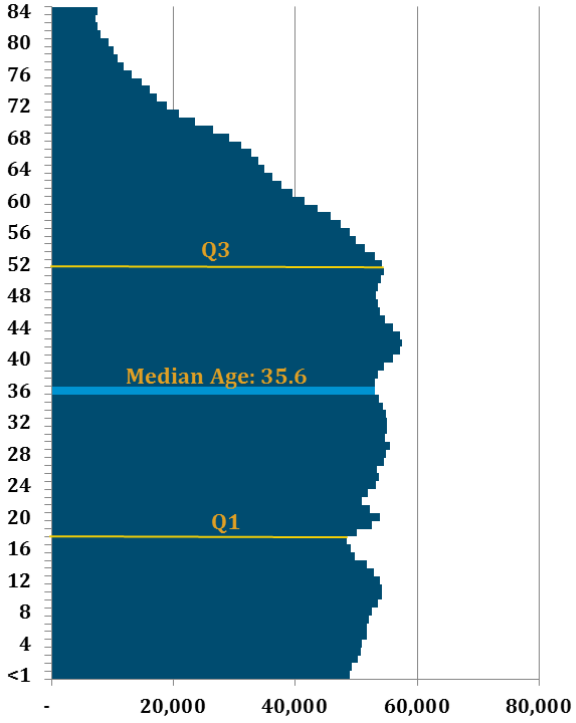
Age and Gender

Both gender and age play a part in understanding the type of preventive and medical services needed within a community. Based on this knowledge, the age and gender patterns of the Community, along with certain key age/gender groups are highlighted in this section.



In 2015, the median age in the Northside Community was 35.6, slightly younger than Georgia's median age of 36.2. However, several counties within the Community were comprised of much older populations: most notably Dawson and Pickens Counties with median ages of 42.4 and 43.7, respectively. Close to 11% of the Community's population was aged 65 or older. This ranged from 9% in Gwinnett County to 19% in Pickens County. The 65 or older age cohort is projected to grow at a faster rate than any other age cohort in the Community with 25% projected growth between 2015 and 2020. This cohort typically utilizes healthcare services at a higher rate than the general population. However, other age groups, i.e. 40 plus, also have key milestones by which certain preventive screenings are recommended. Forty-four (44%) percent of the Community's population was 40 or older in 2015, with 9% projected growth between 2015 and 2020 [3].

Figure 4: CY 2015 Age Breakdown of the Northside Community



Note: The 85+ age cohort is not represented in the figure; however, this age cohort was taken into account for median and quartile calculations.
Source: Esri, 2015

In 2015, the Northside Community was 51% female and 49% male and each county in the Community reflected a similar 50/50 gender

split. Northside is the top provider of obstetrical services in the Community; therefore, the health status of females aged 15 to 44 was a key focus for Northside. Females aged 15 to 44 represented an estimated 22% of the total Community population in 2015. This segment of the population is projected to grow at a slower rate than the Community's population overall, with 5% projected growth between 2015 and 2020 [3].

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. It is important to understand the racial and ethnic make-up of the Northside Community to fully understand any health disparities that exist along racial and ethnic lines and to appropriately tailor community benefit programs to the appropriate populations within the Community.

In 2015, the racial make-up of the Northside Community was as follows: White (51%), Black (33%), Asian (7%), Other races (5%), Two or more races (3%), Pacific Islander (<1%), and American Indian (<1%). Within the Northside Community, there was a probability of 70% that two individuals, randomly chosen, belong to different race or ethnic groups. This probability is known as the Diversity Index. The racial make-up of each county within the Community varied greatly and is displayed in **Table 3** [3].

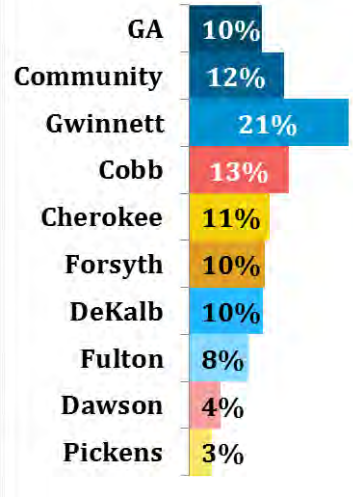
Table 3: Northside Community CY 2015 Total Population by Race

Variable	Gwinnett	Cobb	Fulton	DeKalb	Forsyth	Cherokee	Dawson	Pickens	Total
Diversity Index	78.2	67.1	66.8	66.7	45.4	41.1	17.2	16.7	70.3
White	49%	59%	44%	33%	81%	85%	95%	94%	**51%**
Black	26%	27%	44%	54%	4%	6%	1%	2%	**33%**
Asian	11%	5%	7%	6%	9%	2%	1%	1%	**7%**
Other Race	9%	6%	3%	4%	4%	4%	2%	2%	**5%**
Two or More Races	4%	3%	3%	3%	2%	2%	2%	1%	**3%**
American Indian	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

As illustrated through each county's diversity index, Gwinnett, Cobb, Fulton, and DeKalb Counties have the most racial/ethnic diversity within the Community. Pickens and Dawson Counties have relatively low diversity indices, with over 90% of their populations belonging to just one racial group [3].

In 2015, close to half (48%) of Georgia's total Hispanic population lived within the Northside Community and represented approximately 12% of the Community's population. The Hispanic population ranged from comprising 3% of the population in Pickens County to 21% in Gwinnett County [3].

Figure 5: CY 2015 Hispanic Population as a Percent of Total Population in Georgia and the Northside Community Counties

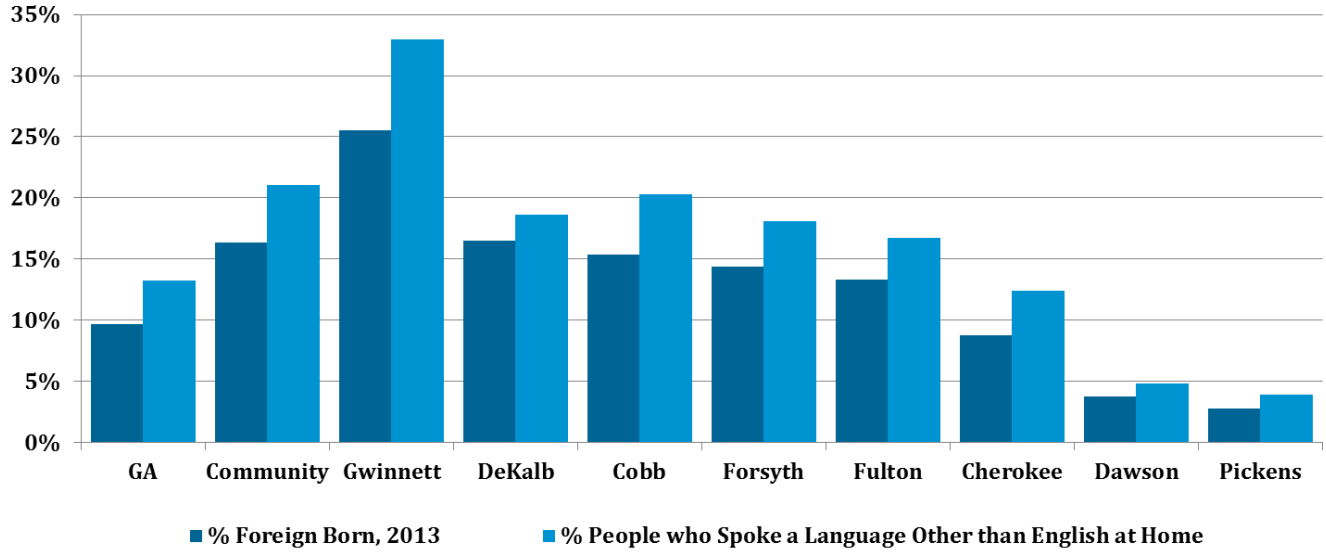


Source: Esri, 2015

Foreign Born/Language at Home

Sixteen-percent (16%) of Northside's Community was foreign born based on the 2013 American Community Survey, compared to 10% in Georgia and 13% in the United States, thus illustrating the diversity of population within the Northside Community and highlighting the need for cultural understanding and sensitivity within the Community's healthcare industry. Further demonstrating this point, in 2013, 21% of individuals within the Community spoke a language other than English within their home, compared to only 13% state-wide. This percentage varied greatly by county, as illustrated in **Figure 6** [4].

Figure 6: CY 2013 Percent of Georgia and the Northside Community's Population that were Foreign Born and who Spoke a Language Other than English at Home



Source: US Census Bureau, The American Community Survey, 2013

A barrier to healthcare and health resources can arise among segments of the population with limited English proficiency. Limited English proficiency is defined by the American Community Survey as persons, aged 5 and older, who speak a language other than English at home and speak English less than "very well". Within Northside's Community, 9% of the population had limited English proficiency. This rate was higher than the rate of Georgia's population overall, 6%. Within the Community, 59% of those with limited English proficiency spoke Spanish, 22% spoke an Asian or Pacific Island language, and 14% a different Indo-European language. Gwinnett County had the highest rate of individuals having limited English proficiency with 15% of the population considered as such, followed by Cobb County with 8%. Only 2% and 3% of Pickens and Dawson Counties' populations had limited English proficiency, respectively [5].

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 3% of the Community's population was considered to live in a rural setting. However, 80% and 73% of Dawson and Pickens Counties' population, respectively, lived in a rural area [6].

Socioeconomic Characteristics

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.

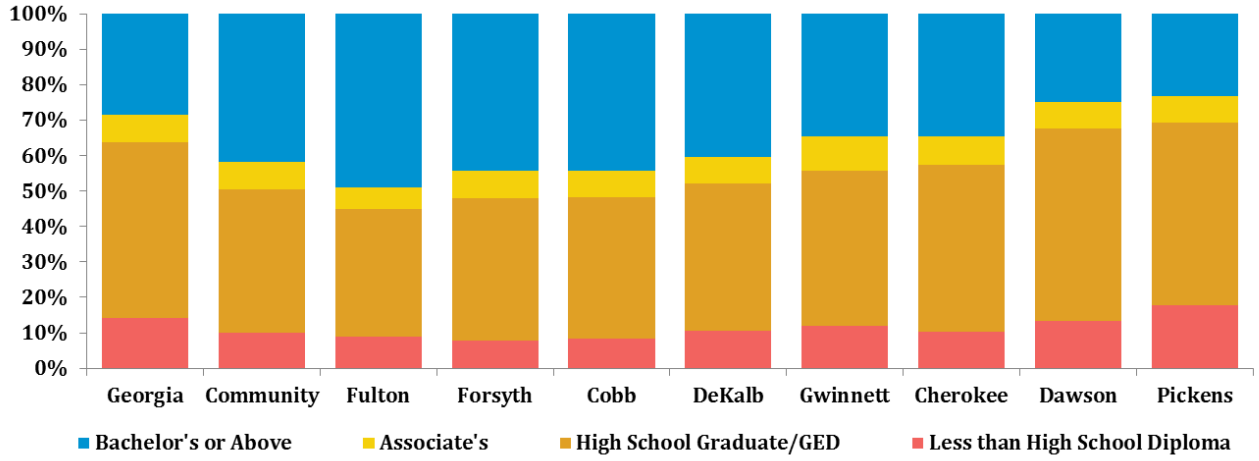
Overall, the Northside Community's population had a high level of educational attainment and affluence compared to Georgia. This was illustrated through 42% of the Community's population holding a bachelor's degree or higher, compared to 29% state-wide and median disposable income, household income, household net-worth, and housing unit value higher than Georgia's. Affluence varies by county within the Community, with DeKalb and Dawson having high unemployment rates and Dawson and Pickens having similar educational attainment levels to Georgia rather than Community totals. There are also significant disparities in poverty by race and ethnicity. Black, Native American, Hispanic, Native Hawaiian, and "Other" racial groups all have childhood poverty rates of 30% or higher in the Community, compared to non-Hispanic White children with a 7% poverty rate. Furthermore, the Black population accounts for approximately 33% of the Community's population, but 47% of the Community's population in poverty.

Educational Attainment

As 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 social/psychological factors (e.g., social standing, social networks, etc.) [7].

In 2015, the Northside Community had a much higher level of educational attainment than Georgia overall as 42% of the population (aged 25 or older) had a Bachelor's Degree or above compared to only 29% state-wide. Fourteen percent (14%) of Georgians did not have a high-school diploma or General Educational Development ("GED") certificate, compared to only 10% of the Northside Community. Although, 10% is better than the state's average, this still represented approximately 250,000 individuals over the age of 25 in the Community who had not completed high-school. Several counties within the Community had high rates of low-educational attainment, with 18% of Pickens County adults having less than a high-school diploma, followed by Dawson County with 13%, and Gwinnett County with 12% [3].

Figure 7: CY 2015 Highest Level of Educational Attainment of the Northside Community by County



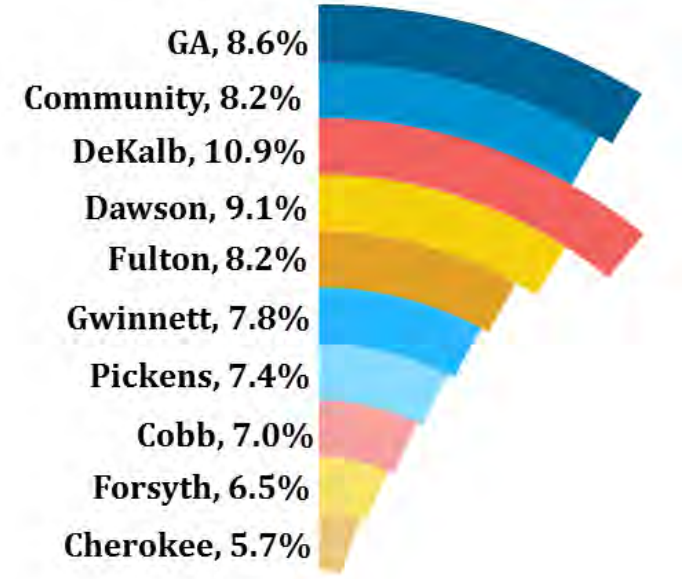
Source: Esri, 2015

Employment

In the U.S., employment often results in a stable income and benefits (i.e., health insurance), both of which can lead to better health status. Conversely, unemployment has been linked to poor health due to loss of health insurance, increased stress, unhealthy behaviors, and increased depression [8]. Northside's Community had a higher percentage of its population in the workforce (52%) than state-wide (47%). However, the unemployment

rate within the Community (8.2%) closely mirrored Georgia's rate (8.6%). Unemployment rates between the counties within the Community ranged from 6% in Cherokee County to 11% in DeKalb County [3]. Northside's Community has maintained a lower unemployment rate than the state since 2005. Both the Community and Georgia had low rates of unemployment in the early 2000s, with a steep rise in unemployment between 2008 and 2009 and declining rates (~1% a year) since 2011 [5].

Figure 8: CY 2015 Civilian Unemployment Rate in the Community by County



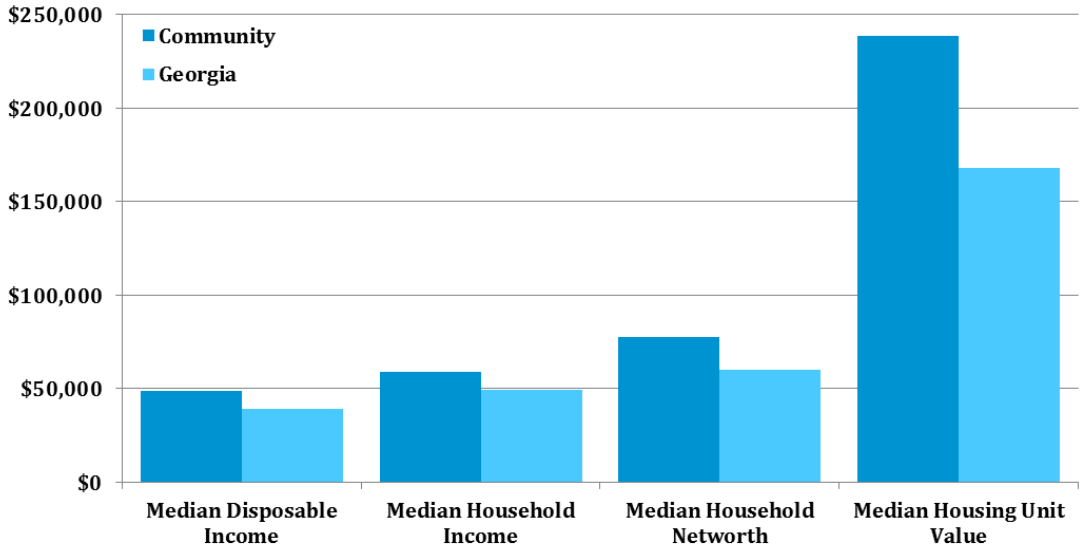
Source: Esri, 2015

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 as a result of the many barriers and stresses related to poverty [1].

Based on the financial indicators analyzed for this CHNA report, the Northside Community appeared relatively affluent compared to Georgia on most variables. An overview of the Community's financial status compared to Georgia is displayed in **Figure 9**.

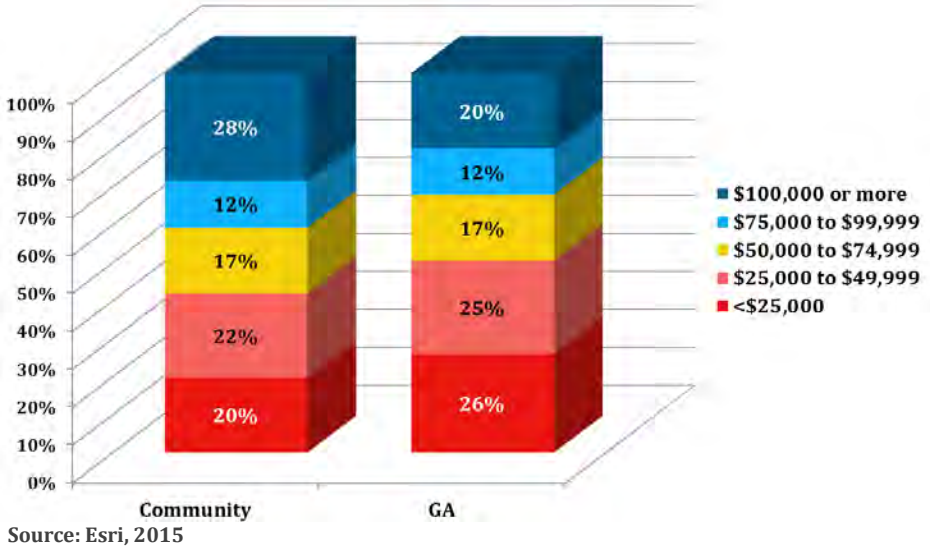
Figure 9: CY 2015 Comparison of the Northside Community to Georgia on Key Financial Indicators



Source: Esri, 2015

On all income measures analyzed, the Community was financially stronger compared to Georgia overall. The average household income in the Community was $85,245, approximately $20,000 more than the State's average. Similarly, the median household income for the Community was $59,219, approximately $10,000 more than Georgia. Furthermore, the largest household income cohort in Northside's Community was households with incomes of $100,000 or more (28% of households), compared to the largest cohort in Georgia which was households with incomes less than $25,000 (26% of households) [3].

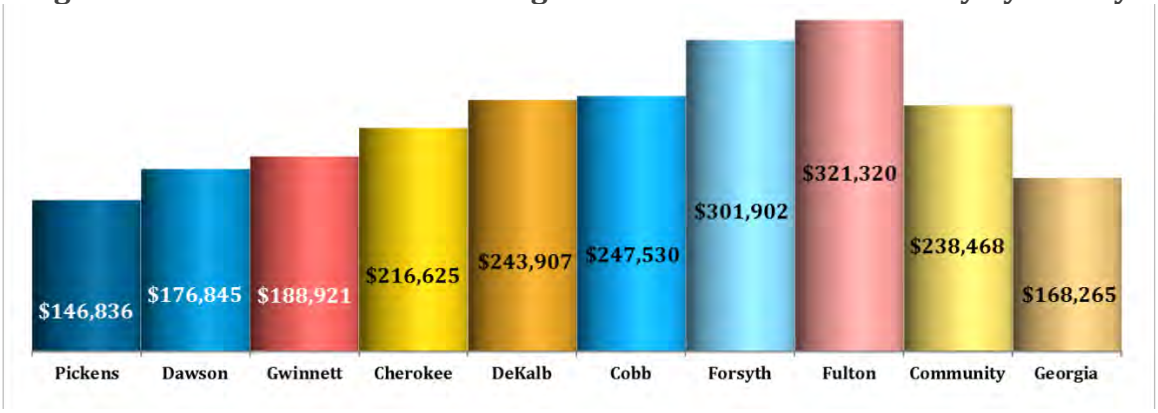
Figure 10: CY 2015 Comparison of the Percent of Households in each Income Bracket between the Northside Community and Georgia



Source: Esri, 2015

An additional measure to estimate the purchasing power of the Community is through a measure of household disposable income (after-tax income). The median household disposable income within the Community was $48,586 compared to the State's median of $39,301. Within the Community, Pickens County had the lowest median disposable income at $39,362. Forsyth County had the highest level of disposable income with a median of $74,295, over $30,000 more than the state median [3]. The average housing unit value followed a comparable trend to the other financial indicators, with the Community's median household value estimated to be $238,468 compared to Georgia's median of $168,265. Given the higher percentage of the population in the Community who held college degrees compared to Georgia, it is not surprising that these financial indicators for the Northside Community exceeded state-wide rates [3].

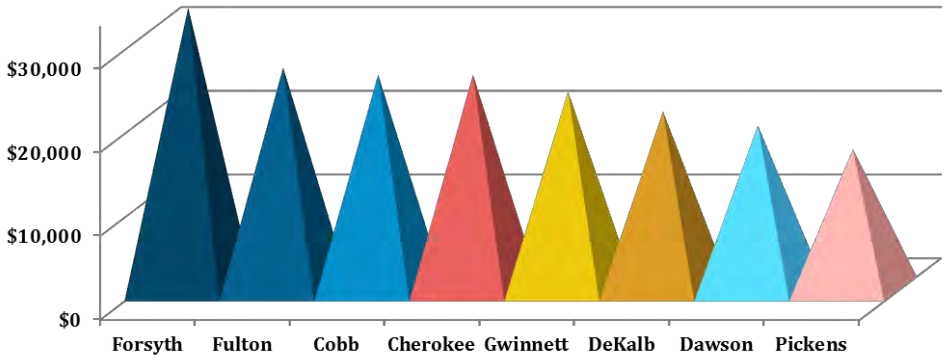
Figure 11: CY 2015 Median Housing Unit Value in the Community by County



Source: Esri, 2015

High housing unit values illustrate affluence in the Northside Community; however, they were also linked to a high cost of living within the area. Members of the Community, on average, spend approximately 16% more than the national average on housing costs, compared to Georgians who spend about 10% less per year than the national average. The average amount spent per year on housing per county is displayed in **Figure 12** [3].

Figure 12: CY 2015 Average Spending on Annual Housing Costs within the Northside Community by County

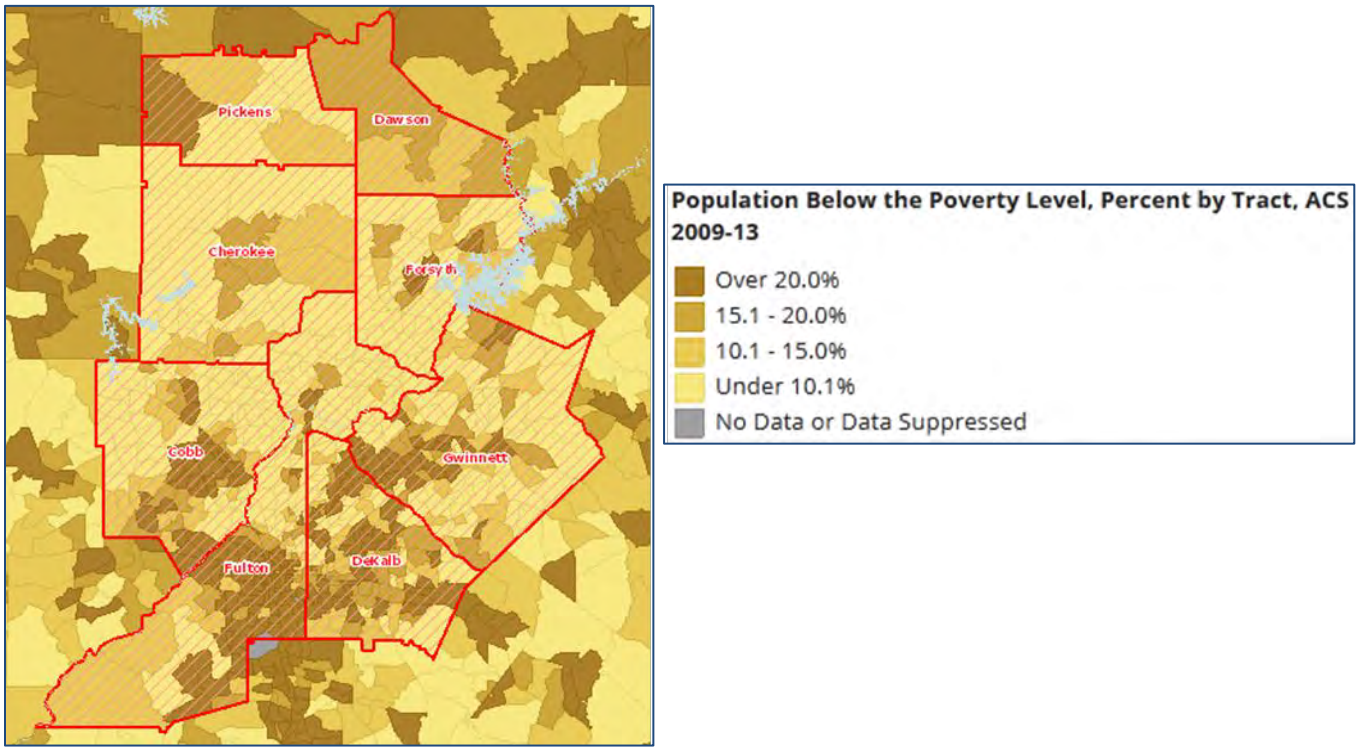


Source: Esri, 2015

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). Overall, the Northside Community had a smaller portion of its population below 100% the federal poverty level (FPL) than Georgia, 15% compared to 18%. However, 15% of the Northside Community represented over 500,000 individuals, illustrating poverty does still exist within the Community. Furthermore, within the Northside Community poverty varied greatly county-to-county. Forsyth and Cherokee Counties had the lowest poverty levels within the Community at 8% and 10%, respectively, compared to the counties with the highest poverty levels, DeKalb (19%) and Fulton (18%) [5].

Figure 13: Rates of Poverty within the Northside Community, American Community Survey CY 2009 – 2013

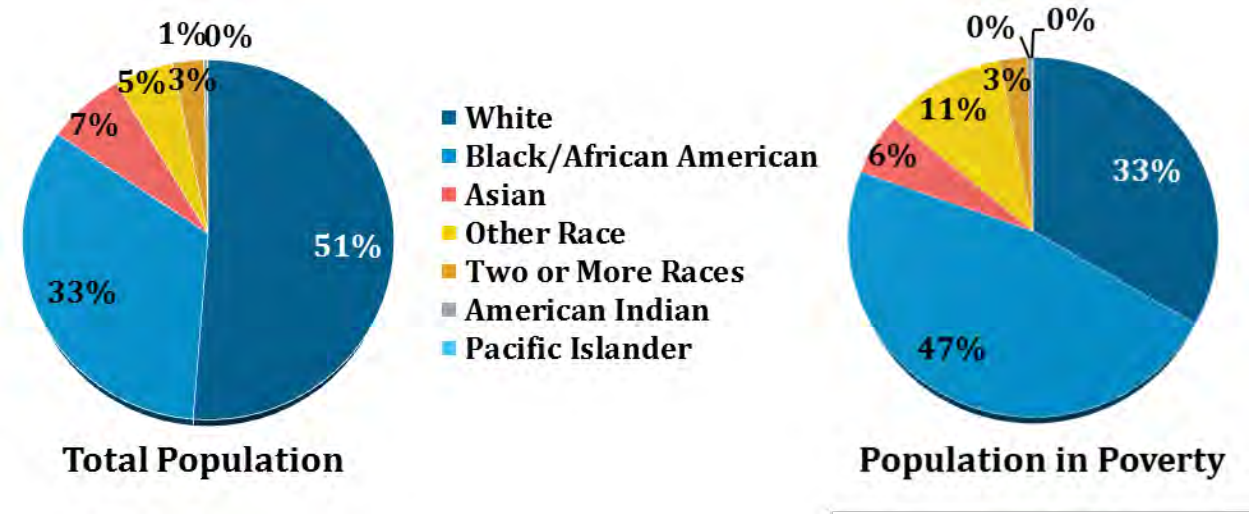


Source: US Census Bureau, The American Community Survey, 2009-2013 5-year Estimates

Throughout the Community and Georgia, clear disparities in poverty rates by race and ethnicity exist. Within the Northside Community, the overall poverty rate was 15%; however, among Blacks (the largest minority group) the rate was 22% compared to 9% for Whites. Similarly, the poverty rate among Hispanics was 29% compared to 13% for non-Hispanics. These disparities are further illustrated in **Figure 14**, which compares the Community's total population by race to the Community's population in poverty by race.

Although the Black population only makes-up 33% of the Community's total population, they represent 47% of the Community's population living below the FPL [5].

Figure 14: Total Community Population by Race Compared to Total Community Population Living in Poverty by Race



Source: Esri, 2015 & US Census Bureau, The American Community Survey, 2009-2013 5-year Estimates

Marital Status/Social Support

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 [9]. In 2015, within the Northside Community, 48% of the population (15 and older) was married, 37% had never been married, 11% was divorced, and 4% was widowed [3]. To further analyze the Community's social support systems, the percentage of adults who self-reported on the CDC's Behavioral Risk Factor Surveillance System survey that they do not have adequate social/emotional support was analyzed. Nineteen percent (19%) of the Community's population indicated they did not have ample support, compared to 21% in Georgia and nationwide. Cherokee County had the highest level of adults who self-reported adequate social/emotional support (86%) and DeKalb County the least (78%). No information was available for Pickens County on this measure [5].

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 and limited time spent outdoors pursuing physical activity, which can produce unwanted stress on the nervous and immune systems [10]. Violent crimes include homicide, rape, robbery, and aggravated assault. Northside's Community had a higher rate of violent crimes per

100,000 population (459) than Georgia (386) or the United States (396). The Community's rate of violent crime was heavily skewed by 2 counties, Fulton County with a rate of 856 violent crimes per 100,000 population and DeKalb County with a rate of 605 per 100,000 population. Cherokee and Dawson Counties were the only counties with rates at or below 100 incidents per 100,000 population [11].

Healthcare Access and Quality

Background and Overview

Many variables determine whether or not healthcare is easily accessible to a community, including the availability of health insurance, local healthcare options, and the ability to obtain a regular source of care. When individuals do not have proper access to healthcare resources their preventive care, dental care, mental health, and chronic disease management needs are usually the first to suffer. Without proper management of health through preventive and routine care, emergency and inpatient services are often used at a higher rate and patients are first seen at a more advanced stage of their disease [1].

Within the Northside Community, healthcare access is a significant issue as will be discussed throughout this section. The Community has several geographic areas that have been identified by the U.S. Department of Health & Human Services as Medically Underserved Areas ("MUAs"). The Community's MUAs are located largely in the northern portion of the Community, including portions of Cherokee and all of Pickens, Dawson, and Forsyth Counties. Additionally, south central Fulton County also has MUAs. Furthermore, these vulnerable populations often receive healthcare services from Federally Qualified Health Centers ("FQHC"); however, the Community is underserved by FQHCs compared to Georgia overall. Utilization of general/family practitioners within the Community was approximately 4% less than the national average. Gwinnett County, in particular, had both a low general/family practitioner use rate and a low rate of primary care physicians for its population. This may in part be a result of Gwinnett County having the largest Hispanic population of Community counties coupled with Georgia's high rate of Hispanics without a consistent source of primary care.

Contributing to access difficulties, the Northside Community, like Georgia, has a large uninsured population compared to the United States and spends approximately 7% more than the national average on health insurance. Within the Community, minority ethnic and racial groups have much higher uninsured rates than non-Hispanic whites. Furthermore, the multi-racial and Black-racial groups had the highest rates for inpatient hospitalizations and emergency room use, while the White and Asian racial groups had the lowest. High rates of inpatient and emergency room utilization point to a problem in obtaining the proper primary and preventive care services. Use of emergency room services was higher among lower income Community members when compared to higher income Community

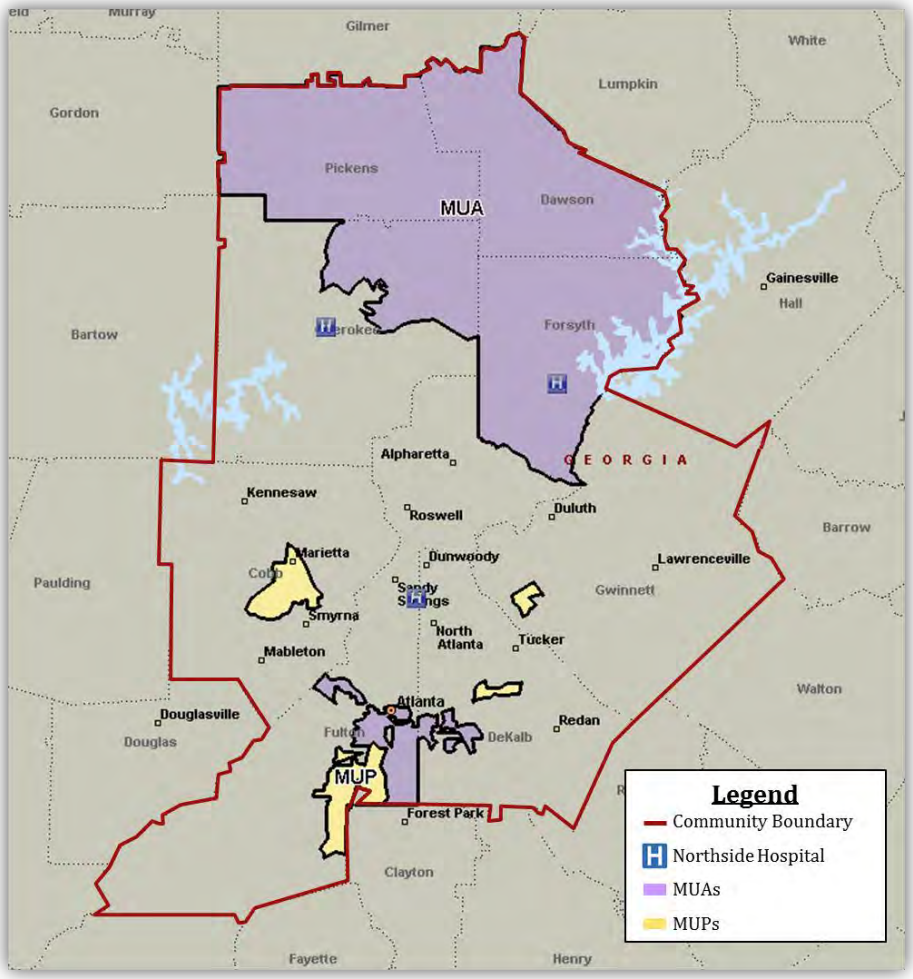
members, illustrating an access barrier based on finances. This same pattern occurred when comparing the uninsured and Medicaid populations to managed care and fee-for-service populations.

As a result of many of these accessibility needs, the hospitals located in the Community contributed a combined $1.3 billion in indigent and charity care to Community members, with Northside Hospital Atlanta providing the second largest amount of $153 million.

MUAs/MUPs and Federally Qualified Health Centers

To highlight areas with low access to healthcare resources, Northside examined the location of Medically Underserved Areas (MUAs) and Populations (MUPs), along with locations of Federally Qualified Health Centers. According to the U.S. Department of Health Resources and Services Administration, 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 [12]. 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 locations of MUAs and MUPs within the Northside Community are illustrated in **Figure 16** [13].

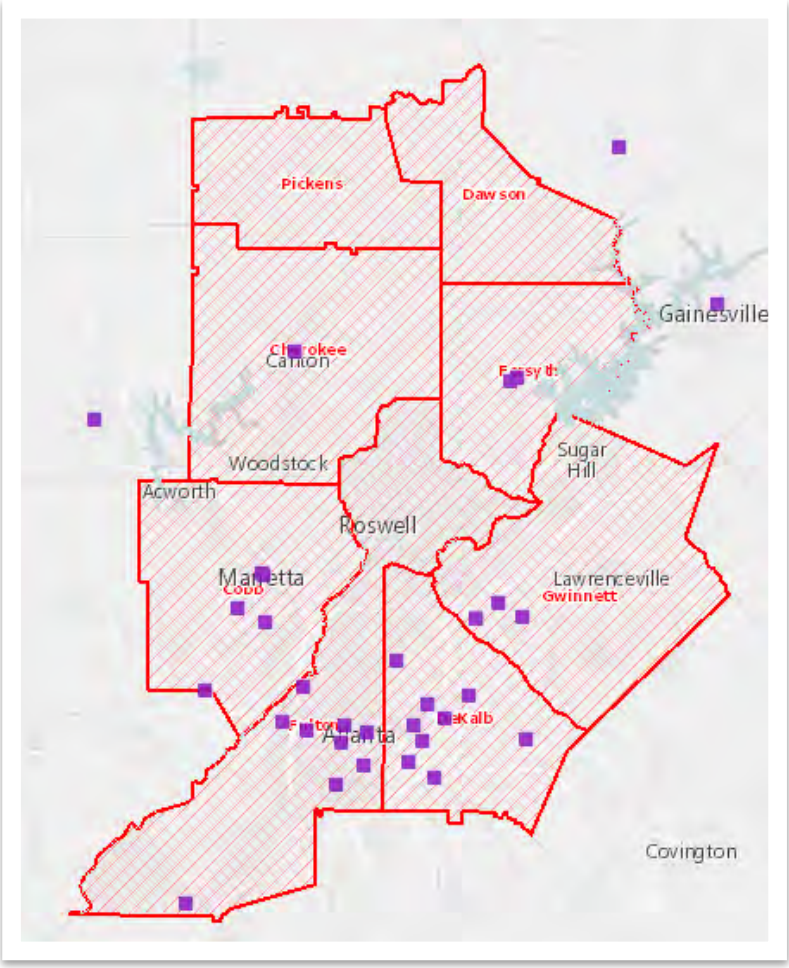
Figure 16: Location of MUAs and MUPs within the Northside Community



Source: U.S. Department of Health & Human Services, HRSA Data Warehouse, MUA Finder, 2016

Federally Qualified Health Centers 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 to disparate/vulnerable populations [12]. Within the Northside Community there were 30 FQHCs in 2014, which equates to approximately 0.85 FQHCs per 100,000 population. This rate is significantly lower than Georgia's overall rate of 1.53 FQHCs and the U.S. rate of 1.92 FQHCs per 100,000 population. The rate of FQHCs varied across the Community's counties from 0 in Dawson and Pickens Counties to 1.19 per 100,000 population in Fulton County. The locations of the FQHCs are shown in **Figure 17** [14].

Figure 17: Location of FQHCs within the Northside Community, CY 2014



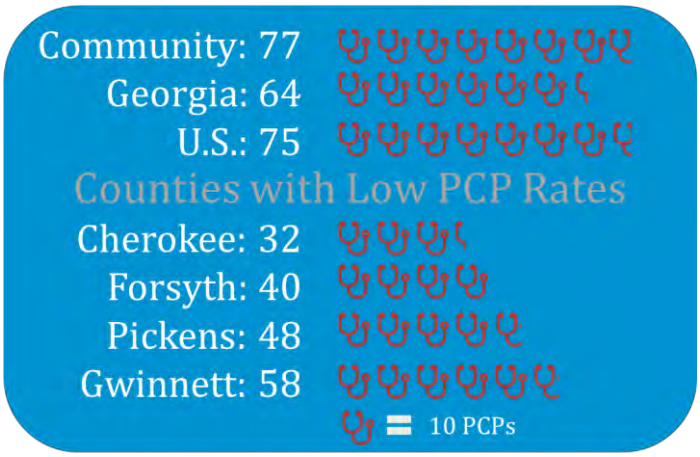
Source: US Department of Health & Human Services, Center for Medicare & Medicaid Services, *Federally Qualified Health Centers,* Accessed through communitycommons.org, 2014

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 number of PCPs within the population. The Northside Community had approximately 77

Rate of PCPs within the Community

(PCPs per 100,000 People)



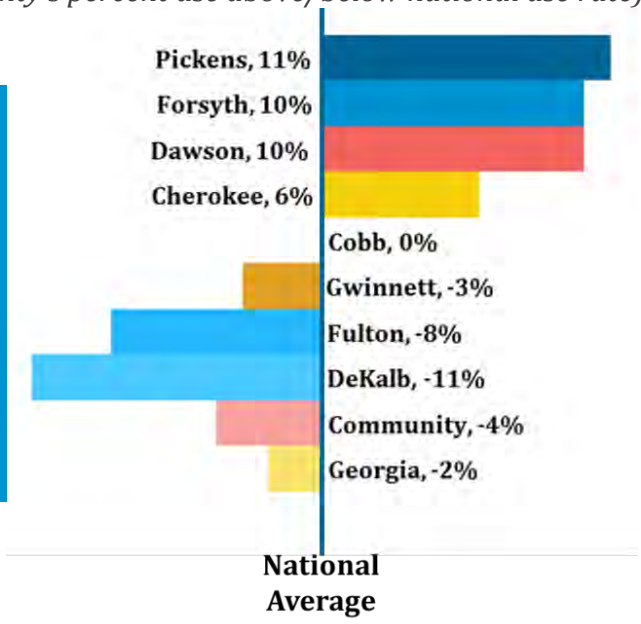
PCPs per 100,000 population based on 2012 estimates. This number was slightly higher than the Georgia prevalence of 64 and in-line with the U.S. prevalence of 75. However, a few counties within the Community had much lower prevalence of physician access, including Cherokee, Forsyth, Pickens, and Gwinnett Counties with 32, 40, 48, and 58 PCPs per 100,000 population, respectively. All of these prevalences were lower than the state-wide prevalence. When considering these numbers, it is important to remember these prevalences were calculated at the county level and that even within counties where there appears to be a significant number of PCPs (example: DeKalb County with 102.4 per 100,000 population), there could be pockets within the county where there is low access [15].

To understand if access translates to utilization, the Esri 2015 Market Potential Index was used to compare the Community and Georgia to national averages for the percent of the population to visit a general or family practitioner within the year. Members of the Northside Community visited a general/family doctor approximately 4% less frequently than the national average. As previously discussed, despite some counties within the Community having high prevalences of PCPs for their overall population, the percent of the population who visited a general/family practitioner did not always align with PCP numbers. Each county's utilization of these services compared to the national average is displayed in **Figure 18**. DeKalb, Fulton, Gwinnett, and Cobb utilized general/family practitioners less than the national average and were also the counties in the Community with the highest numbers of uninsured, illustrated in **Figure 21** [16, 3].

Figure 18: Percent of Population in the CHNA Community who visited a General/Family Practitioner in 2015 Compared to the National Average

(Figure illustrates the county's percent use above/below national use rate)

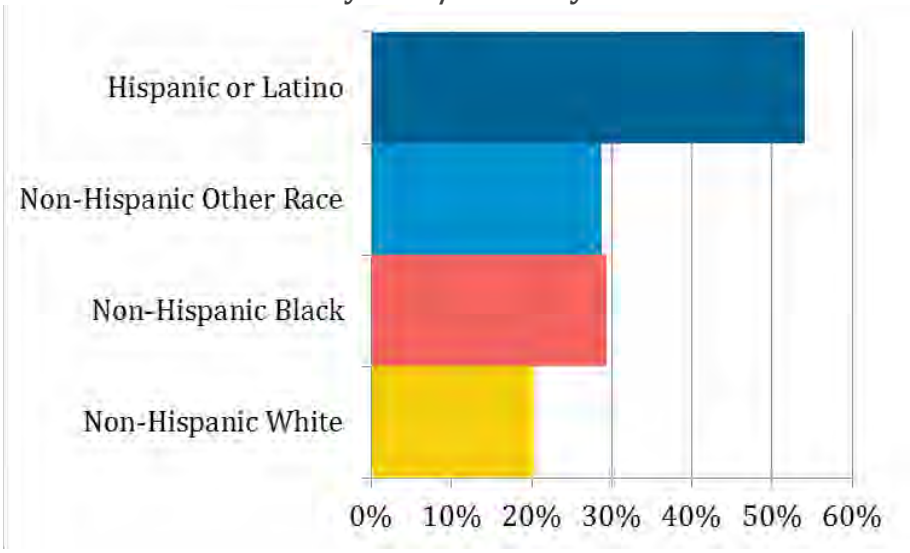
Cherokee, Forsyth, and Pickens Counties all had low PCP prevalences compared to DeKalb and Fulton; however, their utilization rates are high compared to DeKalb and Fulton. This demonstrates there is an access problem within Fulton and DeKalb Counties and possibly shows Cherokee, Forsyth, and Pickens residents access primary care outside of their home county.



Source: Esri, 2015

Persons without access to primary care physicians are more likely to have major health issues that could have been caught at an earlier stage and are more likely to use the emergency department. County level data was not available that stratified access to a consistent source of primary care by race; however, the data was available at the state-level and may broadly represent the Northside Community. Within Georgia, 54% of Hispanics indicated they do not have a consistent source of primary care. Considering 48% of Georgia's Hispanic population is within the Northside Community, this disparity is most likely present within the Community as well as Georgia [17].

Figure 19: Percent of Adults in Georgia Who Reported Not Having a Regular Doctor by Race/Ethnicity



Source: Center for Disease Control and Prevention, "Behavioral Risk Factor Surveillance System," 2011-2012, Accessed through CHNA.org

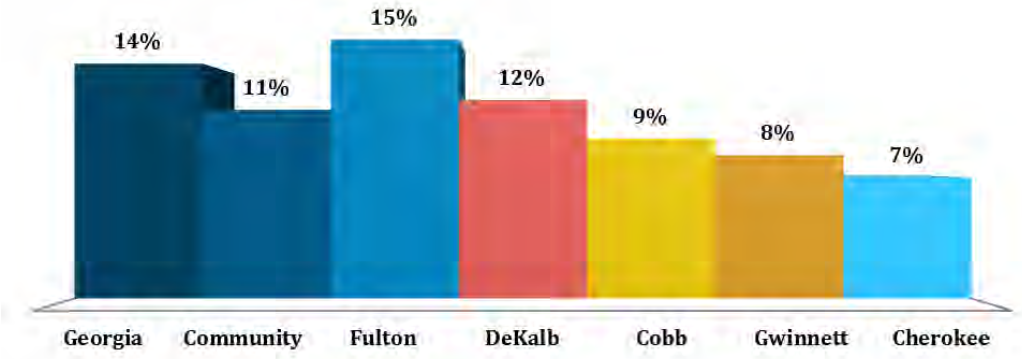
Dental Care: Access and Utilization

Dental health is closely associated with overall health. Certain oral conditions can exacerbate other chronic conditions, while certain chronic conditions may also worsen many oral health conditions. Based on 2012 data, within the Community, there were 58 dentists per 100,000 population. The Northside Community had a higher density of dentists than Georgia overall, 48 per 100,000 population, but less than the United States, 63 per 100,000 population. Pickens, Forsyth, and Dawson Counties all had dentist densities below the Georgia average [18]. Additionally, approximately one quarter of the Community's adults had not visited a dentist, hygienist, or dental clinic in the past year. This rate was similar across all counties in the Community, peaking at 29% in Pickens County. The Community and all counties in the Community had equal or better rates of dental care utilization than Georgia and the U.S., with 71% and 70%, respectively, of adults receiving dental exams within the year [19].

Access to 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/eliminating harmful substance use during pregnancy, and monitoring for more serious complications [20]. Within the Northside Community, 11% of mothers received late or no prenatal care, the equivalent of 23,144 mothers. Rates varied by county, with Fulton County having over 8,000 mothers who received late or no prenatal care. No data was available for Dawson, Pickens, and Forsyth Counties [21]. Additional variables related to maternal and infant health are discussed in the Health Outcomes section of this CHNA.

Figure 20: Percent of Mothers with Late or No Prenatal Care in Georgia compared to the Community and its Counties



Source: Centers for Disease Control and Prevention, National Vital Statistics System, 2007-10, Accessed via CHNA.Org.

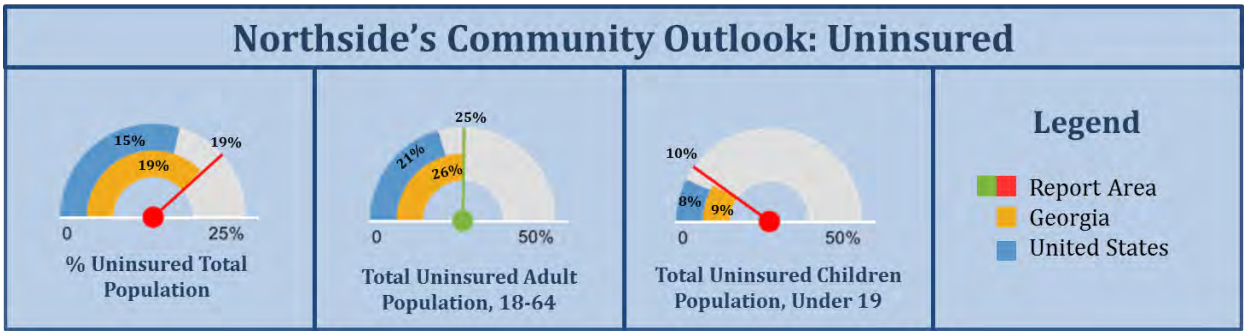
Preventable Hospital Events

One indicator that illustrates whether 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 for pneumonia, dehydration, asthma, diabetes, and other similar conditions because with proper primary care they would not have resulted in a hospital stay. The Northside Community had a preventable hospital discharge rate of 50 per 1,000 Medicare enrollees. This was significantly better than the Georgia rate of 61 and the U.S. rate of 59. Cherokee, Forsyth, and Pickens Counties had the highest discharge rates of the Community's counties, each at 58 per 1,000 Medicare enrollees [22].

Health Insurance Coverage

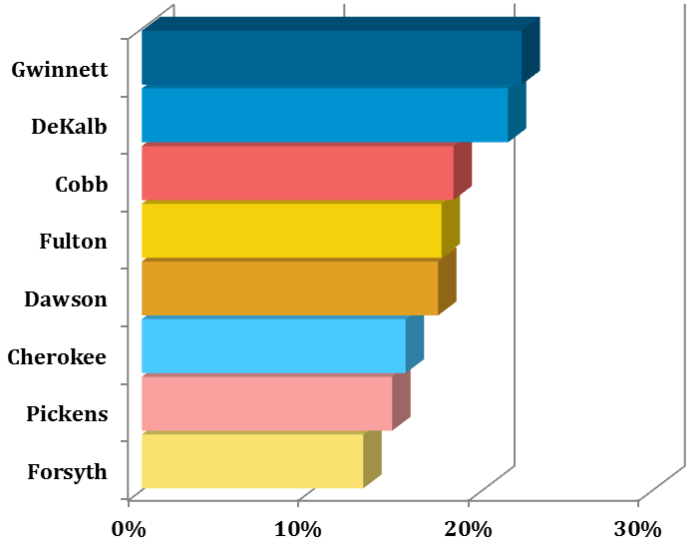
In terms of access to healthcare, having no health insurance is a large barrier to medical care. Persons who are uninsured are less likely to seek out or receive preventive care, are more likely to be admitted to the hospital for preventable conditions, and are also more

likely to die in the hospital compared to the insured [23]. 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 through an exchange-based plan offered on the federally-run www.healthcare.gov. Additional programs designed to help the low-income Georgians, include Medicaid (limited) and PeachCare for Kids. The uninsured rate within the Community was similar to Georgia overall. Georgia and the Community had higher rates of uninsured than the United States overall for all three populations analyzed (total population, adults 18-64, and children).



Gwinnett and DeKalb Counties had the highest rates of uninsured populations with 22% and 21%, respectively; the Community's top performing counties, Forsyth and Pickens, had uninsured rates close to the national average with 13% and 15% uninsured (U.S.-15%). When isolating these totals by age group, the adult population (aged 18-64) had an uninsured rate of 25% in the Community and children (aged under 19) had an uninsured rate of 10% [16].

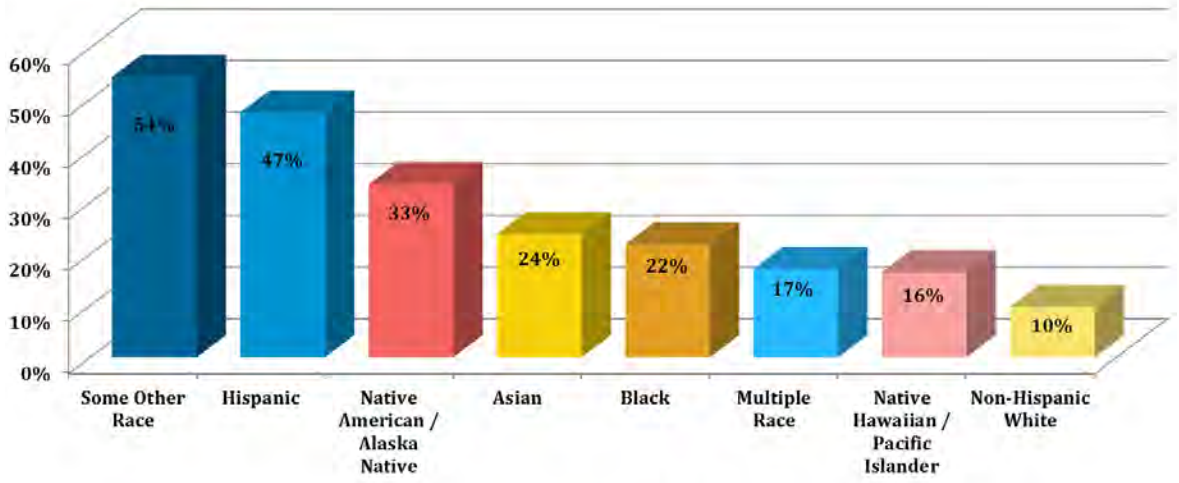
Figure 21: CY 2013 Percent of Population without Health Insurance within the Northside Community by County



Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2013, Accessed via CHNA.org

Health insurance rates differed greatly by race and ethnicity within the Northside Community. This disparity was largest within the "some other race" and Hispanic groups, as illustrated in **Figure 22**. The Community's total population had an uninsured rate of 19%; however, only 10% of non-Hispanic Whites were uninsured, compared to all other racial/ethnic groups with between 16-54% uninsured [16].

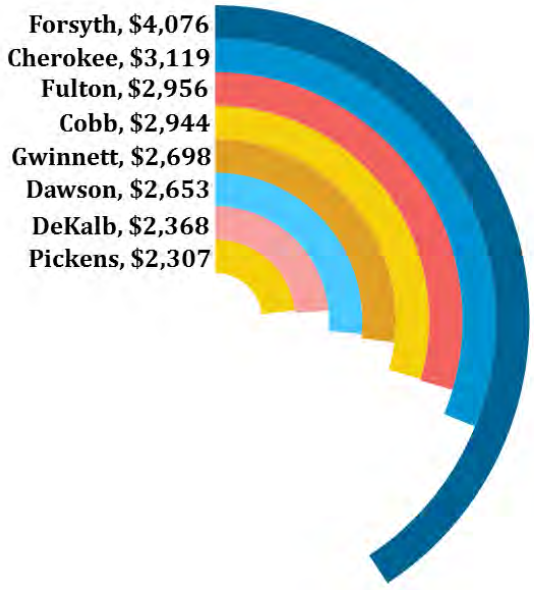
Figure 22: Northside's Community Rate of Uninsured by Race and Ethnicity



Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2013, Accessed via CHNA.org

One cause for the high rates among the uninsured may be a result of costly insurance plans. Members of the Community, in CY 2015, on average spent 7% more than the national average on health insurance, or approximately $2,841 for the year [3]. **Figure 23** represents the average amount spent on health insurance by county in the Community.

Figure 23: CY 2015 Avg Amount Spent on Health Insurance within Northside's Community



Source: Esri, 2015

Hospitals and Number of Beds per 10,000

In 2014, there were 22 general acute care hospitals[2] with a total of 7,999 approved beds located in the Northside Community. This resulted in 21 general acute care hospital beds per 10,000 population in the Community compared to 23 general acute hospital beds per 10,000 population for the state. Northside's Community members generated more than 1,710,000 general acute care inpatient ("IP") days. Based on an optimal utilization rate of 75%, the Community generated a total need for 6,247 general acute care IP beds. Thus, the Community has fewer beds per person as compared to Georgia; however, based on the Community's utilization, there is a slight surplus of general acute care inpatient beds as defined by the Georgia Department of Community Health [24].

Healthcare Utilization

In 2013, Community members generated 325,842 inpatient discharges from non-Federal acute-care inpatient facilities representing 33% of Georgia's total inpatient discharges and 1,044,512 emergency room ("ER") visits representing 28% of Georgia's total ER visits. The Community had a lower IP discharge rate than Georgia with 8,696 inpatient discharges per 100,000 population compared to 10,023; similarly, the Community's ER visit rate of 27,877 per 100,000 population was lower than Georgia's of 37,263. The top causes of IP hospitalizations and ER visits for the Community are listed in **Table 4** [25].

Table 4: Northside Community's Top 5 Causes for Hospital Use

IP Discharges		ER Visits	
Cause	**%**	**Cause**	**%**
Pregnancy and Childbirthing Complications	16%	External Causes	19%
Cardiovascular Diseases	11%	Respiratory Disease	12%
Digestive System Diseases	7%	Bone and Muscle Disease	7%
Respiratory Disease	7%	Reproductive and Urinary System Diseases	6%
Mental and Behavioral Diseases	6%	Digestive System Diseases	6%

Source: GDPH, OASIS, 2013

Healthcare Utilization by Race

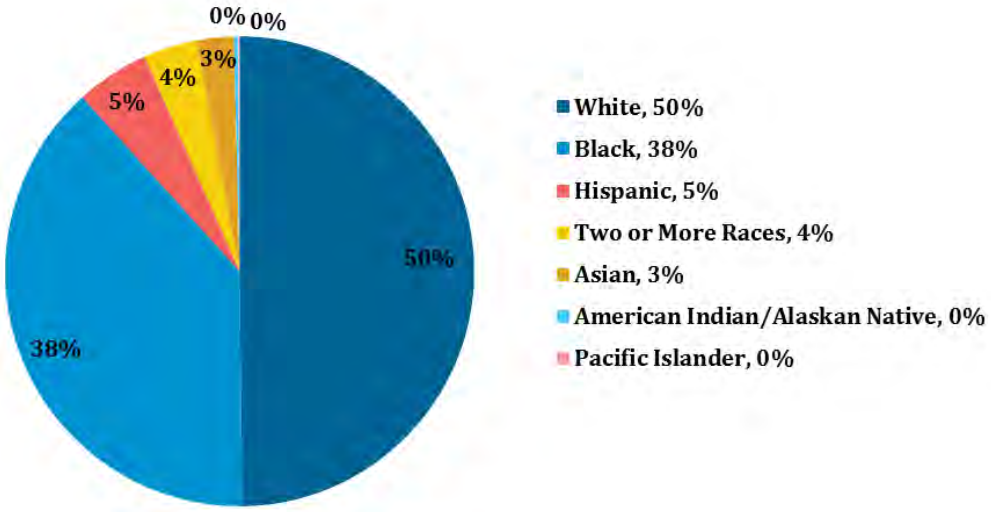
To determine if there were differences in healthcare utilization by race, three resources were utilized including the 2014 Annual Hospital Questionnaire, the Georgia Department of Public Health's ("GDPH") Online Analytical Statistical Information System ("OASIS"), and the National Research Corporation's ("NRC")[3] 2014 survey results.

[2] This number excluded all specialty hospitals, including, long-term acute care, mental health or psychiatry, geriatric, orthopedic & spine, and rehabilitation hospitals.

[3] The NRC was founded in 1981 as a healthcare research and quality improvement firm with extensive experience in designing, conducting, tabulating, and reporting consumer market research. With a client

For the 22 hospitals in the Northside Community, admissions by race are presented in **Figure 24**, and largely reflect the demographic make-up of the Community. The Hispanic and Asian populations were possibly underserved based on their population figures in the Community. However, the Georgia Department of Community Health classifies Hispanic as a race, whereas the U.S. Census classifies it as an ethnicity, which may account for some of the difference, 5% of total admissions versus 12% of the total population. Northside Hospital Atlanta's admissions by race largely reflect the averages within the Community while Northside Hospital Cherokee and Northside Hospital Forsyth's admissions by race are more reflective of their home county's demographics. For example, the two largest racial groups in Cherokee County were White representing 85% of Cherokee County residents and Black representing 6% of residents. NHC's 2014 admissions were 85% White and 5% Black, very reflective of the hospital's local population [24].

Figure 24: CY 2014 Inpatient Admissions to the 22 General Acute Care Hospitals located in Northside's Community by Race

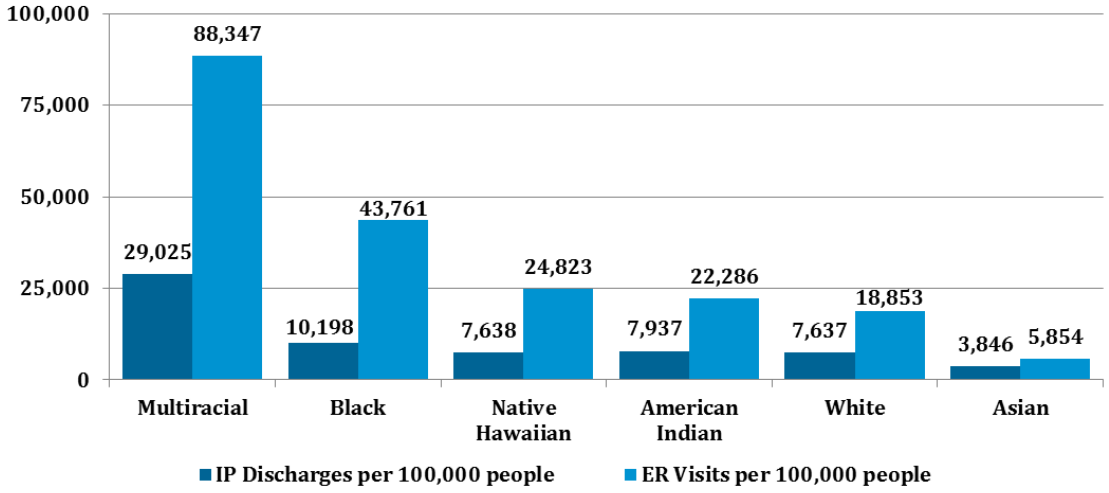


Source: Georgia Department of Community Health, Annual Hospital Questionnaire, 2014

While total IP admissions largely reflect the demographics of the Community, data from the GDPH OASIS reveal that use rates for IP hospitalizations and ER visits vary by race within the Community. These results are illustrated in **Figure 25.** The multi-racial and Black racial groups had the highest use rates for both inpatient hospitalizations and ER visits. This data was not available by ethnicity [25].

roster including more than 2,000 hospital facilities and 6,000 long-term care providers, NRC is well-respected in the healthcare industry.

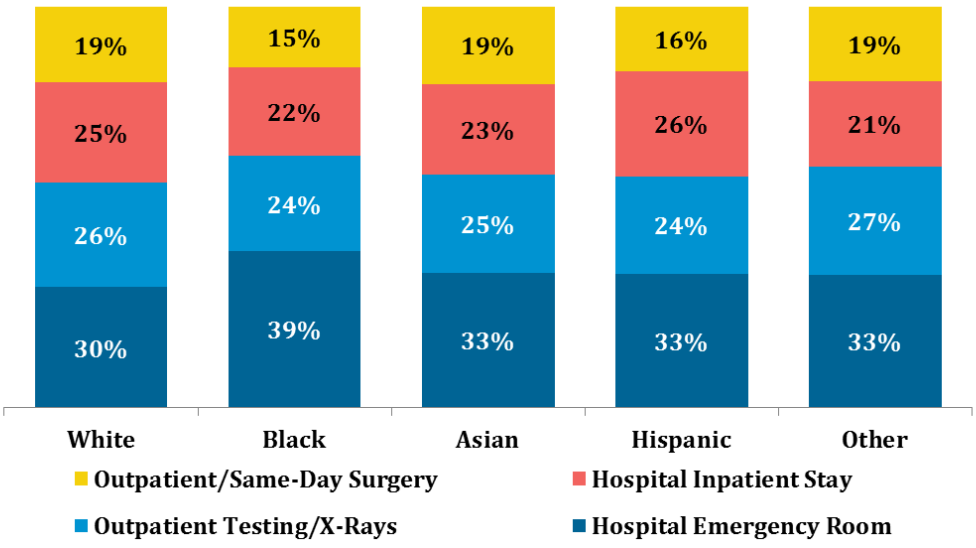
Figure 25: Northside's Community Hospital Utilization Rate (IP & ER) by Race



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2013

NRC data was utilized to analyze what services were used by each race and ethnicity to determine if there were any differences between races or ethnicities. The NRC Survey asked households to report their healthcare utilization by type of service (e.g., Hospital Inpatient Stay, Hospital Emergency Room, Outpatient/Same-Day Surgery and Outpatient Testing/X-Rays). When analyzing this data, the responses revealed that the Black population had a higher utilization of ER services, accounting for 39% of the Black population's total healthcare utilization compared to only 30% in the White population and 33% in the Asian and Hispanic populations. Additionally, the Black and Hispanic populations' use of same-day surgery services was lower than the White and Asian populations, as illustrated in **Figure 26** [26].

Figure 26: 2014 Northside Community's Healthcare Utilization by Service Type and Race/Ethnicity

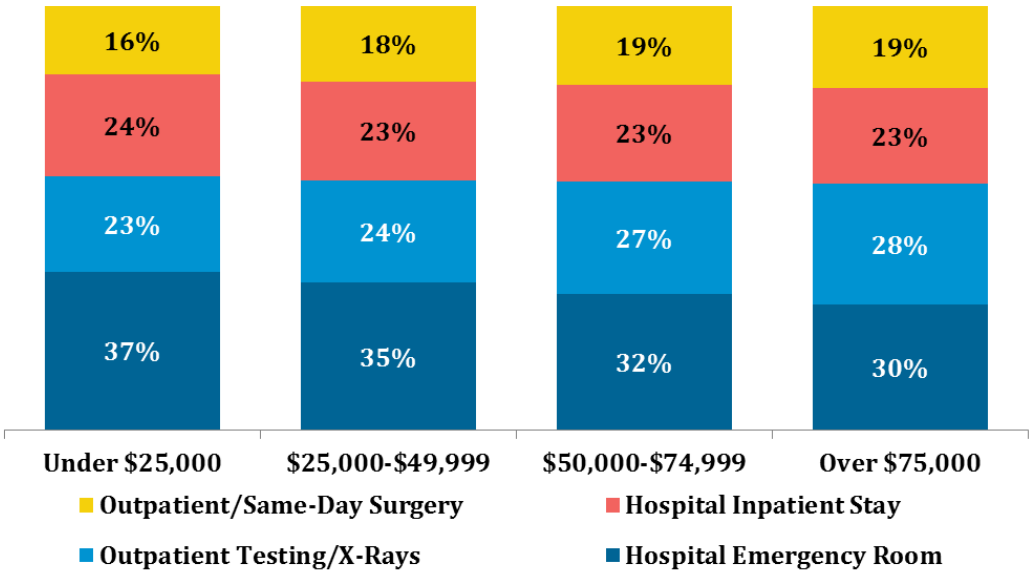


Source: The National Research Corporation, Market Insights, 2014

Healthcare Utilization by Household Income

According to the NRC Survey, in 2014 across all income levels, the hospital emergency room was the most frequently utilized healthcare service. While households of all income levels had access to the four types of healthcare services, it is important to note that a larger percentage of households with incomes under $25,000 reported utilizing the hospital ER compared to the higher income brackets. This illustrates a potential lack of access to preventive care among Community members in lower income brackets. Furthermore, as household income increases so too does utilization of Outpatient/Same-Day Surgery and Outpatient Testing/X-Rays. This further indicates access barriers to care to these services for lower income households in the Northside Community [26].

Figure 27: 2014 Northside Community Utilization of Healthcare Services by Household Income

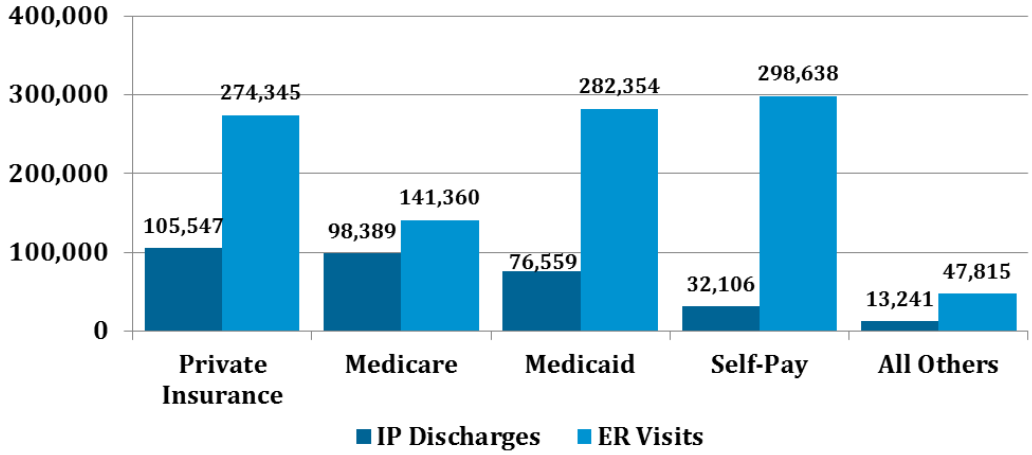


Source: The National Research Corporation, Market Insights, 2014

Healthcare Utilization by Insurance Type

Based on data from GDPH OASIS and the NRC 2014 Survey, the patients receiving inpatient care varied from those visiting the ER when considering payor type. Privately insured and Medicare patients made up 63% of inpatient hospitalizations and only 40% of ER visits. Comparatively, self-pay and Medicaid patients comprised 33% of inpatient hospitalizations and 56% of ER visits [25].

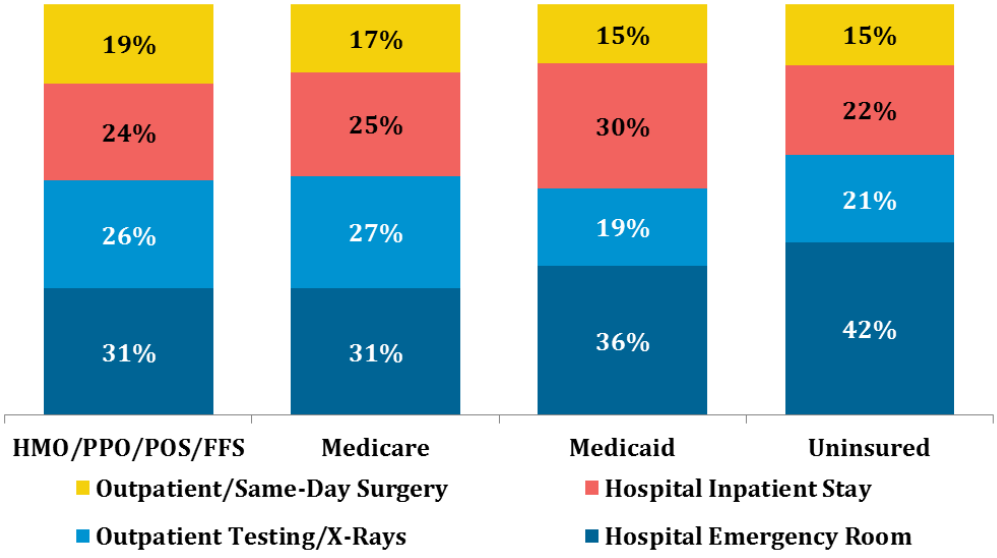
Figure 29: Northside's Community Hospital Utilization (IP & ER) by Payor Type



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2013

Northside compared the type of healthcare utilization by populations with various types of health insurance based on NRC 2014 Survey results as well. The results of the analysis were in line with industry experience, in that the uninsured population had much higher rates of ER use than the other populations with health insurance. This is in large part a result of it being the only means of accessing healthcare for the uninsured perhaps because the uninsured population is likely to delay obtaining healthcare services until their condition becomes emergent. The uninsured population had lower rates of same-day surgery, x-rays, and inpatient stays compared to the managed care and Medicare populations. The Medicaid population also exhibited high rates of ER use and IP hospital stays illustrating that the Medicaid population was not accessing preventive healthcare resources until they were emergent or severe enough for an inpatient hospital stay [26].

Figure 30: 2014 Northside Community Utilization of Healthcare Services by Insurance Type

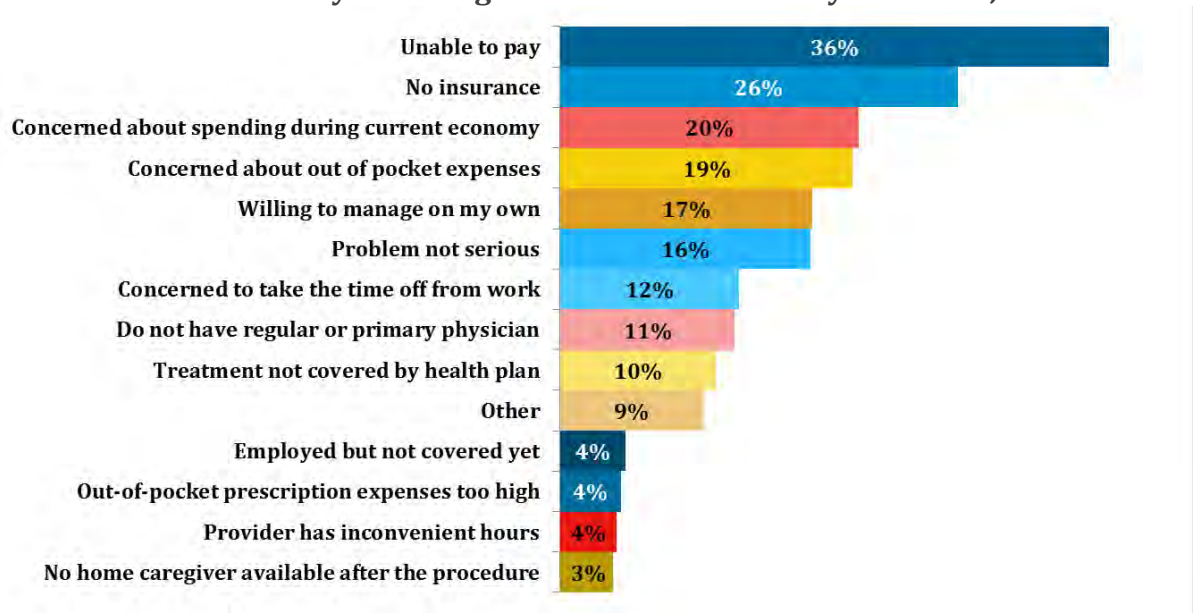


Source: The National Research Corporation, Market Insights, 2014

Reason for Delaying Medical Care

The number one reason Community members indicated they delayed medical care was because they were unable to pay. The additional reasons for delayed care are provided in **Figure 31**. More than one reason could be chosen by each survey respondent. The top 4 responses were related to insurance or cost [26].

Figure 31: Reasons for Delaying Medical Care over the Past 6-Months, Percentage of Households Surveyed among Northside's Community Members, CY 2014



Source: The National Research Corporation, Market Insights, 2014

Indigent and Charity Care

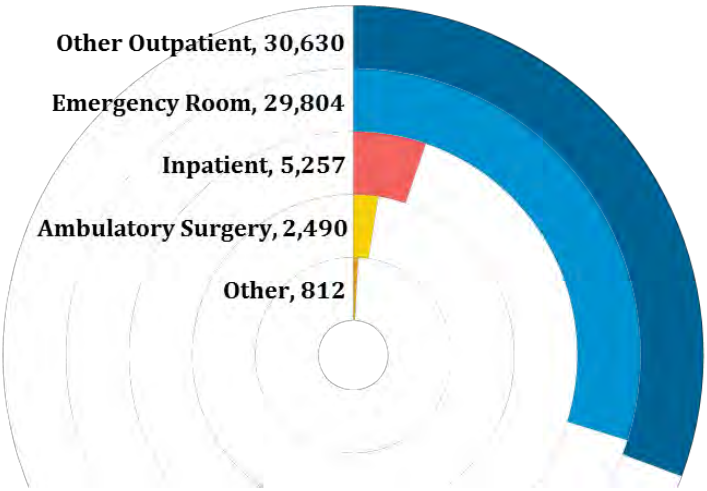
Indigent and charity care is often used as a metric for assessing a community's access to healthcare services, particularly for individuals with limited financial means. The amounts of indigent and charity care provided by the 22 general acute care hospitals in the Community varied widely. In 2014, the 22 general acute care hospitals in the Community provided more than $1.3 billion in net indigent and charity care combined. Northside Hospital Atlanta provided the second largest dollar amount ($153 million), behind Grady Memorial Hospital ($224 million), in indigent and charity care of all general acute care providers in the Community. Northside's indigent and charity care performance demonstrates that Northside is providing community benefit and serving all patients regardless of their ability to pay [27].

Figure 32: CY 2014 Indigent and Charity Care by Hospitals for All Hospitals in Northside's Community with over $50M in Net Indigent and Charity Care

Source: The Georgia Department of Community Health, Hospital Financial Surveys, 2014

In 2014, the Northside Health System provided $283,711,998 in net indigent and charity care. Broadly, services rendered can be grouped into ambulatory surgery, emergency room, inpatient services, and other outpatient services with nearly 88% of indigent and charity cases falling into other outpatient services and the emergency room.

Figure 33: Indigent and Charity Care Cases Generated by Northside Hospital System Patients, CY 2014



Source: Northside Hospital Internal Data Systems, CY 2014

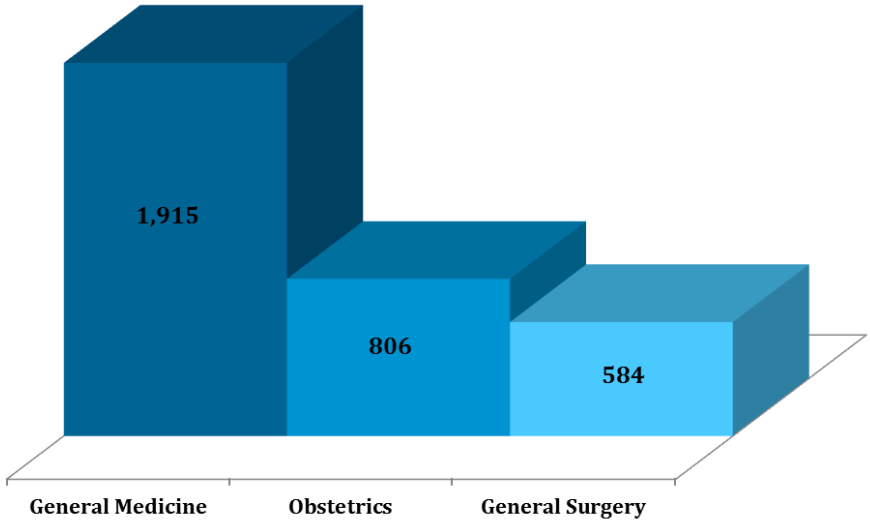
Upon further analysis of the other outpatient services utilized by the indigent and charity patients, 12% percent, or 3,582 of the 30,630 indigent and charity cases, utilized Northside's mental health services.

In stark contrast, it is challenging to identify a leading cause or two of ER utilization by Northside's indigent and charity patients as the 29,804 emergency charity cases had a very large range of principal diagnoses; in fact, they were too numerous to list separately. The top ten diagnoses by case volume represented approximately 18% of total indigent and charity emergency cases and are summarized in the table below.

Table 5: 2014 Northside Indigent and Charity ER Cases Top 10 Diagnoses			
Princ. Dx	**Description**	**Cases**	**% Total**
789.00	ABDMNAL PAIN UNSPCF SITE	889	3%
786.59	CHEST PAIN NEC	735	2%
784.0	HEADACHE	637	2%
599.0	URIN TRACT INFECTION NOS	604	2%
786.50	CHEST PAIN NOS	507	2%
787.01	NAUSEA WITH VOMITING	468	2%
789.09	ABDMNAL PAIN OTH SPCF ST	447	1%
346.90	MIGRNE UNSP WO NTRC MGRN	415	1%
847.0	SPRAIN OF NECK	404	1%
490	BRONCHITIS NOS	354	1%
Total Top 10 Diagnoses		**5,460**	**18%**

On the inpatient side, Northside's indigent and charity patients had high utilization of general medicine, obstetrics, and general surgery. These three inpatient service lines represented 63% of the inpatient indigent and charity utilization.

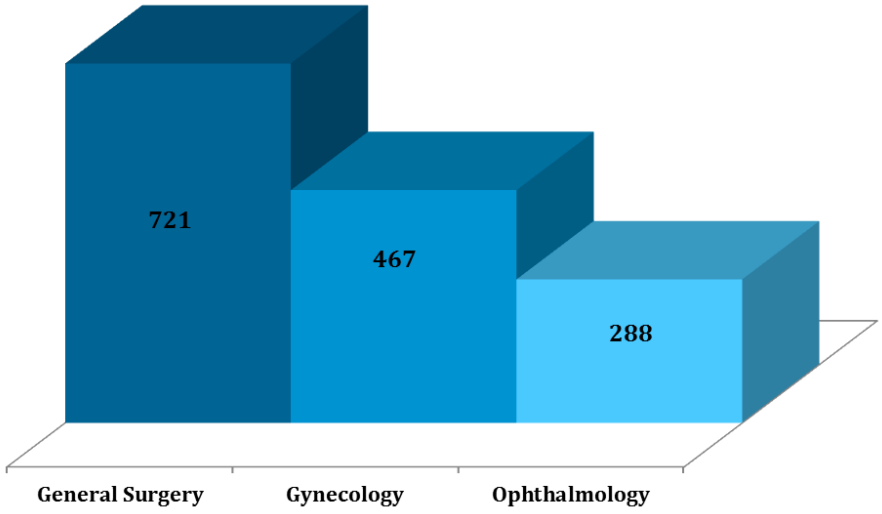
Figure 34: CY 2014 Northside System's Top Three IP Services Utilized by Indigent and Charity Patients



Source: Northside Hospital Internal Data Systems, CY 2014

Similar to the demand for inpatient services, demand for outpatient surgical services was concentrated among three service lines as indicated in the graph below. Together, general surgery, gynecology, and ophthalmology comprised 59% of Northside's need for indigent and charity ambulatory surgical services in 2014.

Figure 35: CY 2014 Northside System's Top Three Ambulatory Surgery Services Utilized by Indigent and Charity Patients



Source: Northside Hospital Internal Data Systems, CY 2014

Health Behaviors

Background and Overview

Poor health behaviors such as poor diet, lack of exercise, and substance abuse can contribute to an individual's and a community's poor health status.

The Community's population had higher rates of participating in preventive health behaviors when compared to Georgia and the United States; however, within the Community, preventive health behaviors were less common in low income households, among minority racial and ethnic groups, and among the uninsured. The Northside Community had lower smoking rates, better nutritional standards, and higher physical activity rates than Georgians overall; however, it had a larger percent of adults who drink excessively than the state. Despite the Community outperforming Georgia for most preventive health behavior indicators, several health needs in the Community were revealed through this analysis. Most Community adults consumed fewer than 5 servings of fruits and vegetables every day, close to 20% of adults within the Community reported no physical activity as part of their daily routine, and Dawson and Pickens Counties had particularly high rates of regular smokers. These findings suggest the need for improved

tobacco control, nutrition, and physical activity not just in the Community but in Georgia as well.

Preventive Health Behaviors - Overview

Preventive screenings are an important part of routine care and maintaining good health. In addition, high rates of preventive screenings can be signs of health knowledge, provider outreach, and other social indicators. The types of preventive health screenings necessary for each person varies based on age, gender, health status, and family and personal history. The goal of preventive health is to identify health problems early while they are easier to treat and usually result in better outcomes [28]. For this CHNA, Northside utilized multiple resources to identify preventive health behavior patterns in the Community. The first set of data is from the NRC 2014 Survey and did not limit the population looked at to the ages/genders appropriate for each behavior, but rather takes a broad look at household members' preventive health behaviors. This dataset allowed for comparison between respondents' races, household income, and insurance status. The second set of data is from CHNA.org and draws from multiple different data sources that limit their look to key demographic populations (ex. Pap test for women 18 or older).

Preventive Health Behaviors – Overview of NRC Survey

The NRC 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."

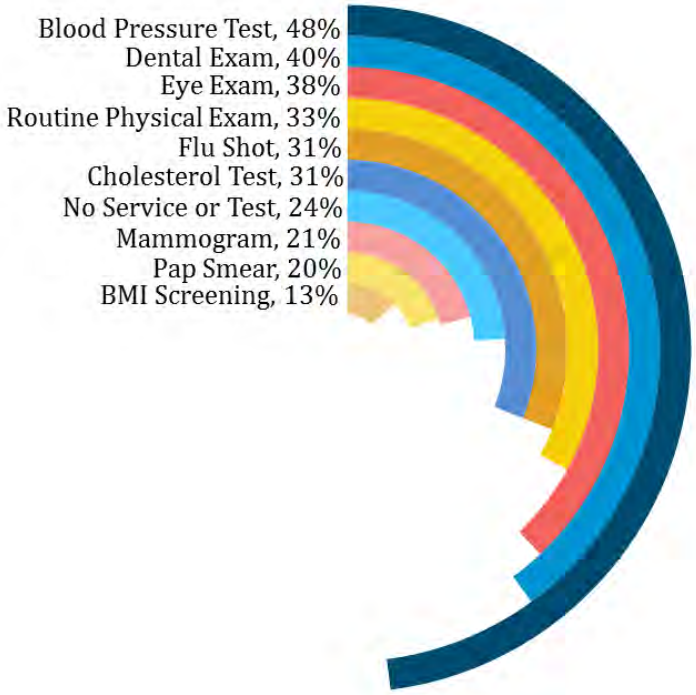
Table 6: National Research Corporation List of Preventive Health Behaviors Provided to NRC Survey Respondents		
Blood Pressure Test	BMI Screening	Cardiovascular Stress Test
Carotid Artery Screening	Child Immunization	Cholesterol Test
Colon Screening	Dental Exam	Diabetes Screening
Eye Exam	Flu Shot	Hearing Test
Mammogram	Mental Health Screening	Osteoporosis Testing
Pap Smear	Prenatal Care	Prostate Screening
Routine Physical Exam	Stop Smoking Program	Weight Loss Programs
Other Service of Test	No Service or Test	

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 Northside Community are summarized in **Figure 36**. Almost half of the households surveyed had a

member that had received a blood pressure test, the top preventive health behavior. Furthermore, household members in over a quarter of all households had received a dental exam, eye exam, physical, cholesterol test, or flu shot. On average, the Northside Community's NRC survey respondents reported 3.5 PHBs per household [26].

Figure 36: 2014 Northside Community Top Ten Preventive Health Behaviors, % of Households Reporting Behavior



Source: National Research Corporation, Market Insights, 2014

In addition to reviewing the top preventive health behaviors, the least common health behaviors were also important to explore as possible opportunities to improve access to care and the overall health status of the Community. Less than 5% of total households had members that took part in stop smoking programs, carotid artery screenings, prenatal care, weight loss programs, mental health screenings, and osteoporosis testing [26].

Preventive Health Behaviors by Income

Preventive health behaviors of Northside's Community members varied based on their household income. Households in the lowest income bracket ($25,000 or less) participated in an average of 2.4 PHBs compared to 4.5 in the highest income bracket ($75,000 or more). Prostate screening, osteoporosis testing, mammograms, hearing tests, colon screenings, dental exams, and child immunizations were among the preventive health behaviors with the highest average income tied to them. The top 5 PHBs with the largest difference between low and high income household participants are presented in **Table 7**. This chart illustrates some of the key preventive health behaviors that are not accessible to low income Community members [26].

Table 7: Northside Community Preventive Health Behaviors with the Largest Differential between Low and High Income Households		
	Percent Households with <$25,000 HHI	Percent Households with >$75,000 HHI
Dental Exam	22%	56%
Routine Physical Exam	20%	45%
Eye Exam	26%	50%
Cholesterol Test	21%	41%
Flu Shot	21%	40%

Preventive Health Behaviors – Race/Ethnicity

There were several differences in the top preventive health behaviors when results were stratified by race or ethnicity. This stratification for the top 10 PHBs in the Community is displayed in **Table 8** [26].

Table 8: 2014 Northside Community Top 10 Preventive Health Behaviors within the Northside Community by Race/Ethnicity				
Top 10 Preventive Behaviors	% White Households	% Black Households	% Asian Households	% Hispanic Households
Blood Pressure Test	55%	44%	31%	47%
Dental Exam	50%	31%	27%	42%
Eye Exam	44%	33%	24%	39%
Routine Physical Exam	40%	26%	21%	27%
Cholesterol Test	40%	22%	21%	27%
Flu Shot	40%	21%	24%	26%
No Service or Test	18%	28%	33%	23%
Mammogram	25%	20%	8%	18%
Pap Smear	21%	22%	9%	16%
BMI Screening	14%	12%	11%	9%

Overall, the percent of White households participating in the top 10 PHBs was higher than all minority groups, with the exception of household members receiving "No Service or Test." In addition, White households on average participated in 4 PHBs compared to 3 PHBs for Black and Hispanic households and 2 PHBs for Asian households [26].

In addition to analyzing the top PHBs by race, the least reported behaviors by race are presented in **Table 9**. The carotid artery screening and stop smoking programs were in the bottom 5 for each racial/ethnic group analyzed. Lack of participation in prenatal care stood out for White, Black, and Asian households; lack of mental health screening in Asian

and Hispanic households; and the lack of osteoporosis testing in Black, Asian, and Hispanic households stood out among the top 5 least reported behaviors. In terms of cancer screening, all races had colon screening as one of the least reported PHBs and all minority groups had prostate screening as a least reported PHB [26].

Table 9: 2014 Northside Community
Top 10 Least Reported Preventive Health Behaviors within the Northside Community by Race/Ethnicity (% Households)

White Households	Black Households	Asian Households	Hispanic Households
Cardiovascular Stress Test (11%)	Colon Screening (6%)	Cardiovascular Stress Test (6%)	Prostate Screening (7%)
Colon Screening (10%)	Prostate Screening (6%)	Colon Screening (5%)	Colon Screening (7%)
Child Immunization (10%)	Cardiovascular Stress Test (5%)	Prostate Screening (4%)	Cardiovascular Stress Test (6%)
Osteoporosis (6%)	Mental Health Screening (4%)	Osteoporosis Testing (3%)	Prenatal Care (6%)
Mental Health Screening (4%)	Weight Loss Programs (3%)	Weight Loss Programs (1%)	Weight Loss Programs (4%)
Other Service or Test (4%)	Other Service or Test (3%)	Prenatal Care (1%)	Other Service or Test (3%)
Carotid Artery Screening (3%)	Prenatal Care (2%)	Mental Health Screening (1%)	Mental Health Screening (2%)
Weight Loss Programs (3%)	Stop Smoking Program (2%)	Other Service or Test (1%)	Carotid Artery Screening (2%)
Prenatal Care (2%)	Osteoporosis Testing (1%)	Carotid Artery Screening (1%)	Osteoporosis Testing (2%)
Stop Smoking Program (1%)	Carotid Artery Screening (1%)	Stop Smoking Program (0%)	Stop Smoking Program (1%)

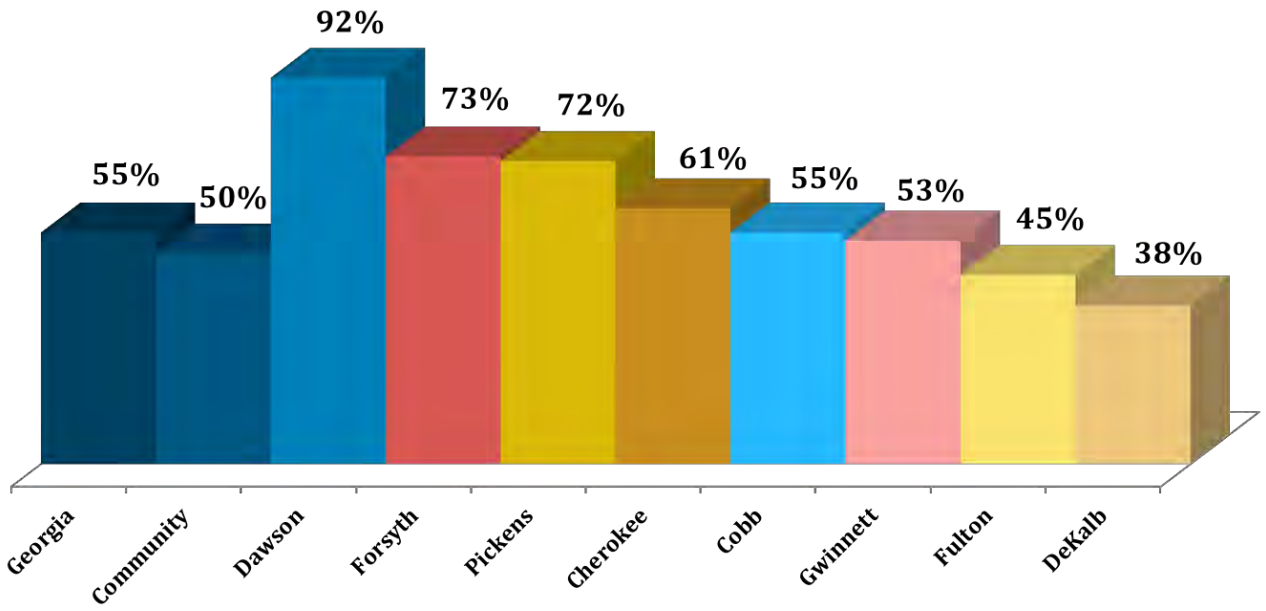
Preventive Health Behaviors – Uninsured

In households that do not have health insurance, the most common NRC survey response was that no preventive health behaviors had been taken by any members of the household. This response accounted for 42% of the uninsured households compared to only 24% of the total households surveyed. On average, only 2 preventive health behaviors were reported per uninsured household. Uninsured respondents participated to a lesser extent than the overall Community in all preventive health behaviors, except mental health screening, prenatal care, and stop smoking programs. The least utilized services by the uninsured were very similar to the Community's totals and included carotid artery screening, osteoporosis testing, stop smoking programs, and weight loss programs [26].

Sexually Transmitted Infections

The frequency and types of Sexually Transmitted Infection (STI) testing recommended by physicians varies based on many personal risk factors; however, the CDC encourages HIV testing be incorporated into routine medical care for adolescents and adults aged 15 to 65 [29]. Screening is especially important in the Northside Community because in 2015 the Atlanta metro-area, which is largely encompassed by Northside's Community definition, was ranked number 5 of all U.S. metro-areas for new HIV diagnoses, yet in the Northside Community, 50% of adults, aged 18-70, had never been screened for HIV/AIDS. Rates of screening within the Community varied drastically and are illustrated in **Figure 37**. As illustrated, 92% of Dawson County's adult population had never been screened for HIV/AIDS, compared to only 38% of DeKalb County adults [17, 30]. Screening rates were not available stratified by race or income; however, the HIV epidemic "disproportionately affects the black community in Atlanta." [30]

Figure 37: Percent of Adults Never Screened for HIV for Georgia Compared to the Community and its Counties



Source: Center for Disease Control and Prevention, BRFSS, 2011-2012, Accessed via CHNA.org

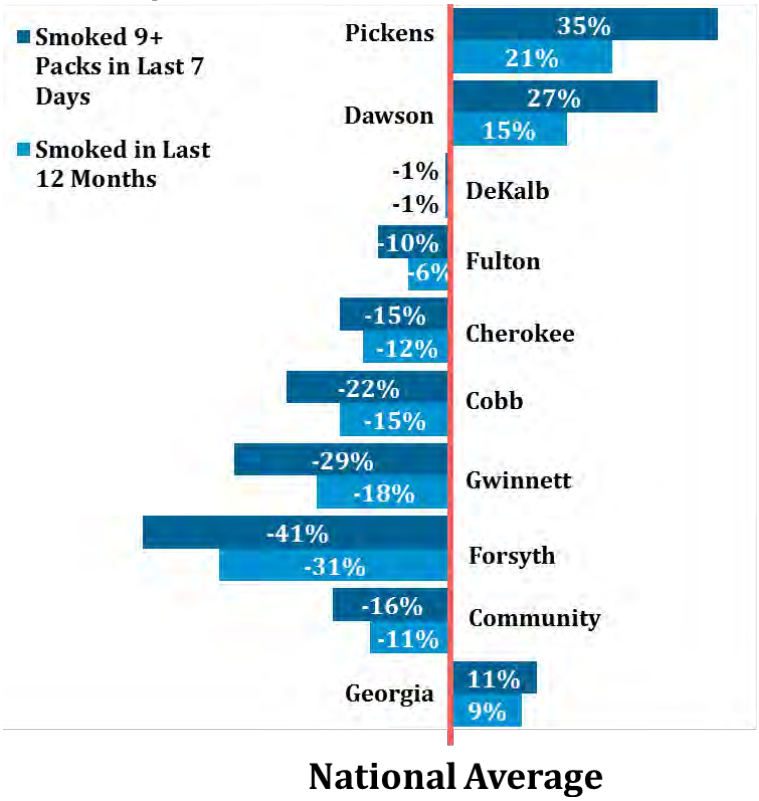
Substance Use - Tobacco

Cigarette smoking is linked to many of the leading causes of death within the Community, including cancer and cardiovascular disease. Also, according to the National Institutes of Health, the most common irritant in the United States that causes chronic obstructive pulmonary disease is cigarette smoke. Within the Community, 13% of adults age 18 or older self-reported to actively smoking cigarettes some days or every day. This was less than the state-wide and U.S. averages of 18%. Two counties within the Community had a

significantly higher rate of regular smokers than the Community average, including Dawson and Pickens Counties with 31% and 24%, respectively [31]. This was further illustrated through a 2015 Market Potential Survey that compared the Community and its counties to the national averages for individuals who smoked 9+ packs of cigarettes within the week prior to the survey and those who smoked in the last 12 months. These results are displayed in **Figure 38.**

Figure 38: CY 2015 Smoking Habits of the Community Compared to the National Average

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



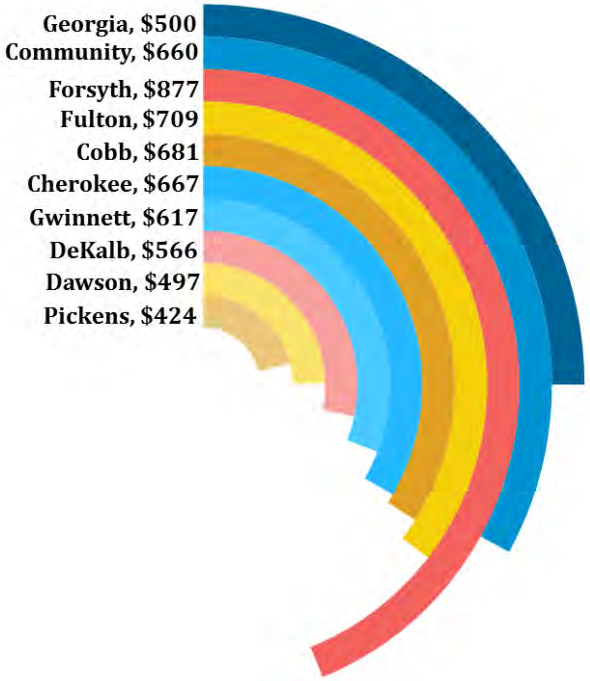
Source: Esri, 2015

Substance Use - Alcohol

Conversely to smoking, the Community had more estimated incidence compared to the state for adults who drink excessively (more than 2 drinks per day for males and one drink per day for females) [31]. Excessive drinking and alcohol dependence have been tied to several health effects, both short term and long term on your body, including a weakened immune system, damage to organs, and links to cancer [32]. Within the Community, 16% of adults indicated they drink excessively, compared to 14% state-wide. All counties within the Community, except Gwinnett (14%) and Pickens (12%) Counties exceeded the state-wide average [31]. Within Georgia and the Community, there were approximately 9 liquor stores per 100,000 population. However, within the Community, five counties had much

higher densities of liquor stores than the Community overall; including, Dawson, DeKalb, Forsyth, Fulton, and Pickens Counties with rates between 10.2 and 13.4 liquor stores per 100,000 population [33]. The rate of liquor stores did not always align with drinking rates or consumer spending. Community members on average spent $100 more a year on alcoholic beverages than Georgians. Dawson and Pickens Counties were the only two counties that spent less than the state average on alcoholic beverages.

Figure 39: 2015 Consumer Spending within the Community on Alcoholic Beverages



Source: ESRI, 2015

Nutrition

According to the Centers for Disease Control and Prevention, consuming fruits and vegetables can reduce a person's risk for several chronic diseases (e.g., heart disease, stroke, and some cancers), as well as help maintain a healthy body weight. Unhealthy eating habits can lead to significant health issues such as diabetes, obesity, and cardiovascular disease [34]. The USDA recommends a daily serving of fruits for adults of approximately 1.5-2 cups and of vegetables of 2-3 cups. Additionally, it is recommended that fruits and vegetables should comprise half of a meal plate. To examine if the Northside Community is meeting this recommendation, fruit and vegetable consumption data from BRFSS was utilized. In the Northside Community, 73% of adults (age 18 or older) self-reported they consumed fewer than 5 servings of fruits/vegetables every day. This rate was slightly better than the state-wide rate of 76%. Pickens County ranked the worst of Community counties for this indicator, with 82% of adults consuming inadequate fruit/vegetable servings in a day (due to a small sample size, no information was available

for Dawson County). Even though the Community ranked higher than the state average for fruit and vegetable consumption, a Community rate of 73% translates to almost 2 million people in the Northside Community not receiving adequate nutrition every day [35].

Physical Activity

Regular physical activity has been linked to a long list of positive health effects, including controlled weight, lowered risk of cardiovascular disease, reduced risk of type 2 diabetes and several cancers, strengthened bones and muscles, improved mental health, and improved mobility while aging [36]. Comparatively, a sedentary lifestyle can lead to significant health problems such as obesity or cardiovascular disease. Despite all of these positive health outcomes, 20% or approximately 500,000 Community members self-reported that they did not participate in **ANY** physical activity or exercise (adults 20 and older). The Community and all of its counties had rates of physical inactivity lower than Georgia's rate of 25%. The county rates were all very similar with a small amount of variance from 19% (Cobb) to 22% (Dawson) [37]. Furthermore, Community members exercise and utilize exercise facilities more than Georgians and more than the national average. Dawson and Pickens Counties were the only two Community counties that consistently underperformed the state and national averages on the physical activity measures analyzed [3].

Physical Environment

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.

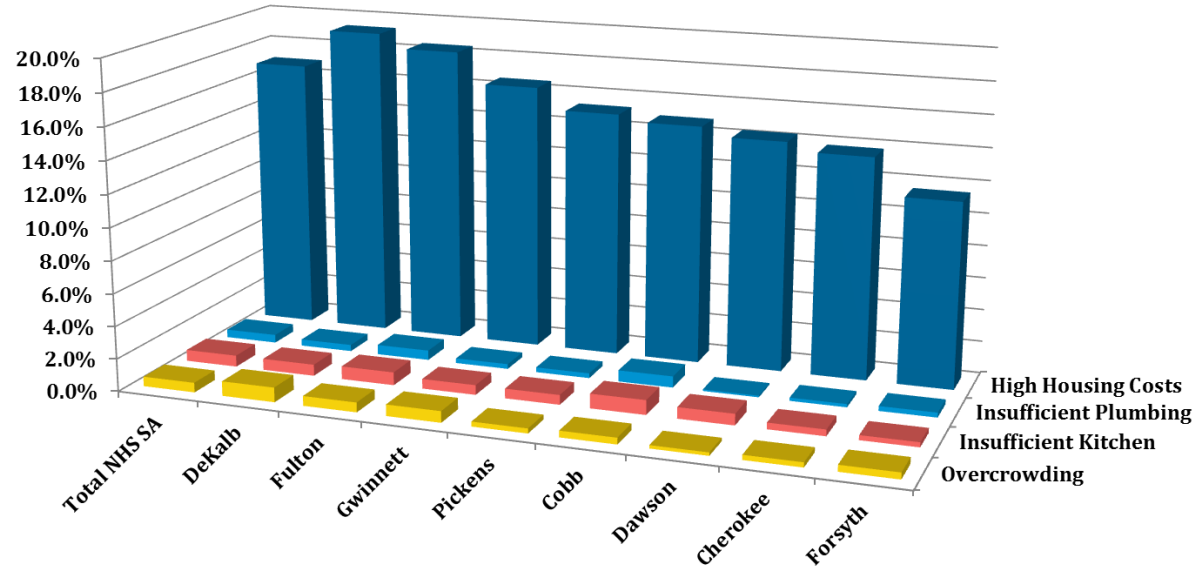
Within the Community, high housing cost and a lack of transportation options were the two most prominent physical environment problems facing the Community compared to Georgia. DeKalb and Fulton Counties both stood out in the Community for their high housing costs on multiple measures (e.g., overall, HUD-assisted housing units, and amount spent on rent) and lack of access to motor vehicles. Furthermore, the Community has better access to food than Georgia; however, the populations within the Community that do not have reliable access to affordable and nutritious food are mainly in Fulton, DeKalb, Gwinnett and Cobb Counties.

Housing

Housing in America represents the number one expense for most Americans and a place where Americans spend approximately 60% of their time [38]. Public health research has shown a connection between chronic disease management and access to affordable housing. Affordable housing is more likely to allow 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 [39].

To explore the state of housing in Northside's Community, a measure of severe housing problems provided by County Health Rankings and Roadmaps was utilized. This measure indicated the percent of households that had at least one of the following 4 problems: housing as a severe cost burden (monthly housing costs exceeded 50% of monthly income), overcrowding (>1.5 persons per room), insufficient kitchen facilities, or insufficient plumbing facilities. Within the Community, an estimated 19% of households had severe housing problems, compared to 18% in Georgia. Severely high housing cost was the leading housing problem within the Community, affecting 17% of all households. The other 3 severe housing problems affected less than 1% of households in each county [40].

Figure 40: Severe Housing Problems by County within the Northside Community

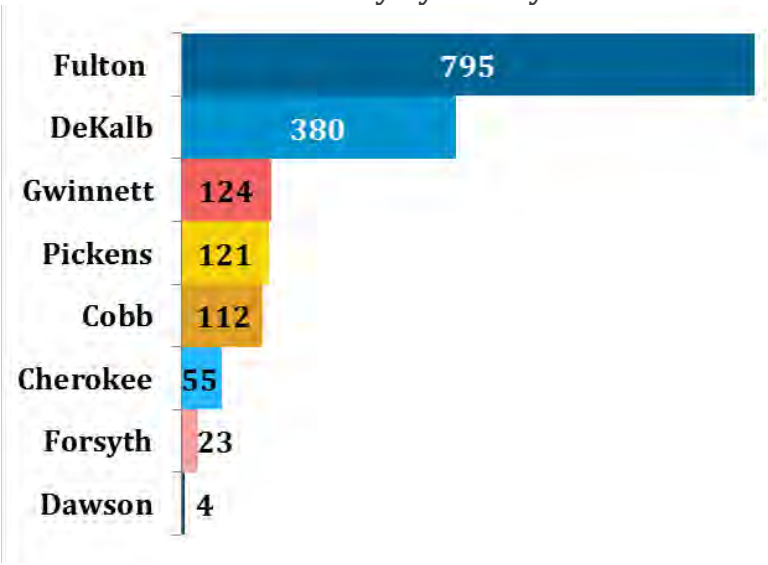


Source: U.S. Department of Housing & Urban Development, Comprehensive Housing Affordability Strategy, 2007-2011, Accessed via http://www.countyhealthrankings.org

The United States Department of Housing and Urban Development ("HUD") exists to help secure affordable housing for all Americans. Based on the knowledge that approximately

17% of households in the Northside Community spend over 50% of their monthly income on housing, one might expect the Community to have a high rate of HUD-assisted housing units; however, in 2013, the Community only had 362 HUD-assisted units per 10,000 housing units. This was significantly lower than Georgia's rate of 1,357 or the U.S. rate of 1,468 per 10,000 housing units. The Community's county rates are displayed in **Figure 41** [41]. The high housing costs within the Community paired with an under supply of HUD housing puts low income Community members at risk of living in substandard housing situations that can contribute to poor health outcomes.

Figure 41: CY 2013 HUD-Assisted Units per 10,000 Housing Units in the Northside Community by County



Source: U.S. Department of Housing & Urban Development, 2013, Accessed via chna.org

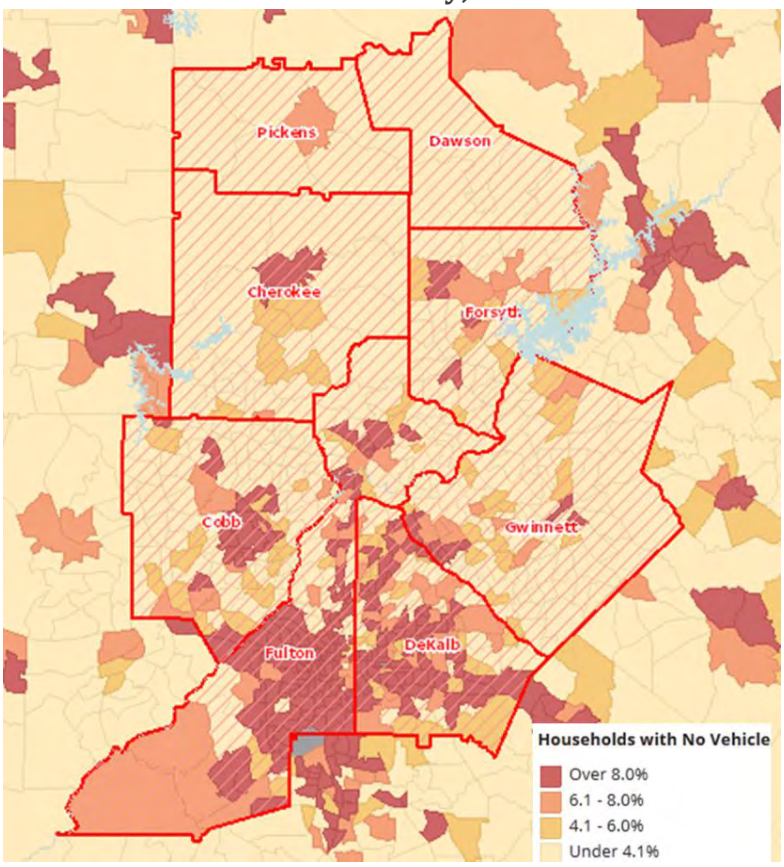
Transportation

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, 7% of households were estimated to have no motor vehicle; Georgia's rate was also 7%. Fulton and DeKalb Counties were the only counties in the Community that had rates of households without motor vehicles higher than 5%, with 12% 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 42**. 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 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 76% 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 Cherokee, Dawson, Forsyth, Gwinnett, and Pickens Counties that had high rates of no vehicles for the household and these counties also have limited access to public transit as demonstrated by less than 1% of their population reportedly using public transit to get to work [5]. The combination of these two factors could create a barrier to healthcare for these populations.

Figure 42: Map of the Percent of Households with No Motor Vehicle in the Northside Community, 2009-2013



Source: U.S. Census Bureau, American Community Survey, 2009 – 2013, Accessed via CHNA.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 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 and is both safe and culturally relevant to the individual. Food insecurity can be a result of several factors including poverty and access based on the physical environment. Food deserts represent the geographic application of food insecurity. Within the Northside Community, 16% of the population was considered food insecure, compared to 19% of the population in Georgia; however, this still translates to close to 600,000 individuals in the Community. Approximately 92% of these individuals live in Fulton, DeKalb, Gwinnett, and Cobb Counties [42]. There were several areas within the Northside Community that the USDA considered food deserts in 2010. The food deserts in the Community are illustrated in **Figure 43** [43].

Key Food Access Definitions

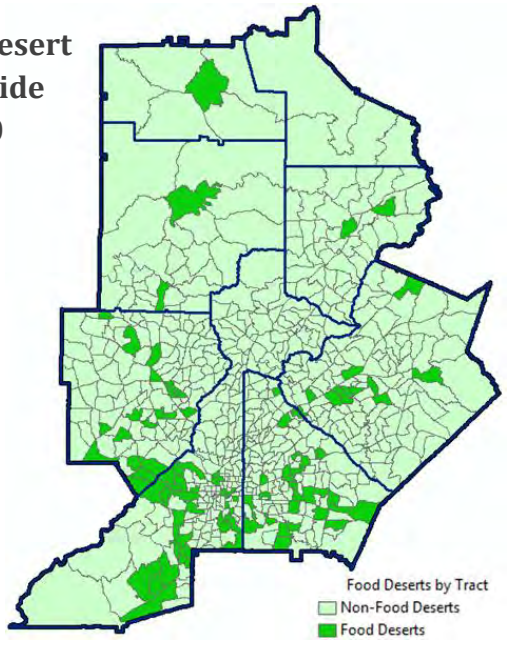
Food Insecurity

Being without reliable access to a sufficient quantity of affordable and nutritious food

Food Deserts

Signify areas that are considered "low-income communities" (poverty rates and median family income) combined with areas that are considered "low-access communities" (large portions of the population live more than 1-mile (urban) or 10-miles (rural) from a supermarket or large grocery store).

Figure 43: Map of Food Desert Locations in the Northside Community, CY 2010



Source: USDA, Food Deserts, 2010, accessed via http://www.ers.usda.gov/data/fooddesert

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 an average of 11 recreation and fitness facilities per 100,000 population. This was higher than both the Georgia and national averages of 8 and 10, respectively. All counties in the Community exceeded the state and national rates, with Fulton County having the most recreational and fitness facilities with an estimated 14 facilities per 100,000 population and Gwinnett County the least with an estimated 9 facilities per 100,000 population [33].

Health Outcomes

Background and Overview

To gain a better understanding of how the health factors analyzed (social & economic factors, health behaviors, healthcare access, and the physical environment) for this CHNA manifest within the Community, the health outcomes of the population were also analyzed. Mortality and morbidity measures of the Northside Community are discussed in the subsequent sections to determine how healthy community members are and why Community members are dying.

High blood pressure, being overweight or obese, and having high cholesterol were the most common chronic conditions among Community members, all estimated to affect over 25% of the Community. In addition to those chronic conditions, the Community had a significantly higher incidence of cancer than Georgia, with prostate, breast, lung and bronchus, colon and rectum, and melanoma cancers having the highest incidence within the Community. These findings align with the two leading causes of death within the Community, which were cardiovascular disease and cancer. Additional chronic conditions include smoking and depression/anxiety disorders, which were more prevalent in the lowest-income households within the Community and among the uninsured. Some differences in health outcomes were found between races, with depression/anxiety being more prevalent in White and Hispanic households compared to Black and Asian households. Smoking was most common among Hispanic households. Additionally, of the populations analyzed, non-Hispanic Black Males had the highest incidence rate of cancer in the Community, of the populations analyzed, largely driven by a high incidence rate of prostate cancer. The Black population was also found to have higher rates of being overweight/obese and higher hospital discharge rates for diabetes than other racial groups. Furthermore, large disparities existed for infant mortality rates within the Community, with the infant mortality rate among Black infants more than double that of White, Asian, or Hispanic infants.

Health Outcomes: Morbidity

Morbidity provides a look at health outcomes related to sickness and illness. The Community's health behaviors, access to clinical care, social and economic factors, and physical environment should be considered when exploring the prevalence of many of the health conditions discussed in the following section.

Chronic Conditions

The NRC provided 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 table of the conditions presented to respondents:

Table 10: National Research Corporation
List of Chronic Conditions Provided to Survey Respondents

Allergies-Hay Fever	Depression/Anxiety Disorder	Osteoporosis
Allergies-Other	Diabetes	Sciatica/Chronic Back Pain
Arthritis	Eating Disorder	Sinus Problem/Insomnia
Asthma	Heart Disease	Smoker
Attention Deficit Disorder	High Blood Pressure	Stomach Ulcer
Cancer	High Cholesterol	Stroke
Cataract	Indigestion/Irritable Bowel	No Chronic Conditions
Chronic Headaches	Migraines	
Chronic Heartburn	Obesity/Weight Problems	

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 presented in **Figure 44**. Respondents in 34% of the households surveyed indicated no one in the household had a chronic condition. Approximately 32% of respondents reported a household member had high blood pressure [26].

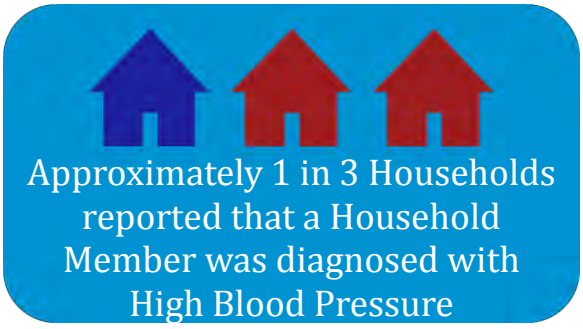
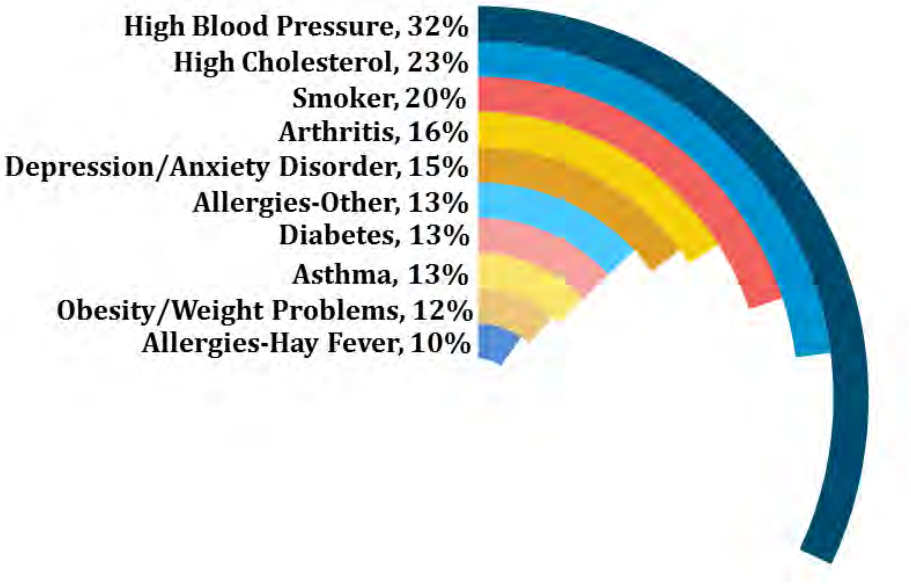


Figure 44: 2014 Northside Community's Top Ten Chronic Conditions, Percent of Households Reporting the Condition



Source: National Research Corporation, Market Insights, 2014

Chronic Conditions by Household Income

Northside analyzed the top chronic conditions by household income to determine if there were any differences between households based on income levels. **Table 11** compares the top 5 chronic conditions in the Community to those of the lowest (<$25,000) and highest (>$75,000) income brackets.

Table 11: 2014 Northside Community Top 5 Reponses for Chronic Conditions by Income (% of Households)		
All Households, All Income Levels	**Households with HHI <$25,000**	**Households with HHI >$75,000**
No Chronic Condition (34%)	No Chronic Condition (39%)	High Blood Pressure (35%)
High Blood Pressure (32%)	Smoker (29%)	High Cholesterol (31%)
High Cholesterol (23%)	High Blood Pressure (29%)	No Chronic Condition (30%)
Smoker (20%)	High Cholesterol (20%)	Arthritis (16%)
Arthritis (16%)	Depression/Anxiety Disorder (19%)	Smoker (15%)

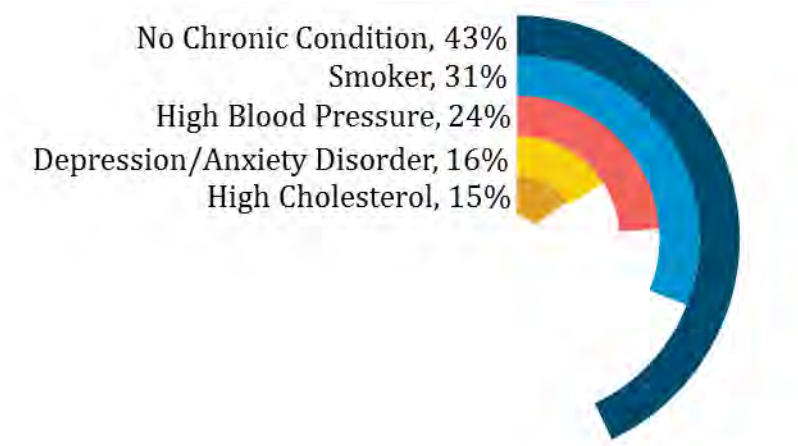
While many chronic conditions affecting all households also affected the low income households, there were subtle differences in the ranking or hierarchy of the chronic conditions. Of note, "No Chronic Condition" was the most common response in the Community and low income households. This could illustrate the lack of preventive care and screenings that alert members of the low income households about their chronic conditions, a younger overall population in the low income bracket, or a difference in the

amount of discussion of chronic conditions between members of the household. Additionally, smoking was the second most common response among low income households compared to the 5th among high income households and 4th overall. Smoking was listed as a chronic condition in 29% of low income households compared to 15% in high income households. Cigarette smoking is linked to heart disease, hypertension, and increased blood pressure. In fact, about 30% of all deaths from heart disease in the U.S. are directly related to cigarette smoking. In addition to smoking, depression/anxiety was among the top 5 health conditions in the low income household group and was not in the top 5 for high-income households. This illustrates the need for mental health services for the economically vulnerable populations within the Community [26].

Chronic Conditions among the Uninsured

The top 5 chronic conditions are the same among low income households and the uninsured with some slight differences in rankings.

Figure 45: 2014 Top 5 Chronic Conditions Among Uninsured Households in the Northside Community, Percent of Households Reporting Condition



Source: National Research Corporation, Market Insights, 2014

Chronic Conditions by Race/Ethnicity

There were several differences in the top chronic conditions when the results were stratified by race or ethnicity. This stratification for the top 10 chronic conditions in the Community is displayed in **Table 12** [26].

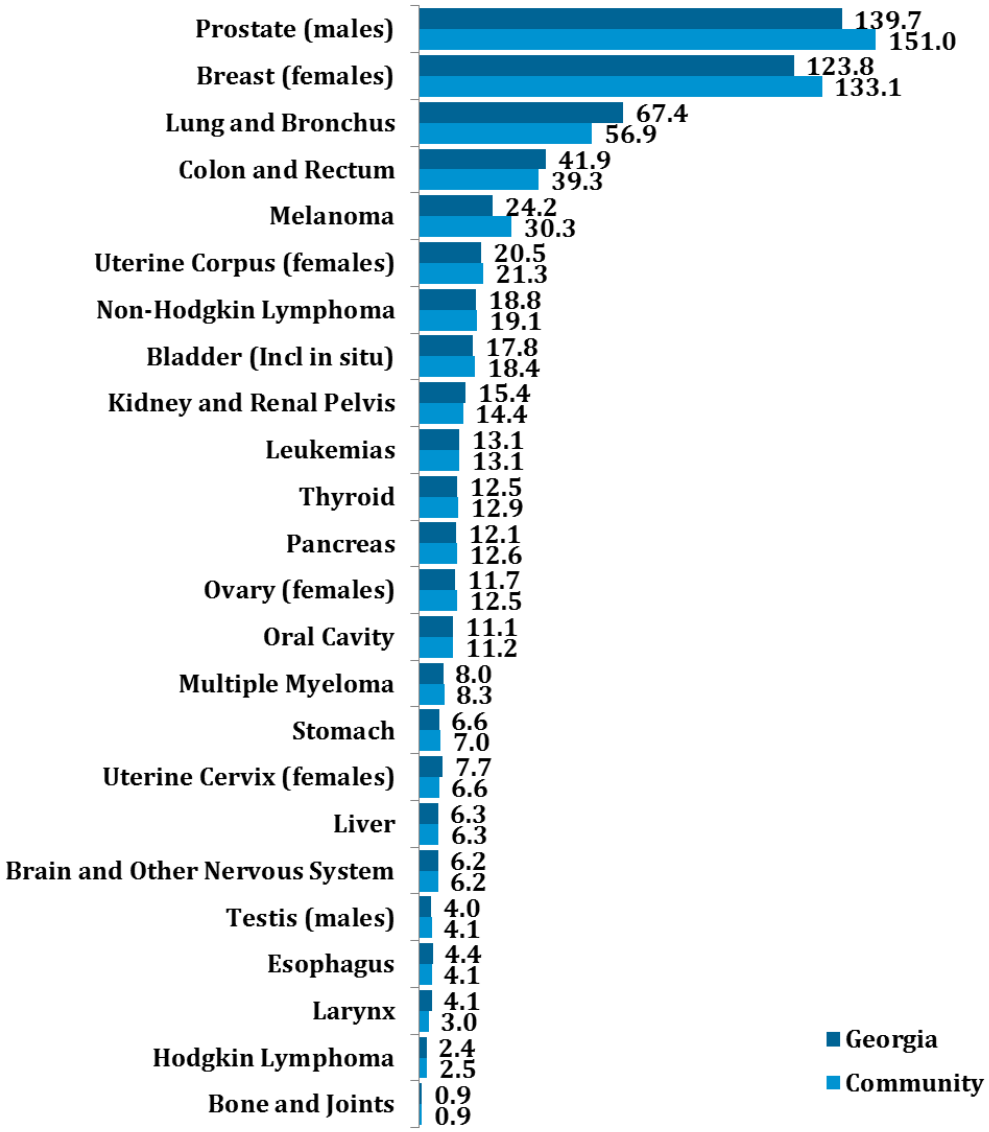
Table 12: 2014 Northside Community Top 10 Chronic Conditions within the Northside Community by Race/Ethnicity				
Top 10 Chronic Conditions	**% White Households**	**% Black Households**	**% Asian Households**	**% Hispanic Households**
No Chronic Conditions	28%	36%	55%	31%
High Blood Pressure	35%	35%	18%	30%
High Cholesterol	30%	17%	15%	25%
Smoker	21%	22%	13%	27%
Arthritis	19%	13%	4%	10%
Depression/Anxiety Disorder	20%	9%	4%	16%
Asthma	13%	16%	8%	17%
Diabetes	14%	14%	7%	18%
Allergies-Other	14%	12%	7%	16%
Obesity/Weight Problems	13%	12%	2%	9%

Minority groups indicated "No Chronic Conditions" present in the household most often; however, it is difficult to determine if this was the result of another factor or if minority populations have fewer chronic conditions. The White and Black populations have the highest prevalence of high blood pressure, with 35% of households indicating a household member suffers from high blood pressure compared to only 18% of Asian households. The Hispanic population has the most households with a reported smoker, with 27% of households having a smoker in Hispanic households compared to only 13% of Asian households. It is important to remember, smoking often affects the health of all household members as a result secondhand smoke [26].

Cancer Rates

The Georgia Comprehensive Cancer Registry (GCCR) collects information on all cancer cases diagnosed among Georgia residents. Northside utilized GCCRs age-adjusted incidence rates for 2009-2013 to compare the Northside Community to Georgia. Between 2009 and 2013, Northside's Community had a significantly higher ($p<.05$) incidence of cancer than Georgia, with approximately 470 new cases of cancer per 100,000 population compared to 466 in Georgia. Prostate (males), breast (females), lung and bronchus, colon and rectum, and melanoma were the tumor sites with the highest incidence rates in both the Community and Georgia. All tumor site incident rates are displayed in **Figure 46** [44].

Figure 46: Age-Adjusted Cancer Incidence Rates for the Northside Community Compared to Georgia, 2009-2013



Source: The Georgia Department of Public Health, Georgia Comprehensive Cancer Registry, 2009-2013

The Community's incidence rates of prostate, breast, and melanoma cancers were significantly higher than Georgia's ($p<0.05$), while the rates of lung and bronchus and colon and rectum cancers were significantly lower ($p<0.05$) [44].

GCCR also provided cancer incidence stratified by gender and by the two largest racial groups in the Community, non-Hispanic Whites and non-Hispanic Blacks. Northside analyzed differences in these incidence rates for the top 6 tumor sites in the Community in **Table 13** [44].

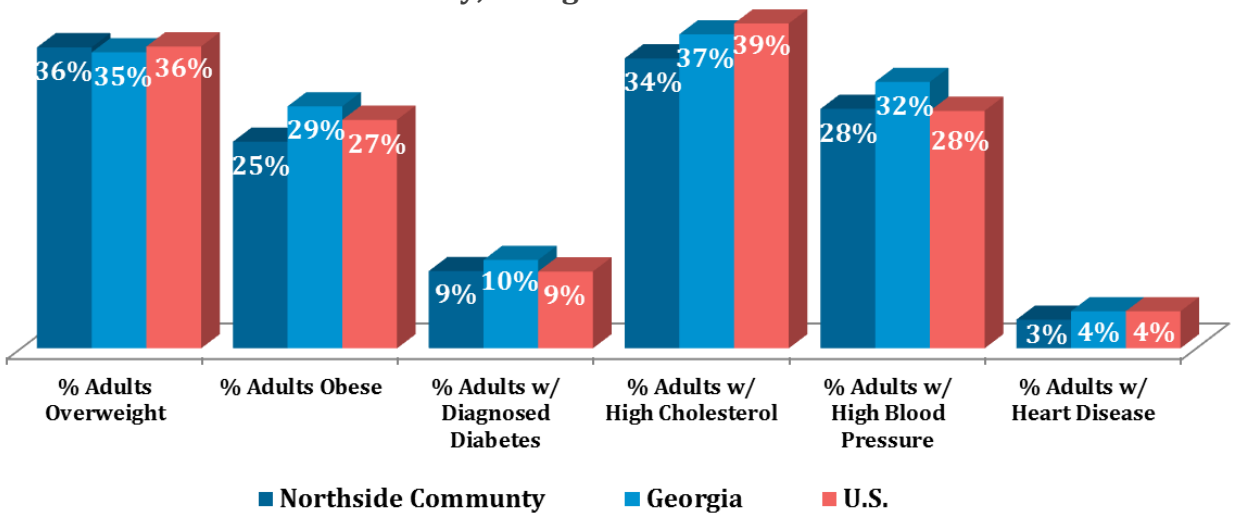
Table 13: Age-Adjusted Cancer Incidence Rates for the Northside Community by Race, 2009-2013							
	Total	Males	Non-Hispanic Black Males	Non-Hispanic White Males	Females	Non-Hispanic Black Females	Non-Hispanic White Females
All Sites	469.6	544.0	595.2	556.1	419.5	409.2	449.7
Prostate	--	151.0	223.8	134.4	--	--	--
Breast	--	--	--	--	133.1	133.9	141.4
Lung and Bronchus	56.9	69.3	77.8	69.8	48.5	44.2	53.3
Colon and Rectum	39.3	45.5	57.2	42.9	34.6	41.3	32.6
Melanoma	30.3	41.6	1.4	62.5	22.6	1.0	39.3
Uterine Corpus	--	--	--	--	21.3	24.6	20.6

Based on overall cancer incidence rates, non-Hispanic Black males have the highest incidence of cancer within the Community. This in large part is a result of the high incidence of prostate cancer among non-Hispanic Black males. Among females, the non-Hispanic White population had a higher rate of cancer compared to Non-Hispanic Black females, with the exception of cancer of the colon and rectum and uterine corpus [44].

Chronic Disease/Health Status

Within the Community, 36% of adults (aged 18 or older) self-reported that they were overweight (BMI 25-30) and 25% were obese (BMI over 30). Within the Community, the percent of overweight adults was slightly higher than the Georgia rate, 35%; however, the percent of obese adults was slightly lower than the Georgia rate, 29% [17, 37].

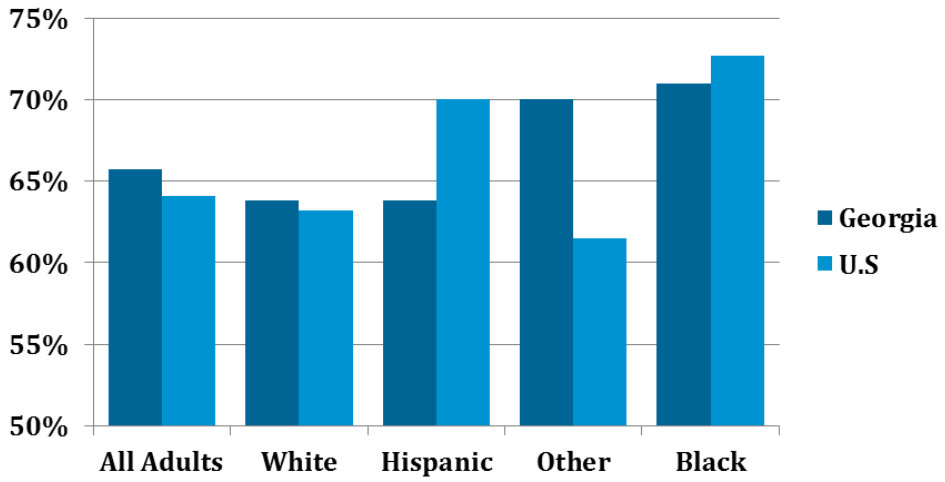
Figure 47: Comparison of Chronic Disease and Health Status Indicators between the Community, Georgia and the United States



Source: CDC BRFSS, 2011-2012, Accessed via CHNA.org and CDC, National Center for Chronic Disease Prevention and Health Promotion, 2012, Accessed via CHNA.org

Data on overweight/obese adults was not available stratified by race or ethnicity at the county-level; however, it was available at the state-level. In Georgia, 64% of White and Hispanic adults were overweight or obese (all adults with BMI over 25), this was lower than the overall adult rate of 66%. Within the Black population in Georgia, 71% of adults were considered overweight or obese. Not enough data was available to determine the rate for Asian adults in Georgia. Although all racial/ethnic groups analyzed have high rates of overweight/obese adults, within Georgia, the Black population had the highest percentage [45].

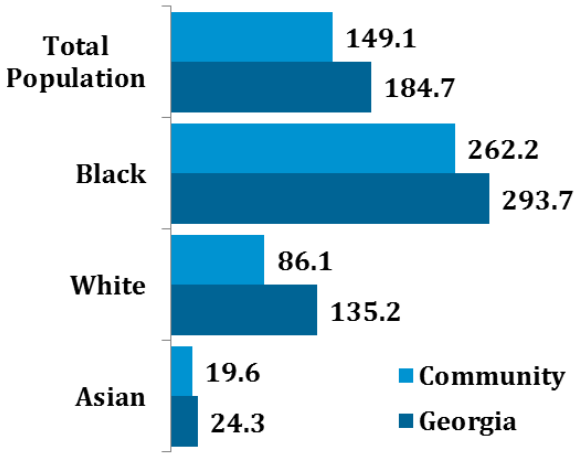
Figure 48: Percent of Adults who were Overweight/Obese in 2014 by Race/Ethnicity in Georgia and the U.S.



Source: CDC BRFSS, Overweight & Obesity Rates for Adults by Race/Ethnicity, 2014 Accessed via the Kaiser Family Foundation

Over 200,000 adults in the Northside Community were diagnosed with diabetes in 2012; representing approximately 9% of the total population. Rates were especially high in DeKalb, Pickens, and Forsyth Counties with diagnosis rates of 10% or more. The rate of diabetes within the Community's population increased from 8% in 2004 to 9% in 2012. The Community has consistently (2004 – 2012) maintained a lower rate of diabetes than the state overall [37]. Although the rate of diabetes was not available stratified by race/ethnicity at the county level, hospital discharge rates for diabetes (based on principal diagnosis) was available based on race. The diabetes discharge rate for the Black population was significantly higher than White and Asian populations in both the Community and Georgia. These rates are displayed in **Figure 49** [46].

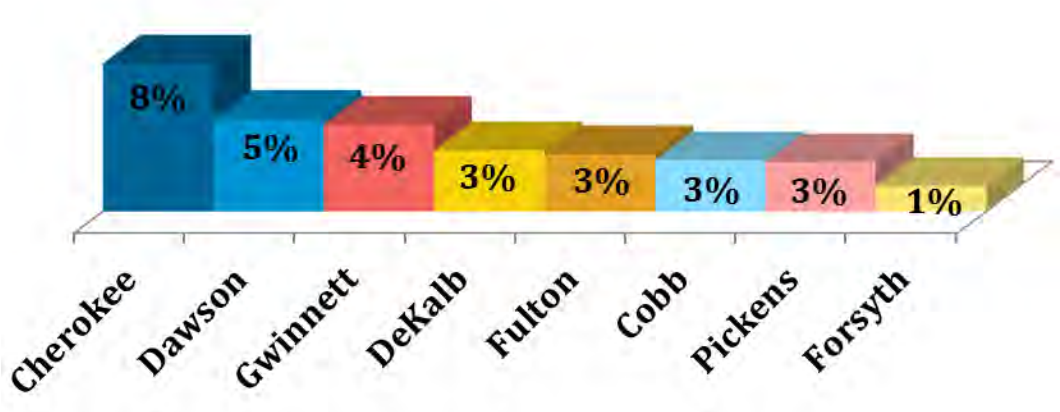
Figure 49: CY 2014 Diabetes Hospital Discharge Rate (per 100,000 population) by Race for the Community Compared to Georgia



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2014

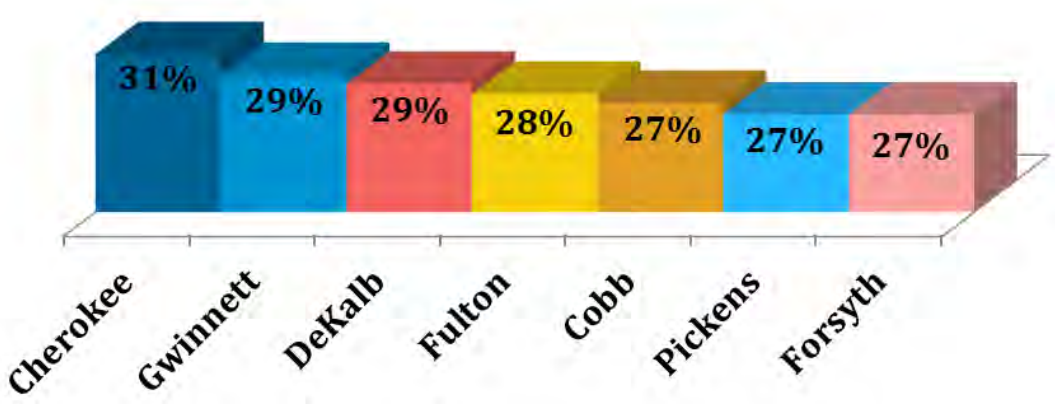
According to the American Heart Association, controlling high blood pressure, cholesterol, and blood glucose are essential to managing the risk of heart disease. Based on survey results from the CDC, 3% of the adult population in the Community suffered from heart disease, 34% had high cholesterol, and 28% had high blood pressure. Within the Northside Community, these rates varied widely between counties. In general, counties with high rates of high blood pressure also had high rates of heart disease (high blood pressure rates were not available for Dawson County) [17].

Figure 50: Percent of Adults within the Community with Heart Disease by County



Source: CDC BRFSS, 2011-2012, Accessed via CHNA.org

Figure 51: Percent of Adults within the Community with High Blood Pressure by County



Source: CDC BRFSS, 2011-2012, Accessed via CHNA.org

AIDS

In 2015, the Atlanta metro-area, which is largely encompassed by Northside's Community definition, was ranked number 5 of all U.S. metro-areas for new HIV diagnoses. In 2012, there were 21,752 individuals living with an HIV infection in the Community [47]. The rate of HIV infections varied greatly between counties in the Community. Only 2 counties had rates higher than 500 persons infected per 100,000 population, including Fulton and DeKalb Counties with rates of 1,307 and 1,248 per 100,000 population. In contrast, Pickens and Forsyth had the lowest rates of 44 and 57 per 100,000 population, respectively [48]. Within Georgia there were 381 deaths caused by HIV, 45% (170) were within the Northside Community. Of the Community's HIV deaths, 85% were from residents of Fulton (49%) and DeKalb (36%) Counties. Pickens and Dawson Counties had no deaths caused by HIV [25].

Health Outcomes: Mortality

Mortality measures were also evaluated for this CHNA to understand the cause-specific death rates within the Community. When available, the data was stratified by age, sex, and race/ethnicity.

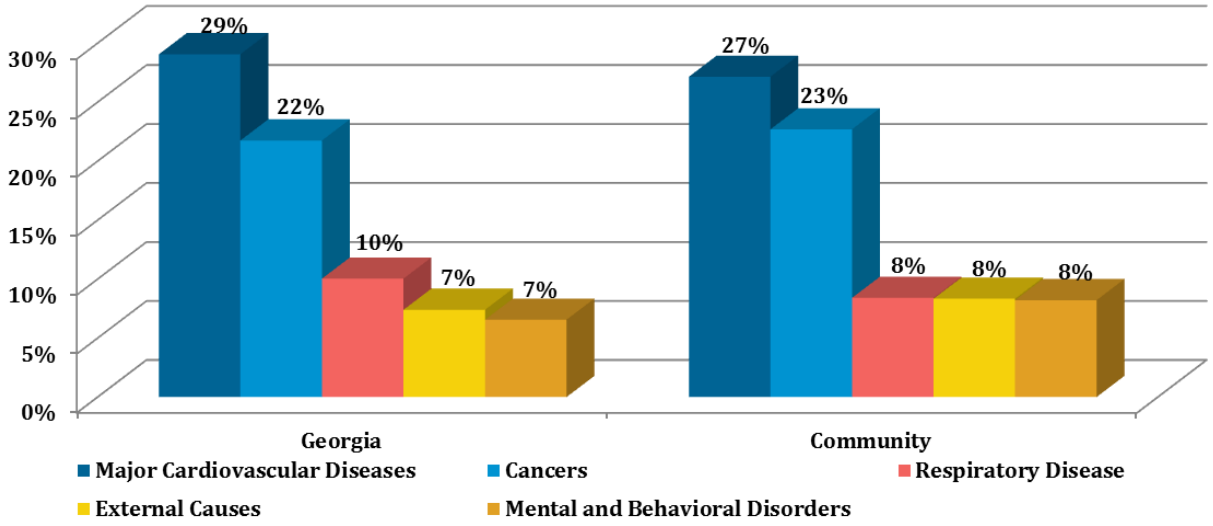
Leading Cause of Death

In 2013, according to the Georgia Department of Public Health, there were 75,144 deaths in Georgia. The Community accounted for approximately 28% of Georgia's deaths (20,819). When comparing age-adjusted death rates in 2013, Pickens County had the highest death rate of 841 deaths per 100,000 population and Forsyth the least with 646.

In 2013, 75% of deaths in Georgia and in the Community were attributed to the same 5 causes, as indicated in **Figure 52**. The Community had slight differences from the state's

leading causes of death, such as a slightly higher percentage of deaths by cancer, external causes, and mental and behavioral disorders.

Figure 52: CY 2013 Leading Causes of Death within the Northside Community Compared to Georgia



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2013

Within the Northside Community, the top causes of death varied based on race and ethnicity, as shown in **Table 14**.

Table 14: Mortality by Race within the Northside Community, CY 2013

Variable	Northside Community	White	Black	Asian	Hispanic
Major Cardiovascular Diseases	27%	27%	29%	25%	19%
Cancers	23%	23%	22%	28%	19%
Respiratory Disease	8%	10%	6%	6%	7%
External Causes	8%	8%	8%	11%	18%
Mental and Behavioral Disorders	8%	10%	6%	5%	4%
Nervous System Diseases	5%	5%	4%	4%	5%
Endocrine, Nutritional, and Metabolic Disease (including Diabetes)	4%	3%	6%	4%	3%
Digestive System Diseases	3%	4%	3%	3%	5%
Infectious & Parasitic Diseases	4%	3%	6%	4%	3%
Reproductive & Urinary Disease	3%	2%	3%	4%	4%
Fetal and Infant Conditions	1%	1%	2%	2%	6%
Birth Defects	0%	0%	1%	1%	3%
All Other Causes (n=4)	1%	1%	1%	0%	2%

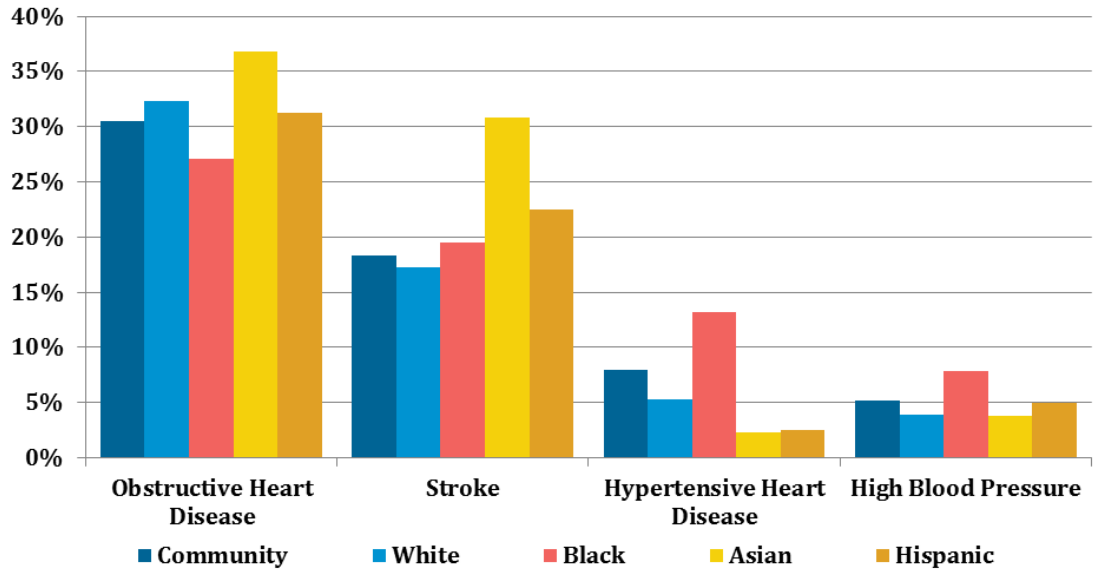
Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2013
Note: External causes of death include motor vehicle crashes, falls, accidental shootings, drowning, fire and smoke exposure, poisoning, suffocation, suicide, homicide, legal interventions, and all other unintentional injuries.

Causes of death among the Hispanic population differed from the Community the most. Cardiovascular disease and cancer were still the top two causes of death among the Hispanic population; however, they were so to a lesser extent. External causes, fetal and infant conditions, birth defects, reproductive and urinary system disease, and digestive system disease all constituted a higher portion of deaths in the Hispanic population than in the Community as a whole. Racial groups varied in their leading causes of death as well. The White population suffered from more respiratory disease and mental and behavioral disorder deaths than the Community overall. Cardiovascular disease; endocrine, nutritional, and metabolic disease; infectious disease; fetal and infant conditions; and birth defects comprised a larger percentage of deaths among the Black population than the Community as a whole. The Asian population suffered from a larger percentage of cancer, external causes, reproductive and urinary system disease, fetal and infant conditions, and birth defects when compared to the Community as a whole. One commonality for all three minority groups analyzed (Hispanic, Black, and Asian) was that the percentage of deaths related to fetal and infant conditions and birth defects was higher among minority groups than the Community's totals [25].

Major Cardiovascular Disease

Major cardiovascular disease was the most common cause of death for Georgians and Community members. Obstructive heart disease, stroke, and hypertensive heart disease were the most common types of major cardiovascular disease within the community leading to death. **Figure 53** illustrates the 4 most common types of major cardiovascular disease deaths within the Northside Community by race and ethnicity. A much larger percent (31%) of the Asian population's cardiovascular disease deaths were caused by strokes compared to the Community (18%). Similarly, hypertensive heart disease caused 13% of the Black population's deaths from cardiovascular disease compared to 8% in the Community.

Figure 53: CY 2013 Percent of Major Cardiovascular Disease Deaths by Cause and Race/ Ethnicity within the Northside Community



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2013

Cancer

Cancer was the second leading cause of death within the Community and was either the leading cause or second leading cause of death across all racial/ethnic groups. As **Table 15** illustrates, there is some difference in the type of cancers causing the most cancer deaths by race and ethnicity. Lung cancer causes the most deaths across all races/ethnicities in the Community; however, lung cancer causes a smaller percentage of total cancer deaths in all minority groups compared to the Community. In contrast, the Black population has a higher percentage of breast and prostate cancer deaths compared to the Community; the Asian population has a higher percentage of liver, colon, and pancreatic cancer deaths compared to the Community; and the Hispanic population has a higher percentage of breast, colon, and liver cancer deaths compared to the Community.

Table 15: Percent of Cancer Deaths Caused by Top 5 Cancers by Race/Ethnicity within the Northside Community CY 2013				
Community	**White**	**Black**	**Asian**	**Hispanic**
Lung (25%)	Lung (25%)	Lung (24%)	Lung (18%)	Lung (16%)
Colon (9%)	Colon (8%)	Breast (11%)	Liver (10%)	Breast (14%)
Breast (9%)	Breast (7%)	Colon (9%)	Colon (10%)	Colon (10%)
Pancreatic (6%)	Pancreatic (7%)	Prostate (7%)	Breast (9%)	Liver (8%)
Prostate (6%)	Prostate (5%)	Pancreatic (5%)	Pancreatic (7%)	Pancreatic (6%)

Maternal and Infant Health

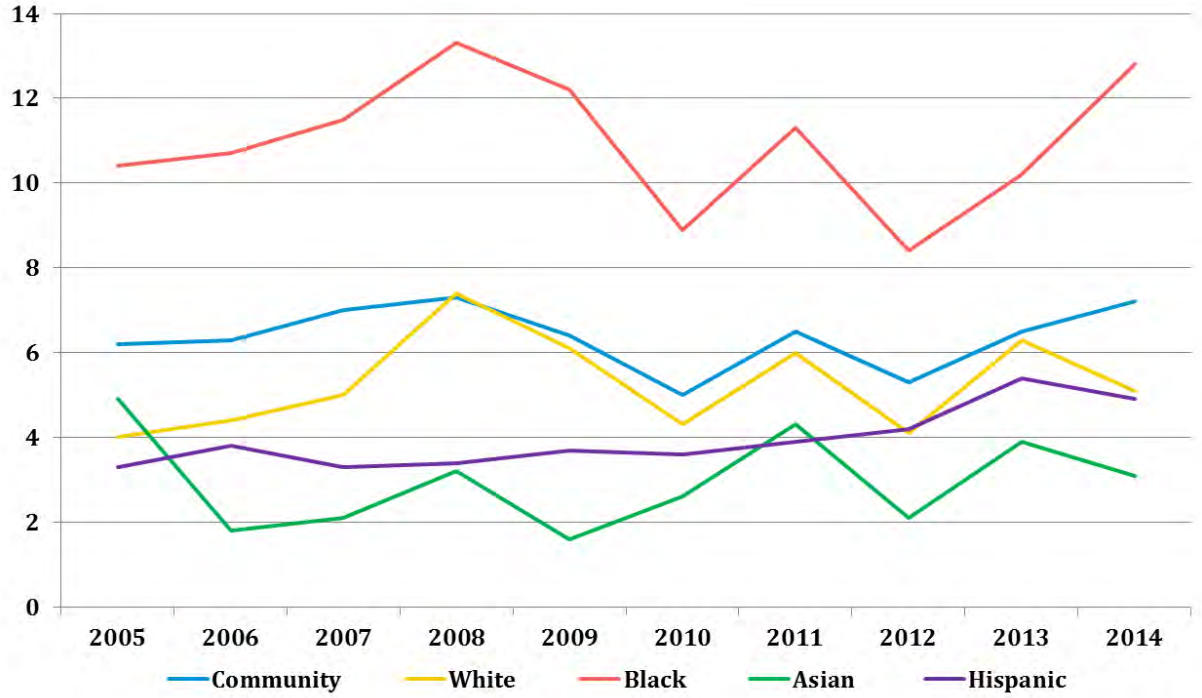
Northside is recognized as a leader in obstetrical and newborn care and consistently delivers more babies than any other Georgia hospital, and often even across all hospitals nationally. Another important measure of the Community's health status is the health status of the Community's mothers and babies,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

Infant mortality rates count the number of infant deaths per 1,000 live births before the age of 1. According to America's Health Rankings, Georgia has one of the highest rates of infant mortality in the U.S. [49]. 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. In 2014, Northside's Community Infant Mortality Rate ("IMR") was 7.2, compared to Georgia's of 7.7. Georgia has made progress, with a decline in its infant mortality rate from 10.1 in 1994. The Community's rate also declined in this time frame from a high of 8.7. Within Georgia and the Community there were significant racial differences in infant mortality rates. In Georgia, Black infants had more than double the infant mortality rate of White infants with an IMR of 13.3 compared to 5.5. A similar disparity was observed within the Community, with Black infants' IMR of 12.8 and White infants' IMR of 5.1. Asian and Hispanic infants within the Community had lower IMRs of 3.1 and 4.9, respectively. Northside analyzed IMRs over a 10-year period, 2005 – 2014, 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. This is illustrated in **Figure 54**.

Community Infant Mortality Rates, 2014

(Infant Deaths per 1,000 Live Births)

Figure 54: Infant Mortality Rates within the Community by Race and Ethnicity between CY 2005 - 2014



Source: Georgia Department of Public Health, Online Analytical Statistical Information System, 2005-2014

Closely related measures to infant mortality include premature birth and low birth weight. Georgia was ranked 44th among states for its preterm birth rate and has received a "D" on the 2015 March of Dimes Report Card on Premature Births [50]. In 2013, Northside's Community performed slightly better than Georgia for percent of total births that were premature (Georgia: 13%, Community: 12%) and infants that were born at a low-birth weight (Georgia: 10%, Community: 9%). Similarly to IMR, there were racial disparities for premature births and low-birth weight babies within the Community with 15% of Black infants born premature, compared to 10% of White infants, 9% of Asian infants, and 12% of Hispanic infants. Likewise, 13% of Black infants were born at a low birth weight, compared to 8% of Asian infants, 7% of White infants, and 7% of Hispanic infants [25].

Suicide

According to the CDC, there is one suicide for every estimated 25 suicide attempts with an estimated 250,000 people each year becoming suicide survivors. This illustrates how suicide mortality rates represent a small portion of the population that is actually battling depression and suicidal thoughts. In 2013, there were a total of 1,204 suicides in Georgia, 405 (34%) of which were in the Community. The Community had an age-adjusted suicide rate of 10.8 per 100,000 population in the Community. This rate peaked in Dawson County, a county with only 8 suicides, but a rate of 35.3, compared to Cobb County that had the lowest rate of suicide at 9.5 per 100,000 with 68 suicides [25].

Homicide

Homicide mortality rates are an outcome of violent crime in a community. In 2013, there was a total of 630 homicides in Georgia, 233 (37%) of which were in the Community. This resulted in an age-adjusted homicide rate of 6.2 per 100,000 population in the Community. This rate was highest in DeKalb and Fulton Counties. These two counties accounted for 73% of the Community's homicides with a rate of 10 homicides per 100,000 population. Several counties in the Community had no homicides in 2013, including Dawson, Forsyth, and Pickens Counties [25].

Community Stakeholders

NORTHSIDE HOSPITAL

Part IV: 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 41 stakeholders, including representatives at all county-level public health departments in the Community. This outreach effort resulted in the completion of 23 stakeholder interviews. **Table 16** summarizes the completed stakeholder interviews by organization and type.

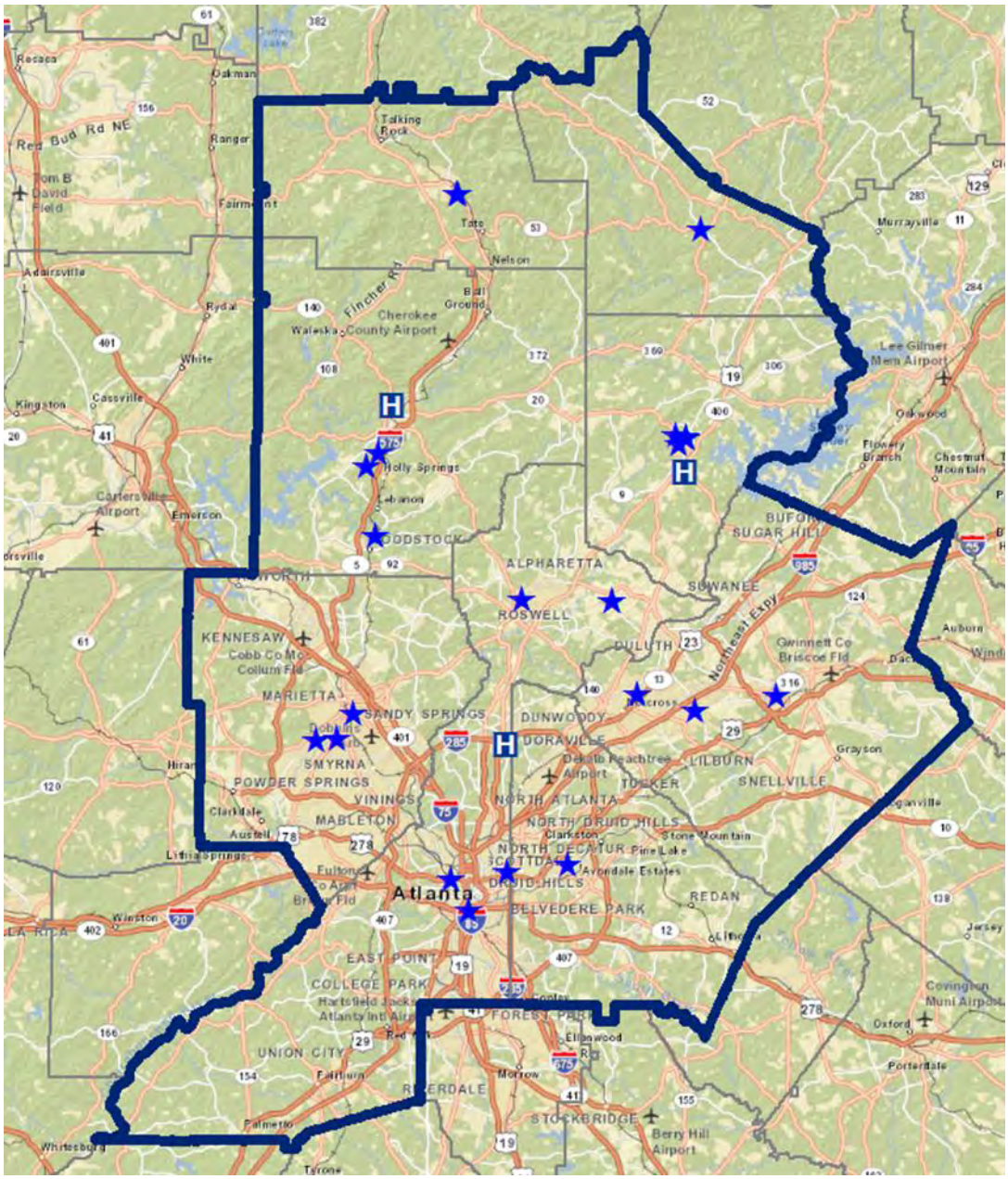
Table 16: Summary of Stakeholder Interviews

Public Health Departments	Safety-Net Clinics	Community Organizations	Other Local Government	Business Community
Cherokee County Health Department	Bethesda Community Clinic	North Fulton Community Charities	Cherokee County Schools	Cherokee County Chamber of Commerce
Forsyth County Health Department	Good Samaritan Atlanta	United Way - Forsyth	Cobb County School District	Cumming/ Forsyth Chamber of Commerce
Gwinnett County Health Department	Good Samaritan Jasper	YWCA of Greater Atlanta		
DeKalb County Health Department	Good Samaritan Cobb	LifeLink		
Cobb/Douglas Health Department	Good Samaritan Gwinnett	The Hub Family Resource Center		
Dawson County Health Department	Georgia Highlands Clinic			
Pickens County Health Department	Center for Black Women's Wellness			

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.

Figure 55: Office Locations of Northside Community Stakeholders who participated in Northside's FY 2016 – FY 2018 CHNA



Northside spoke with 23 stakeholders from across the Community. The stakeholders represented a broad range of perspectives from local health departments and governments, safety-net clinics, Federally Qualified Health Centers, community organizations, and the business community. **Table 17** provides a summary of each stakeholder's mission and population served. Northside sought stakeholders who represent the medically underserved, uninsured, and disparate populations within the Community. The effort resulted in interviews with stakeholders from five (5) safety-net clinics, two (2) Federally Qualified Health Centers, and four (4) community organizations in addition to seven (7) interviews with public health department officials.

Table 17: Northside Community Stakeholder Summaries

Type	Organization	Stakeholder's Title	Geographic Area Focus for	Mission
Business Community	Cherokee County Chamber of Commerce	President and CEO	Cherokee County	To promote business and the community while expanding the economy and enhancing the quality of life.
Business Community	Cumming/ Forsyth Chamber of Commerce	President and CEO	Forsyth County	To be the voice of business, provide leadership, information, and solutions to foster a strong economic environment and a superior quality of life in Cumming/Forsyth County.
Community Org	LifeLink	Outreach/Education Specialist	Metro-Atlanta	Dedicated to the recovery of life-saving and life-enhancing organs and tissues for transplantation therapy.
Community Org	North Fulton Community Charities	Executive Director	Fulton County (North Fulton)	To build self-sufficiency and prevent homelessness and hunger in our community by providing emergency assistance and enrichment programs.
Community Org	The Hub Family Resource Center	Executive Director	Forsyth and Dawson Counties	["Anything is possible."] The Hub Family Resource Center exists to connect families in North Fulton County to resources that meet their mental and emotional wellness needs in partnership with public and private entities, and to increase societal awareness of the pressures on today's families.
Community Org	United Way-Forsyth	Executive Director	Cherokee County	Every child in every country should have a good education. Every citizen should feel financially stable. Every community should be healthy and strong.
Community Org	YWCA of Greater Atlanta	EncorePlus Community Health Educator	Fulton and DeKalb Counties	Eliminating racism, empoweringwomen, and promoting peace, justice, freedom, and dignity for all.
Health Department	Cherokee County Health Department	County Nurse Manager	Cherokee County	Our mission is to promote and protect the health of the people in the North Georgia Health District wherever they live, work, and play, through population-based preventive programs including; prevention of epidemics and the spread of disease, protection against environmental hazards, injury prevention, promotion and encouragement of healthy behaviors, responding to disasters and assisting communities to recover, and assisting communities in assessing the quality and accessibility of health services.

Table 17: Northside Community Stakeholder Summaries, Continued				
Type	**Organization**	**Stakeholder's Title**	**Geographic Area Focus for Interview**	**Mission**
Health Department	Cobb/Douglas County Health Department	Deputy Director and Epidemiology & Health Assessment Director	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: 1) Preventing epidemics and spread of disease, 2) Protecting against environmental hazards, 3) Preventing injuries, 4)Promoting and encouraging healthy behaviors, 5) Responding to disasters and assisting in community recovery, and 6) Assuring the quality and accessibility of health care. By excelling at our core responsibilities, we will achieve healthier lives and a healthier community.
Health Department	Dawson County Health Department	Area Nurse Manager	Lumpkin and Dawson Counties	
Health Department	DeKalb County Board of Health	Community Liaison - Health DeKalb	DeKalb County	To protect, promote, and improve the health of those who work, live, and play in DeKalb County.
Health Department	Forsyth County Health Department	RN, Area Nurse Manager	Forsyth County	Help in preventing disease, injury, and disability; promoting health & wellbeing; and preparing for and responding to disasters from a health perspective.
Health Department	Gwinnett County Health Department	Health Promotion Coordinator	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.
Health Department	Pickens County Health Department	County Nurse manager	Pickens County	Our mission is to promote and protect the health of the people in the North Georgia Health District wherever they live, work, and play, through population-based preventive programs including; prevention of epidemics and the spread of disease, protection against environmental hazards, injury prevention, promotion and encouragement of healthy behaviors, responding to disasters and assisting communities to recover, and assisting communities in assessing the quality and accessibility of health services.
Other Local Government	Cherokee County Schools	Director Public Information, Communications, and Partnerships	Cherokee County	To enable all students to become contributing citizens who can communicate effectively, gather and use information, make responsible decisions, utilize technology effectively, and adapt to the challenges of the future.
Other Local Government	Cobb County School District	Family and Community Facilitator	Cobb County	Provide an academically rigorous, caring, and sage educational environment in partnership with families, students, and the community.
Safety-Net Clinic	Bethesda Community Clinic	Practice Director	Cherokee County	To demonstrate the compassion of Christ by providing quality healthcare to those in need.

Table 17: Northside Community Stakeholder Summaries, Continued				
Type	**Organization**	**Stakeholder's Title**	**Geographic Area Focus for Interview**	**Mission**
Safety Net Clinic	Center for Black Women's Wellness	Program Manager	Fulton County (primary), DeKalb and Clayton Counties (secondary)	Provide free and low-cost services to empower black women, and their families, toward physical mental, and economic wellness. CBWW recognizes that empowering black women leads to the empowerment of the family and, eventually, the empowerment of the community. That is why CBWW is the one place that caters to the physical, mental, and economic needs of Atlanta's black women through the following comprehensive services: preventive health screening and referrals, and self-employment training. In addition, CBWW provides teen pregnancy prevention and youth development programs to benefit youth and families.
Safety Net Clinic	Good Sam Atlanta	Medical Services Director	Fulton County	For many the access to quality healthcare like regular check-ups and exams, prenatal care, dental visits, health education and counseling all seem, though sometimes burdensome, a necessity to living a well balanced life. Too often however families must make a choice between the basics of food and shelter or preventive healthcare that could not only change their lives, but many times save them. The Good Samaritan Health Center exists to remove the burden of that decision from families, creating a place where they can receive the highest quality care without sacrificing the basic necessities of life. Good Sam serves individuals and families who have the least access to healthcare and are at the highest risk of having serious health issues remain undiagnosed and untreated.The Center offers medical, dental, health education, mental health, and social services. Patients pay on a reduced sliding fee scale based on income and household size with the remaining costs provided by donations. At The Good Samaritan Health Center, the entire family receives quality healthcare in an atmosphere of dignity and respect, regardless of race, ethnicity, or religion.
Safety Net Clinic	Good Sam Gwinnett	Executive Director	Gwinnett County	To demonstrate the love of Christ in word and deed by providing affordable, quality healthcare services to the poor and uninsured.
Safety Net Clinic	Good Sam Jasper	Administrator, DV	Pickens County	Provide the medically underserved in our community with compassionate and individualized healthcare and related services in an atmosphere of respect & dignity.

Table 17: Northside Community Stakeholder Summaries, Continued				
Type	**Organization**	**Stakeholder's Title**	**Geographic Area Focus for Interview**	**Mission**
FQHC	Georgia Highlands Clinic	Nurse Manager	Cherokee, Forsyth, and Bartow Counties	From the moment you enter the doors of one of our Family Health Centers, you become part of a long tradition of patient-centered, quality care. At GHMS, we are committed to excellence in delivering the highest quality healthcare and services to all of our patients. We know that good care involves more than good medicine and good providers. It is about having a pleasant, comfortable, and satisfying experience every time you visit us. Out highly-trained staff is dedicated to meeting your medical needs. We want to help you feel better, and will work with you to help you manage your health.
FQHC	Good Sam Cobb	COO	Cobb County	The Center offers medical, dental, health education, mental health, and social services. Patients pay on a reduced sliding fee scale based on income and household size with the remaining costs provided by donations. At the Good Samaritan Health Center, the entire family receives quality healthcare in an atmosphere of dignity and respect, regardless of race, ethnicity, or religion.

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 within the Community

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 counties in the Community could be formed. The following chart illustrates the frequency of the stakeholders' responses.

Table 18: Positive Social Factors Impacting Health	
Themes	**Frequency**
Amount/Quality of Providers	11
Existing Collaborations & Partnerships	9
Community/Social Support	8
Environmental Factors	7
Good Schools/Higher Education	7
Access to Primary or Preventive Care	7
Socioeconomic Status/Affluence	5
Physical Activity/Exercise	4
Educational Outreach	3
Access for Insured	2
Access to Low-Cost Medication	2
Access to Specialty Care	1
Access for Uninsured	1
Nutrition	1
Follow-Up Care	1
Diversity/Cultural Competency	1
Safety	1

The amount and quality of medical providers was the most commonly discussed asset within the Northside Community. However, in many cases, the stakeholder would caveat their statement by indicating these resources were still out of reach for vulnerable populations within the Community, such as for the uninsured. These populations and barriers to accessing the healthcare resources present within the Community are further discussed in the next section. Many of the stakeholders identified social factors as a large strength of the community they serve. This is illustrated through frequency of the partnerships and collaboration themes as well. Stakeholders discussed how many of their partnerships/collaborations allowed their organization to reach vulnerable populations in their community. An example of this is LifeLink's partnership with Atlanta's Hispanic media outlets allowing them to effectively reach a target population for their organization. Additionally, several stakeholders commented on the tight-knit community they work with and that there are high levels of social support within the Community.

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 chart:

Table 19: Negative Factors Impacting Health	
Themes	**Frequency**
Economic/Financial Factors	12
Behavioral/Mental Health	12
General Lack of Access to Healthcare Services	11
Transportation	11
Lack of Awareness/Knowledge	9
Cultural Factors	7
Lack of Insurance Coverage	5
Lack of Education	5
Lack of Resources for Uninsured	4
Affordability of Care	4
Unhealthy Diet/Poor Nutrition	4
Lack of Medicaid Expansion/ACA	3
Low Health Literacy	3
Language Barriers	3
Access to Specialty Care	2
Sexually Transmitted Infections	2
Lack of Dental Care	2
Lack of Access to Primary/Preventive Care	1
Lack of Collaboration	1
Lack of Physical Activity	1
Violence	1
Skewed Work-Life Balance	1

Answers to this question largely centered on health determinants (e.g., access, socioeconomic, environment, health behaviors) versus health outcomes (e.g., sicknesses, chronic diseases, illnesses, death). Financial and economic factors and behavioral or mental health were the two themes that were mentioned most frequently as the top negative factors impacting health within the Community. Many of the other themes such as the lack of affordable care or lack of insurance were brought up in tandem with financial and economic factors. Additionally, some stakeholders tied the effects of economic stressors to mental health issues such as depression. In most cases when discussing behavioral and mental health, the stakeholder emphasized the lack of available resources to treat these issues within the Community. The most common behavioral and mental health issues discussed included addiction and alcoholism.

Similarly to financial and economic factors, stakeholders mentioned the Community's general lack of access to healthcare services in conjunction with some sort of obstacle to care, such as the affordability of care or community member's lack of insurance or high deductibles. Many of the negative health factors are strongly interconnected, illustrating the complexity of issues leading to negative health outcomes in the Community.

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 20 Physical Health Needs	
Theme	**Frequency**
Diabetes	13
Obesity	11
Hypertension	9
Heart Disease	7
Cancer	4
Dental Care	4
STIs	4
Mental/Behavioral Health	4
Physical Activity/Healthy Lifestyles & Behaviors	3
Drug Abuse/Excessive Drinking	3
Vision Care	2
Smoking	2
Asthma	1
Safety	1
Pre-Natal Care	1
High Cholesterol	1
Teen Pregnancy	1

Overall, stakeholders identified diabetes, obesity, and hypertension most frequently as the top 3 health needs within the Community. Many of the stakeholders acknowledged the interconnectedness of these diseases, as well as heart disease, and how one of the conditions can easily cause one of the other conditions.

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 expanded on during discussions surrounding this question.

Table 21: Barriers to Care	
Theme	**Frequency**
Transportation	13
Insurance Barriers (Lack of Insurance/High Deductible Plans/Providers Acceptance of Insurance)	9
Knowledge/Awareness of Health Resources	8
Lack of Specialists	7
Financial Factors	7
Provider Factors	6
Language Barriers	4
Cultural Norms/Factors	4
Lack of Adequate Employment	3
Lack of Education	2
Affordable Housing	1
Stigma (HIV)	1

Transportation was most frequently mentioned as a barrier to care. Many of the stakeholders cited the lack of public transportation availability; however, additional issues were also discussed such as the cost of parking. One stakeholder shared a story of a safety-net clinic requiring patients to pay for parking. This illustrated how the organization created a barrier for their services. Stakeholders also detailed the difficulty many community members have with insurance. This might apply to community member's inability to get insurance, ability to only afford high-deductible plans, and frequency of providers not accepting them as patients without significant deposits.

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 22**.

Table 22: Definition of Vulnerable Population	
Population	**Frequency**
Low-Income	11
Latino/Hispanic	10
Children/Adolescents	8
Uninsured/Under-Insured	6
African-American/Black	4
Homeless	4
Non-Citizen/Undocumented	4
Elderly/Geriatric	2
Limited English Proficiency	2
Mentally Ill	2
Single Parents/Single Parent Families	2
Unemployed	2
Refugees	1

Stakeholders were then asked to identify negative factors that uniquely impact the health of the vulnerable. The ways in which the stakeholders considered the needs of the vulnerable to be different from the general population are outlined in **Table 23**.

Table 23: Negative Factors Impacting the Health of the Vulnerable	
Themes	**Frequency**
Lack of General Access	13
Unhealthy Lifestyles/Habits	7
Language Barriers	5
Lack of Insurance Coverage	4
Transportation	3
Lack of Awareness/Knowledge	3
Lack of Education	3
Lack of Dental Care	2
Social Support	2
Behavioral/Mental Health	1
Poverty	1
Underemployment	1
Infant Mortality	1
Food Access	1
Drug Abuse	1

Stakeholders frequently stated that they considered the negative health factors to be similar among the vulnerable population to their concerns for the general population, but often at a more severe or pronounced level. Based on the analysis, the lack of access to medical resources was the number one factor negatively influencing the health of vulnerable populations within the Community.

Similarly, stakeholders were asked if they considered the physical health needs of the vulnerable populations they mentioned to be different than the population as a whole; their responses are displayed in **Table 24**.

Table 24: Physical Health Needs for the Vulnerable

Theme	Frequency
Diabetes	6
Obesity	5
Heart Disease	4
Hypertension	2
Dental Care	2
Mental/Behavioral Health	2
Safety	1
Cancer	1
Homelessness	1

The top physical health concerns among the vulnerable were very similar to those of the population as a whole, outlined in **Table 20**, with diabetes and obesity being the top two physical health concerns.

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." Three stakeholders brought up prenatal health as a need within the Community, including the need for affordable/free prenatal care and education. An additional three stakeholders emphasized the need for mental health services and their thoughts that mental health is often overlooked but has large impacts on the Community. Lastly, there were several issues brought up in this section including: 1) safety (community and motor vehicle safety and violence prevention), 2) the need for more partnerships and resources, 3) lack of resources for the growing elderly population and the growing homeless population, and 4) allergies and asthma being a large concern for school-aged children in the community.

Summary of Needs Identified

NORTHSIDE HOSPITAL

Part V: Summary of Needs Identified

Our Community's Needs

Northside's CHNA process assessed the Community's needs through a variety of "lenses": 1) health access needs 2) health status needs and 3) barriers to care. The table below summarizes Northside's CHNA's findings from each of these perspectives. It is important to note that this table is a raw list that will be further grouped through the prioritization process.

Health Access Needs
Affordability of Care
Accessibility of Care
Uninsured and Under-insured Populations
Health Status Needs
Infant Mortality
Pregnancy and Childbirth (prenatal care)
Cardiovascular Health
Respiratory Disease
Mental Health
Primary Care
Preventive Health Behaviors
Healthy Lifestyle Behaviors (nutrition and physical activity)
Smoking
Obesity
Cancer
HIV/AIDS
Diabetes
Alcohol and Heavy Drinking
Barriers to Care
Education
High Cost of Living
Violent Crime
Transportation
Culturally Appropriate Health Resources
Translation Services
Availability of Services

As a result of this CHNA, Northside identified three (3) health access needs, 14 health status needs, and seven (7) barriers to care. The health access and health status needs will be further grouped through the prioritization process in Section VI. The seven (7) barriers to care will not be prioritized as health needs, but will be considered and integrated into the design and implementation of Northside's community benefit programs that address the health needs of the Community.

Needs Prioritizations

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 56** and described throughout this section.

Figure 56: Northside 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 17 needs identified, Northside grouped these needs into 11 different categories that were then prioritized. The list of 11 needs is provided in **Table 25**.

Table 25: Northside's FY 2016-2018 CHNA Needs Categories
Affordability/Access to Care/Uninsured
Cancer
Cardiovascular Disease
Obesity and Diabetes
Healthy Lifestyle Behaviors
HIV/AIDS
Maternal and Infant Health
Mental Health and Addiction
Preventive Health Services
Primary Care Services
Smoking and Respiratory Disease

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

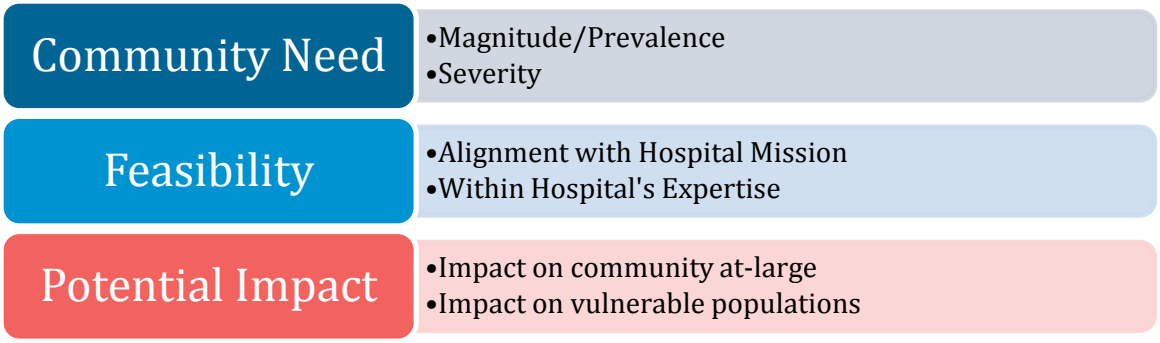
After researching various methodologies for establishing the criteria against which the identified needs would be scored, Northside adopted the Catholic Health Association's ("CHA") guidance [51]. According to CHA, examples of criteria could include:

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 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 [51].

For Northside's prioritization process, Northside elected to focus on the criteria that tied to 1) community need, 2) feasibility, and 3) potential impact. Specifically, Northside's prioritization criteria are presented in **Figure 57.**

Figure 57: Northside Hospital's Community Health Needs Assessment Ranking Criteria, FY 2016 – FY 2018



Step 3: Determine the weight of each criterion

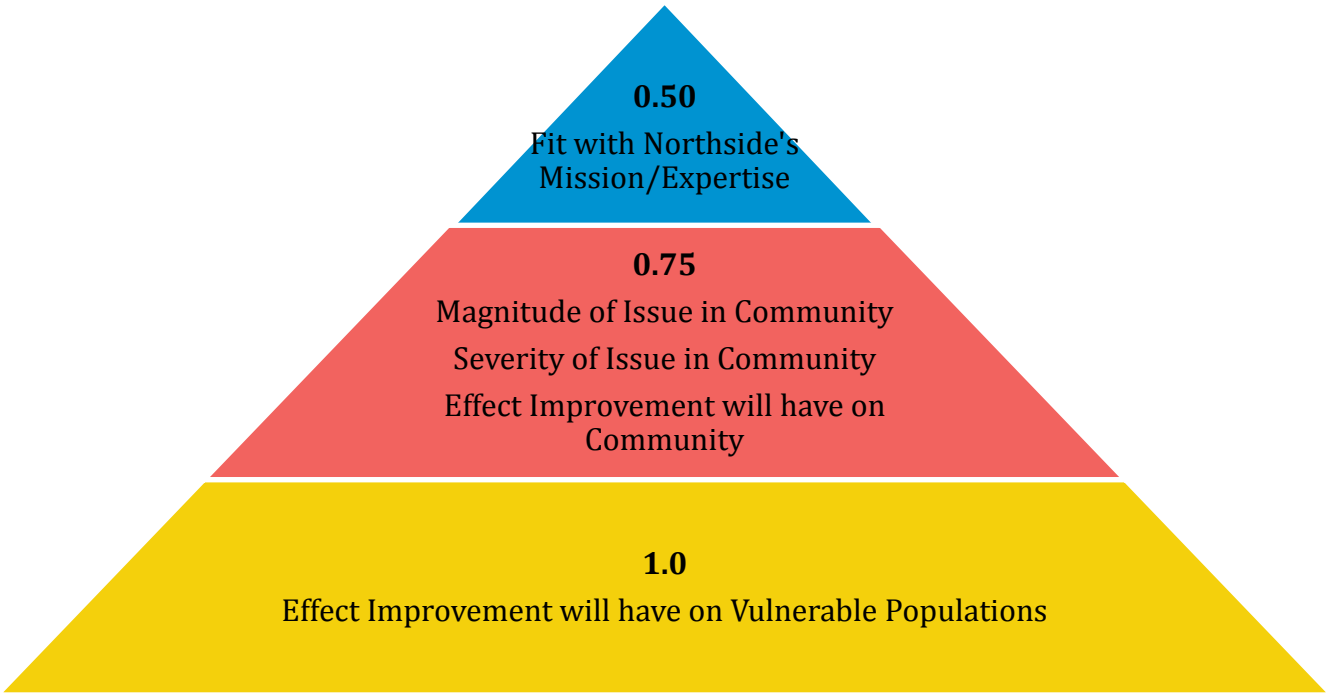
Based on the CHA guidance, Northside researched ranking methodologies for the criteria for its FY 2013-2015 CHNA and decided to utilize the same methodology for the FY 2016-2018 CHNA. In FY 2013, Northside utilized the National Association of County and City Health Officials ("NACCHO") for guidance regarding 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 that will have the greatest

impact on the Community. Northside's weight assignment to the prioritization criteria is provided in **Figure 58.**

Figure 58: Northside's CHNA Prioritization Criteria Weight Assignment



Step 4: Rate each identified need against the prioritization criteria

Throughout the CHNA Process, Northside compiled and analyzed a variety of quantitative and qualitative data from myriad 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 evaluated each need category against each prioritization criterion and assigned that need category a priority score of 1 through 4.

1 = Not a Priority

2 = Low Priority

3 = Medium Priority

4 = High Priority

Table 26 summarizes the rating of each identified need for Northside's Community.

Table 26: Northside's FY 2016-FY 2018 CHNA Prioritization Matrix					
Need Category	Fit with Northside's Mission/ Expertise	Magnitude of Issue in Community	Severity of Issue in Community	Effect Improvement will have on Community	Effect Improvement will have on Vulnerable Populations
Weight	0.5	0.75	0.75	0.75	1.0
Cancer	4	4	4	4	4
Cardiovascular Disease	4	4	3	4	4
Healthy Lifestyle Behaviors	4	3	4	4	4
Maternal and Infant Health	4	4	4	3	4
Preventive Health Behaviors	4	3	4	3	4
Obesity & Diabetes	4	3	3	3	4
Respiratory Disease & Smoking	3	2	3	3	4
Affordability, Access to Care & Uninsured	3	2	4	2	4
Primary Care	3	2	4	2	4
Mental Health/Addiction	3	3	2	3	3
HIV/AIDS	2	2	2	2	4

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.

Table 27: Northside's FY 2016-FY 2018 CHNA's Prioritization Matrix Total Score	
Need Category	**Total Score**
Cancer	15
Cardiovascular Disease	14.5
Healthy Lifestyle Behaviors	14.25
Maternal and Infant Health	14.25
Preventive Health Behaviors	13.5
Obesity & Diabetes	13
Respiratory Disease & Smoking	11.5
Affordability, Access to Care & Uninsured	11.25
Primary Care	11.25
Mental Health/Addiction	10.75
HIV/AIDS	9.5

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 individuals 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.

1. Cancer
2. Cardiovascular Disease
3. Healthy Lifestyle Behaviors
4. Maternal and Infant Health
5. Preventive Health Behaviors
6. Obesity and Diabetes

Table 28: Northside's FY 2016-FY 2018 CHNA's Prioritization Matrix Total Score

Need Category	Total Score
Cancer	15
Cardiovascular Disease	14.5
Healthy Lifestyle Behaviors	14.25
Maternal and Infant Health	14.25
Preventive Health Behaviors	13.5
Obesity & Diabetes	13
Respiratory Disease & Smoking	11.5
Affordability, Access to Care & Uninsured	11.25
Primary Care	11.25
Mental Health/Addiction	10.75
HIV/AIDS	9.5

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 29.** The community resources identified by Northside were divided into groups based on the health needs found in the Community, several categories were combined.[4]

[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 www.northside.com for the Community to easily access it.

Table 29: Count of Existing Resources	
Need Category	**Count**
Cancer	16
Cardiovascular Resources	5
Healthy Lifestyle	28
Maternal and Infant Health	47
Preventive Health, Access to Care, Primary Care	53
Obesity and Diabetes	12
Behavioral and Mental Health	22
HIV/AIDS Services	19
Additional Community Health Resources	224
Total Community Resources	**426**

The Needs Northside Will Not Address

Unfortunately, Northside is unable to address directly all of the identified community needs due to limited resources, magnitude/severity of the issue, or the presence of existing resources already in place to address the need. As such, Northside will not be addressing the following community needs as part of this FY 2016-FY 2018 CHNA report.

1. Respiratory Disease and Smoking
2. Affordability, Access to Care, and Uninsured
3. Primary Care
4. Mental Health & Addiction
5. HIV/AIDS

1. Respiratory Disease and Smoking

Although respiratory disease and smoking is a health need within the Community, the Northside Community performs better than the United States and Georgia on most related metrics. The Community's rate of lung cancer is significantly less than Georgia's rate and the rate of smoking among adults in the Community is only 13% compared to 18% in Georgia and the U.S. Even though respiratory disease and smoking will not be adopted as a formal health need that Northside plans to address directly, Northside does offer smoking cessation resources to the Community, including educational materials and smoking cessation classes. Furthermore, Northside's community benefit efforts targeting cancer within the Community will also help address respiratory disease and smoking in the Community.

2. Affordability/Access to Care/Uninsured

Northside is committed to serving all patients regardless of their ability to pay for care. Northside illustrated this commitment through providing $283.7M in net indigent and charity care in 2014, the equivalent of 7.5% of the hospital system's 2014 adjusted gross

revenue. Northside will continue this commitment and will continue to serve all patients regardless of their ability to pay. Beyond this commitment, there is little more Northside can do to assist patients with access to affordable health insurance since Northside has no influence over the cost of insurance. Additionally, Northside is continuously trying to make care more accessible to the Community through opening new outpatient locations, increasing our hospital staff in size and specialty, and expanding service offerings at all of our locations.

3. Primary Care

For Northside's FY 2016-FY 2018 CHNA, primary care will not be addressed as part of Northside's CHNA initiatives. As noted in this CHNA report, the Community has 77 PCPs per 100,000 population compared to Georgia with only 64. Additionally, there are 30 Federally Qualified Health Centers located in the Community, with which Northside already maintains several strong partnerships. Furthermore, Northside conducts a bi-annual community-based Physician Need Analysis for its sole county provider hospitals located in Cherokee and Forsyth Counties. Thus, in order to avoid duplicating efforts and to efficiently utilize Northside's and the Community resources to make the biggest positive impact on the Community's health, Northside is not directly addressing primary care in its CHNA initiatives.

4. Mental Health/Addiction

Mental health/addiction was not determined to be a high priority need in the Northside Community based on the quantitative data analyzed for the FY 2016-FY 2018 CHNA. Additionally, Northside is currently meeting the mental health needs of many in its vulnerable population, as illustrated through providing mental health services to 12%, or 3,582, of Northside's 2014 indigent and charity other outpatient cases. Furthermore, there are more than 22 organizations in the Community aimed at helping those with mental and behavioral health issues. Thus, in order to efficiently utilize Northside's and the Community resources to make the biggest positive impact on the Community's health, Northside is not directly addressing mental health/addiction in its CHNA initiatives.

5. HIV/AIDS

After analyzing the various data collected for Northside's FY 2016-FY 2018 CHNA, HIV/AIDS was not determined to be a high priority need in the Northside Community. There are 19 community organizations within the Community that specialize in education, outreach, awareness, and/or screening for HIV/AIDS. Additionally, the Georgia Department of Public Health coordinates an HIV Prevention Program that implements an HIV Prevention Plan and testing program, and funds community-based organizations committed to HIV prevention throughout the state. This GDPH program is funded by the

CDC and the Substance Abuse and Mental Health Administration Services. Thus, in order to efficiently utilize its resources and to make the biggest positive impact on the Community's health, Northside is not directly addressing HIV/AIDS in its CHNA initiatives.

Works Cited

Works Cited

[1] County Health Rankings & Roadmaps, "County Health Rankings & Roadmaps," 2015. [Online]. Available: http://www.countyhealthrankings.org. [Accessed 2015].

[2] U.S. Centers for Disease Control and Prevention, *Community Health Assessment for Population Health Improvement: Resource of Most Frequently Recommended Health Outcomes and Determinants,* Atlanta, GA: Office of Surveillance, Epidemiology, and Laboratory Services, 2013.

[3] ESRI, *ESRI,* 2015.

[4] U.S. Census Bureau, *American Community Survey (American Fact Finder),* Generated by Northside Planning Department using American Fact Finder, 2013.

[5] U.S. Census Bureau, *American Community Survey,* Accessed via CHNA.org, 2009-2013.

[6] US Census Bureau, *Decennial Census,* Accessed via CHNA.org, 2010.

[7] Robert Wood Johnson Foundation, "Exploring the Social Determinants of Health: Education and Health," 2011.

[8] Robert Wood Johnson Foundation, "Stable Jobs = Healthier Lives," 14 January 2013. [Online]. Available: http://www.rwjf.org/en/culture-of-health/2013/01/stable_jobs_health.html. [Accessed 9 10 2015].

[9] M. Reblin and B. Uchino, "Social and Emotional Support and its Implication for Health," *Curr Opin Psychiatry,* pp. 201-205, Mar 2008.

[10] M. Stafford, T. Chandola and M. Marmot, "Association between Fear of Crime and Mental Health and Physical Functioning," *American Journal of Public Health,* vol. 91, no. 11, pp. 2076-2081, November 2007.

[11] FBI, "Uniform Crime Reports," 2010-2012.

[12] Health Resources and Services Administration, "Medically Underserved Areas/Populations," [Online]. Available: http://www.hrsa.gov/shortage/mua/.

[13] U.S. Department of Health & Human Services, Health Resources and Services

Administration, "MUA Find Results," 2016 1 1. [Online]. Available: http://datawarehouse.hrsa.gov/tools/analyzers/MuaSearchResults.aspx. [Accessed 13 1 2016].

[14] US Department of Health & Human Services, Center for Medicare & Medicaid Services, *Federally Qualified Health Centers,* Accessed through CHNA.org, 2014.

[15] US Department of Health & Human Services, *Area Health Resource File,* Accessed via CHNA.org, 2012.

[16] US Census Bureau, *Small Area Health Insurance Estimates,* Accessed through CHNA.org, 2013.

[17] Center for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System,* Accessed via CHNA.org, 2011-2012.

[18] US Department of Health & Human Services, *Area Health Resource File,* Accessed via CHNA.org, 2013.

[19] Center for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System,* Accessed via CHNA.org, 2006-2010.

[20] National Institutes of Health, "What is Prenatal Care and Why is it Important?," March 2013. [Online]. Available: https://www.nichd.nih.gov/health/topics/pregnancy/conditioninfo/Pages/prenatal-care.aspx. [Accessed November 2015].

[21] Centers for Disease Control and Prevention, *National Viatal Statistics System,* Accessed via CHNA.org, 2007-2010.

[22] Dartmouth College Institute for Health Policy & Clinical Practice, *Dartmouth Atlas of Healthcare,* Accessed via CHNA.org, 2012.

[23] M. Majerol, "The Uninsured: A Primer - Key Facts About Health Insurance and the Uninsured in America," *The Henry J. Kaiser Family Foundation,* 05 12 2014.

[24] Georgia Department of Community Health, "Annual Hospital Questionnaire," 2014.

[25] Georgia Department of Public Health, "Online Analytical Statistical Information System," 2013. [Online]. Available: https://oasis.state.ga.us. [Accessed October 2015].

[26] National Research Corporation, "Market Insights," 2014.

[27] Georgia Department of Community Health, *Hospital Financial Survey,* 1999-2014.

[28] United Healthcare, "The Importance of Preventive Care," [Online]. Available: http://www.uhc.com/health-and-wellness/family-health/preventive-care. [Accessed 16 10 2015].

[29] Mayo Clinic, "STD Testing: What's right for you?," [Online]. Available: http://www.mayoclinic.org/diseases-conditions/sexually-transmitted-diseases-stds/in-depth/std-testing/art-20046019. [Accessed 10 2015].

[30] A. Miller, "On World AIDS Day, a Grim Reality in Atlanta," Georgia Health News, Atlanta, 2015.

[31] Centers for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System,* Accessed via CHNA.org, 2006-2012.

[32] Nation Institute on Alcohol Abuse and Alcoholism, *Beyond Hangovers: Understanding Alcohol's Impact on Your Health,* Published 2010, Revised 2015.

[33] U.S. Census Bureau, *County Business Patterns,* Accessed via CHNA.org, 2013.

[34] L. Moore and F. Thompson, "Adults Meeting Fruit and Vegetable Intake Recommendations - United States, 2013," The Centers for Disease Control and Prevention, 2015.

[35] Centers for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System,* Accessed via CHNA.org, 2005-09.

[36] Center for Disease Control and Prevention, "The Benefits of Physical Activity," 4 6 2015. [Online]. Available: http://www.cdc.gov/physicalactivity/basics/pa-health/index.htm#PreventFalls. [Accessed 10 2015].

[37] Centers for Disease Control and Prevention, *National Center for Chronic Disease Prevention and Health Promotion,* Accessed via CHNA.org, 2012.

[38] P. Braveman, M. Dekker, S. Egerter, T. Sadegh-Nobari and C. Pollack, "Exploring the Social Determinants of Health: Housing and Health," Robert Wood Johnson Foundation, 2011.

[39] Johns Hopkins Center to Eliminate Cardiovascular Health Disparities, *Stable Housing.*

[40] U.S. Department of Housing and Urban Development, *Comprehensive Housing Affordability Strategy,* Accessed via County Health Rankings and Road Maps (http://www.countyhealthrankings.org/), 2007-2011.

[41] US Department of Housing and Urban Development, Accessed via CHNA.org, 2013.

[42] Feeding America, Accessed through CHNA.org, 2012.

[43] United States Department of Agriculture, *Food Deserts,* 2010.

[44] Georgia Department of Public Health, Georgia Comprehensive Cancer Registry, 2009-2013.

[45] Center for Disease Control and Prevention Behavioral Risk Factor Surveillance System, "Overweight and Obesity Rates for Adults by Race/Ethnicity," Accessed via the Kaiser Family Foundation (kff.org), 2014.

[46] Georgia Department of Public Health, "Online Analytical Statistical Information System," 2014. [Online]. Available: https://oasis.state.ga.us. [Accessed January 2016].

[47] M. Vangala, "Metro Atlanta at the Center of a Burgeoning HIV crisis," *Georgia Health News,* 12 June 2015.

[48] AIDSVu, 2012. [Online]. Available: http://aidsvu.org/data-methods-statecounty/. [Accessed November 2015].

[49] America's Health Rankings, United Health Foundation, "Infant Mortality," 2014. [Online]. Available: http://www.americashealthrankings.org/GA/IMR.

[50] J. Kanne, "State's Grade on Premature Births Drops," *Georgia Health News,* 5 November 2015.

[51] Centers for Disease Control and Prevention, "Colorectal Cancer Screening Guidelines," 26 February 2014. [Online]. [Accessed 16 10 2015].

[52] Nielsen, "Nielsen SiteReports," 2014.

[53] EPA, "The Safe Drinking Water Information System," FY 2013 - FY 2014.

[54] Centers for Disease Control and Prevention, "Motor Vehicle Crash Injuries," October

2014. [Online]. Available: http://www.cdc.gov/vitalsigns/crash-injuries/index.html. [Accessed November 2015].

[55] Centers for Disease Control and Prevention, "Community Health Assessment for Poulation Health Improvement: Resource of Most Frequently Recommended Health Outcomes and Determinants," Office of Surveillance, Epidemiology, and Laboratory Services, Atlanta, 2013.

[56] Dartmouth College Institute for Health Policy & Clinical Practice, *Dartmouth Atlas of Healthcare,* Accessed via CHNA.org, 2012.

[57] Center for Disease Control and Prevention, *National Environmental Public Health Tracking Network,* Accessed via CHNA.org, 2008.

[58] National Insitutes for Health, National Cancer Institute, *Surveillance, Epidemiology, and End Results Program,* Accessed via CHNA.org, 2007-11.

Appendix A

NORTHSIDE HOSPITAL
Atlanta • Forsyth • Cherokee

Northside Hospital, Inc.
2016 Community Health Needs Assessment
Stakeholder Interview Guide

Stakeholder Background

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 2016 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's 2016 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.

Stakeholder Interview Guide

1. What is your role with **[Insert Name of Stakeholder's Organization]** and in what capacity do you work with members of your community in this role?

2. Based on your experience, what are the top three factors/assets that positively impact the health of the community you serve?

3. Based on your experience, 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 in your community differ in this population from the community as a whole? If so, how?

6. If the factors/hindrances you identified as negatively impacting the community as a whole were not physical (heart disease, diabetes, etc.) health needs/concerns, then could you describe and prioritize the top three physical health-needs that negatively impact the health of the community members you serve?

7. Based on your experience with vulnerable/disparate populations in your community, would the top three physical health needs/concerns 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?

Thank you so much for your time and participation. Your thoughts and suggestions are greatly appreciated!