



AUGUSTA
UNIVERSITY

AU MEDICAL CENTER, INC.

CALENDAR YEAR 2022

**COMMUNITY HEALTH
NEEDS ASSESSMENT**

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INTRODUCTION

The Patient Protection and Affordable Care Act (ACA) enacted March 23, 2010, requires hospitals to complete a Community Health Needs Assessment (CHNA) every three years. A CHNA outlines the facility's implementation strategy for meeting the community's health needs as identified through key stakeholders and research data. The original CHNA for Georgia Regents University (now Augusta University) was completed in Fiscal Year 2012 with a focus on pediatric asthma within the limited service area of Richmond County. In 2019, the Community Health Needs Assessment team focused on expansion of mental health services in the Central Savannah River Area (CSRA). For the most recent CHNA, AU Health System, Inc. (AU Health) will focus on expanding programs to provide enhanced access to primary care and preventive care services to uninsured and the underinsured population across the CSRA. The outcomes of the 2019 CHNA were impacted by the COVID-19 Pandemic. Because of that, some of the initiatives and plans will be continued for the 2022 CHNA.

2. BACKGROUND

2.1 Organization Structure and History

AU Health is part of a consolidated university comprised of liberal arts and medical education as well as patient care. This not-for-profit enterprise has a nearly 200-year history of training health professionals who will serve communities in Georgia and throughout the nation. Augusta University strives to be a top-tier university with a mission of providing leadership and excellence in teaching, discovery, clinical care, and service as a student-centered comprehensive research university and academic health center. Augusta University embodies the application of and produces tangible and measureable results for research, education, and service to enhance the health of the community. AU Health is well regarded for the health-related activities and contributions of its faculty, staff, and students to uninsured and under-insured members of the community.

The core of AU Medical Center, Inc. is comprised of a 478-bed Level 1 trauma center as well as 154-bed children's facility, The Children's Hospital of Georgia. AU Health is recognized both nationally and internationally in programs areas such as cancer, neurology, stroke, women's health, pediatrics and preventative care. AU Health houses a Critical Care Center, which includes a Level 1 adult trauma center and a 16-bed level 2 pediatric trauma center, which serve a 13-county region. Additionally, the Children's Hospital maintains the highest designated levels of care in its NICU (Level 4) and PICU (Level 1).

AU Medical Associates, Inc. is the health system's faculty practice plan, which has over 80 outpatient practice sites in the state. This clinical effort includes telehealth services and remote clinic sites for adult and pediatric patient populations.

2.2 The 2022 Augusta University Community Health Needs Assessment Team

AU Health's CHNA team was led by the Director of Population Health in coordination with physicians, clinical leaders and ancillary support personnel at AU Health. Population Health is a support department to the institution and assists the executive leadership team with community-based initiatives that affect the population served at the facility as well as the

community at large. Members of the team included:

- Family Medicine Resident, Dr. Neeraja Chandraseka
- Decision Support, Business Development and Strategic Planning
- Ambulatory Care
- Office of the Chief Medical Officer (CMO)
- Population Health
- Patient & Family Centered Care
- Marketing
- Key constituents in the organization that have a strong interest in community health improvement

2.3 Community Health Needs Assessment Strategy

The 2022 Community Health Needs Assessment strategy determined areas of interest and identified opportunities for improvement, education, and intervention at the community and facility level. We evaluated a number of data sets and interviewed faculty to identify an area that could meet a significant need in our local population. The overall goal of the 2022 CHNA is to enhance collaboration with the community to expand access, services and education in the area of primary care and preventive health services.

2.4 Results of the 2019 CHNA – Expansion of Mental Health Services

In 2019, the health system had made significant strides to improve mental health efforts in the population we were serving. These efforts included the introduction of a Mental Health Clinic within the Family Medicine and Internal Medicine clinics, introduction of Advanced Care Planning into ambulatory care clinics, free mental health care for the uninsured through the Department of Psychiatry, and were working to expand telehealth offerings through the CSRA and state for emergency health care where most mental health patients seek help. While these efforts were underway and making strides, the COVID-19 pandemic created disruption for these programs. COVID-19 also created more needs in the area of mental health services not only for diagnosed major disorders, but in other populations and conditions. The population served has seen an increase in pediatric patients for suicide and depression.

COVID-19 created disruption of health care services but it did improve a new service delivery offering for patients through the use of telehealth. Prior to March 2020, telehealth was only being provided directly to another health care provider at either a hospital or doctor's office. AU Health invested in a direct to consumer platform to expand access to allow telehealth directly to the patient. This was a great and needed tool during the onset of the pandemic, and is continued to be used by our providers. The top clinical service that utilizes telehealth directly to patients is the Department of Psychiatry. While we have seen an increase in children and adolescent patients being treated for mental health disorders, the Psychiatry Department has been able to see additional patients due to this new resource tool. In 2021, children and adolescents 18 years and younger saw an increase of 11% in ER and inpatient admissions as compared to 2020 at AU Health. For adults ages 19 years and older, there was a slight increase in 2021 Emergency Department visits by 2.23% as compared to 2020 visits.

Another way the health system has combatted a rise in mental health patients, especially in the Emergency Department, is the hiring of a board certified Emergency Medicine Psychiatrist. This resource was on-boarded in the fourth quarter of 2021 and has continued to create new pathways and protocols for treating mental health patients in the ER. This has created more visibility on the need for community mental health resources and the impact that COVID-19 has taken on our population’s mental health.

2.5 Service Area

AU Health has identified the Central Savannah River Area (CSRA) as our area of focus.. The CSRA encompasses 13 Georgia counties and 5 South Carolina counties representing a diverse mix of urban and rural areas, comprising the bulk of the primary, secondary, and tertiary market areas for AU Health (Figure 1).

Figure 1: Primary, Secondary, and Tertiary Market Area Designations of CSRA Counties



The CSRA census, as of 2018, was 767,478. AU Health’s market share stretches across the state of Georgia and South Carolina. For patient seen within the CSRA market, AU Health treated 195,008 unique patients in CY2021 with a county of 1,590,113 visits. As compared to CY 2018, that is an increase of 48.1% in unique patient visits and an increase 22.8% in patient visits to AU Health.

CURRENT PROJECT

3.1 Methods

This Community Health Needs Assessment utilized both primary and secondary data to determine the focus for the project.

As part of the secondary data analysis, data from the Census Bureau’s 2020 American

Community Survey was used to identify the overall population trends of the 18 CSRA counties as well as the demographic (e.g., race, gender, age) and socioeconomic (e.g., poverty levels, education) make-up of these counties. A comparative trend analysis was made for this aggregate CSRA area against data for Georgia, South Carolina, and the nation.

Health conditions were examined at the county or the state level, dependent upon the parameters of the data source. In order to narrow down the potential scope of the CHNA, we began with the most prevalent conditions in Georgia and South Carolina and further refined the list using recent data from the CDC, Census Bureau, Healthy People, Robert Wood Johnson Foundation, Health Communities, state led health agencies, and the Agency for Health Research and Quality (AHRQ). Each of these organizations have either synthesized available local and national health data or have conducted large scale surveys of individuals about health conditions, access, and behaviors.

In conjunction with our quantitative analysis of internal data, a qualitative and mixed methods study was conducted. AU Health's Adult Primary Care Departments have a sizable patient panel of over 25,000. This department was provided a questionnaire about the composition of their clinic and challenges to the patient care experience. (Appendix A). Responses were recorded, transcribed, and recurrent themes were identified. In conjunction with the primary care department, questionnaires were also collected from adult and pediatric sub-specialists, Emergency Medicine physicians, and community providers amongst the CSRA.

Primary and secondary data was analyzed together to the most significant health related needs. This information was reviewed by AU Health's senior leadership team and a focus area for the CHNA was selected. Within the report narrative, justification for any significant needs that are identified but not included will be addressed.

3.2 Analysis of Findings

3.2.1 Analysis of Findings – Secondary Data

3.2.1a Population Analysis

The prevalence and severity of disease states within a community depends on several factors, including the demographics of the population. The differences in population groups require different types and approaches to health care and inform the resulting project for this needs assessment.

Gender

Georgia, South Carolina, and the United States all follow the pattern of a predominantly female population (Table 1), although in the CSRA specifically, there has been an increase in the male population since 2018.

The transgender population represents 55,560 in Georgia (0.51% of the population) and 21,000 in South Carolina (0.39%). A total of 0.6% of the United States' current population over the age of 18 identify as transgender, while 1.7% of the population over 18 do not identify as female, male or transgender.

Table 1: Gender Breakdown for Georgia, South Carolina, and the United States of America

	Georgia	South Carolina	USA
Females	5,550,977 (51.4%)	2,678,405 (51.6%)	168,602,022 (50.8%)
Males	5,248,589 (48.6%)	2,512,301 (48.5%)	163,291,723 (49.2%)

Source: American Community Survey, Census Bureau, 2021

Similar to its state and national comparisons, according to the Census Bureau's 2020 American Community Survey, the aggregate count across the 18 county Central Savannah River Area (CSRA) also has more females (n = 371,148, 51.4%) than males (n = 350,332 48.6%). However, when looking at the counties individually, this is not always the case (Table 2).

The male population in the CRSA has also increased since 2018 when they represented a total of 322,200 (46.8%) of the population.

Table 2: Gender Breakdown of CSRA Counties, 2020

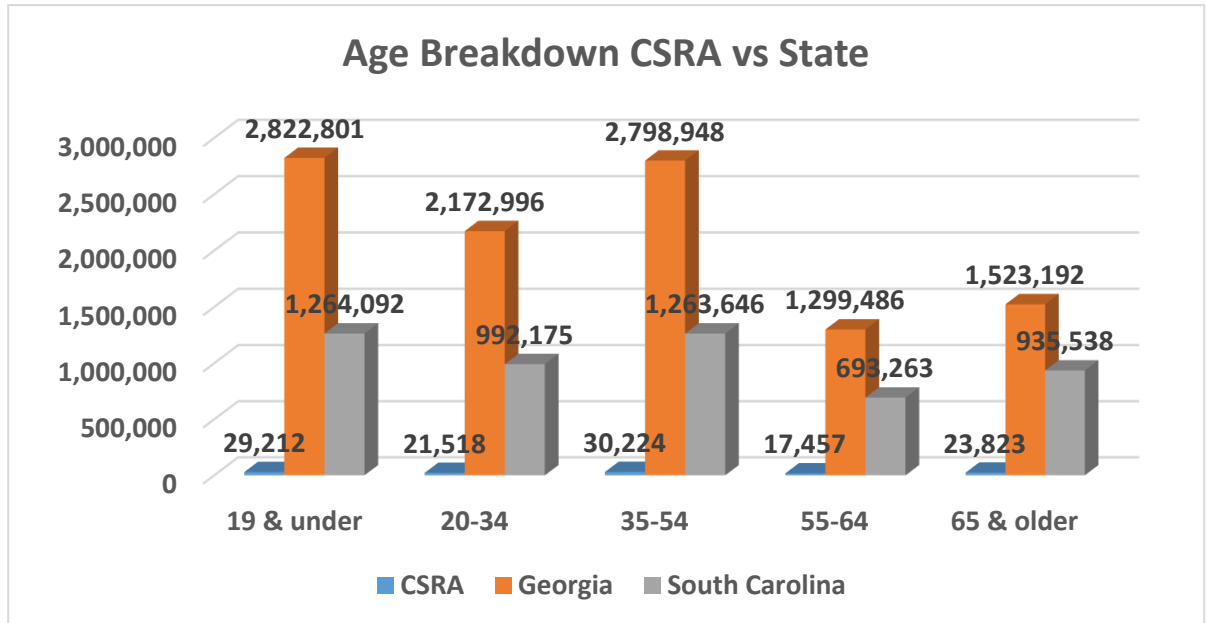
	Females	Males
Burke County, GA	12,888	11,707
Columbia County, GA	79,877	76,132
Glascocock County, GA	1,456	1,428
Hancock County, GA	3,843	4,892
Jefferson County, GA	8,106	7,603
Jenkins County, GA	4,059	4,614
Lincoln County, GA	3,953	3,737
McDuffie County, GA	11,487	10,146
Richmond County, GA	106,403	100,204
Taliaferro County, GA	800	759
Warren County, GA	2,748	2,467
Washington County, GA	9,774	10,214
Wilkes County, GA	4,993	4,572
Aiken County, SC	87,274	81,534
Allendale County, SC	3,859	4,180
Barnwell County, SC	13,332	7,257
Edgefield County, SC	11,905	13,752
McCormick County, SC	4,391	5,134

Source: American Community Survey, Census Bureau, 2020

Age

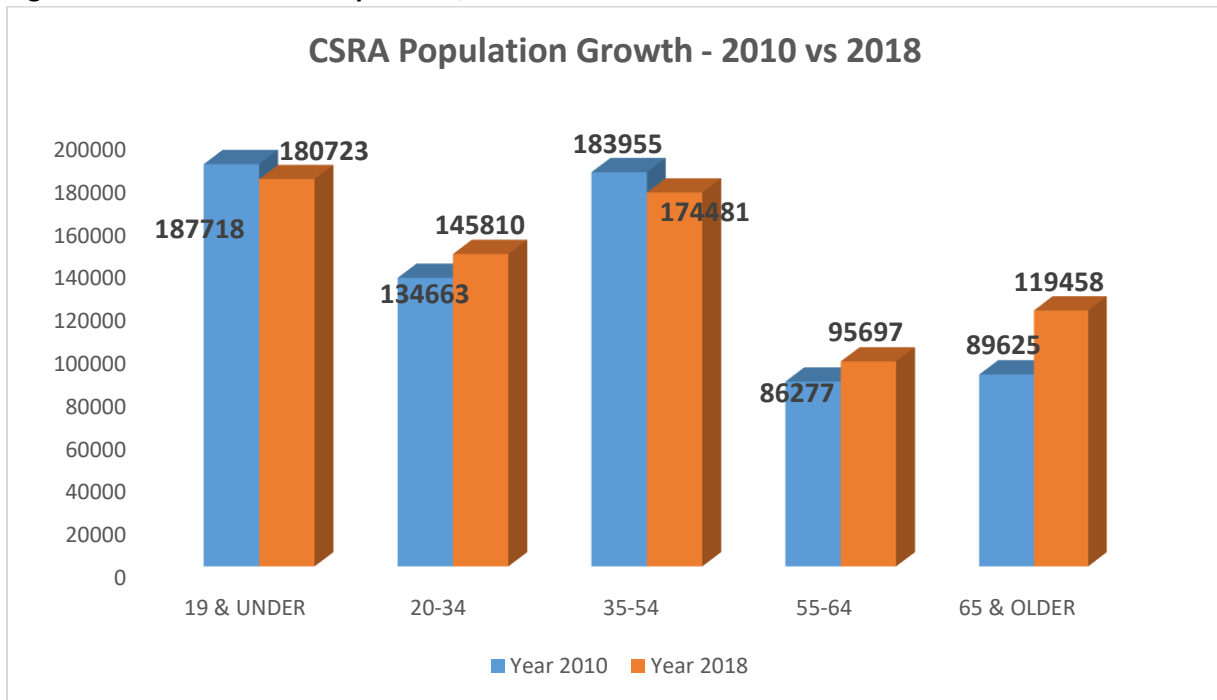
The age breakdown for the CSRA shows that in 2019 an estimated 25% of the population was 19 and under (Figure 2). Looking at growth trends for the CSRA, however, the pediatric population (19 and under) as well as the 35-64 population have both declined from 2010 to 2018. Both the 20-34 age group and those who are 55-64 have increased in population numbers by around 8% and 11% respectively, but the highest growth has been in the 65 years and older age group, which increased 33.3%. (Figure 3)

Figure 2: CSRA, Georgia and South Carolina Age Breakdown, 2019



Source: American Fact Finder, Census Bureau, 2019

Figure 3: CSRA Growth in Population, 2010 and 2018

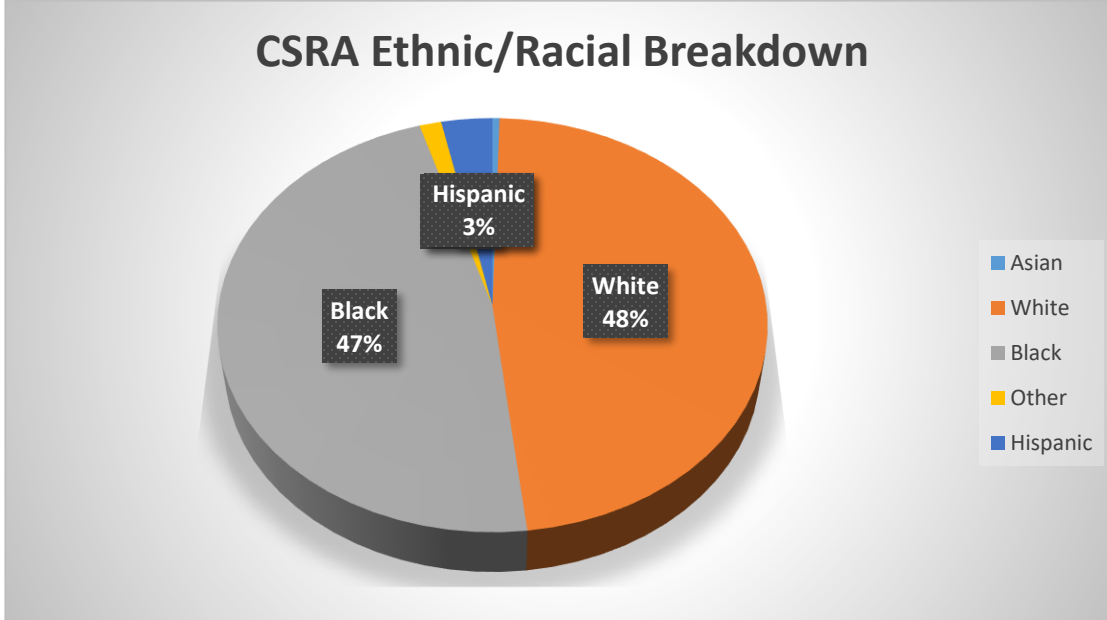


Source: American Fact Finder, Census Bureau, 2018

Race/Ethnicity

Nationally, the population is predominately white, representing 60.1% of the population after the 2020 Census. This trend is also the case for Georgia (60.2%) and South Carolina (68.6%); however, for the CSRA, African American/Black accounts for approximately 47% of the population and the remaining 5% is split between Asian, Hispanic, and Other races (Figure 4)

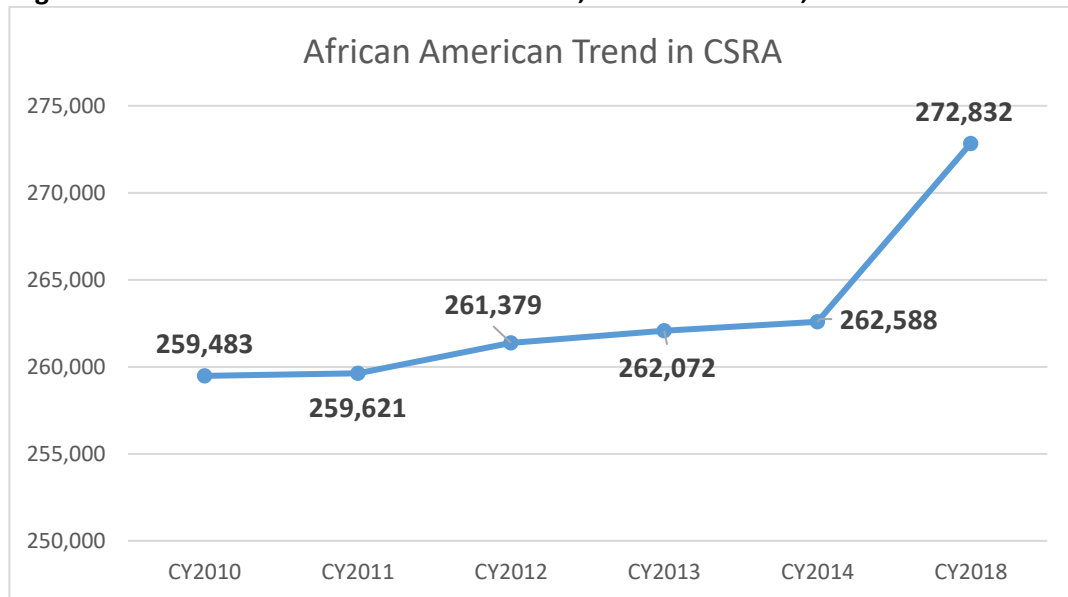
Figure 4: CSRA Racial/Ethnic Breakdown CY 2019



Source: American Community Survey, Census Bureau, 2019

African Americans/Black have a higher predisposition and risk factors for several chronic conditions, including certain cancers, stroke, cardiovascular disease, and diabetes. Looking at the trends from 2010 to 2018 for the CSRA, the overall number of African American/Blacks has increased by 3.8% (Figure 5). However, that increase is only within McDuffie, Columbia, Richmond, and Aiken counties

Figure 5: Census of African Americans in CSRA, CY2010 – CY2014, CY2018



Source: American Community Survey, Census Bureau, 2010-2014, 2018

3.2.1b Social and Economic Determinants of Health

Income and Poverty

Within the United States, both Georgia and South Carolina are considered rural and lower income states with approximately 13% of their population living in poverty. Within the U.S., Georgia ranks #33 and South Carolina at #37 based on median household incomes from the 2020 Census Bureau’s American Community Survey results (Table 3). As a small section of both of these states, it is not surprising that 20.4% of the CSRA’s population, all ages, is considered as living in poverty according to the 2020 numbers from the Census Bureau (Table 3). The median household income within this 18 county region is \$35,726, with 7 out of the 18 counties median household income being less than \$30,000. Those counties include: Allendale County, SC (\$20,081), Hancock County, GA (\$22,283), Jefferson County GA (\$29,268), Jenkins County GA (\$27,686), McCormick County SC (\$27,688), Taliaferro County GA (\$22,188), and Wilkes County GA (\$28,022).

Of the remaining counties, only three have a median household income above \$40,000. Those counties are: Columbia County, GA (\$66,333), Aiken County SC (\$44,468), and Edgefield County SC (\$42,834).

Table 3: CSRA, Georgia, South Carolina, and USA Poverty and Income Comparisons

	CSRA	Georgia	South Carolina	USA
% Living in Poverty	20.4%	13.3%	13.9%	12.3%
Avg. Median Household Income	\$35,726	\$61,980	\$56,227	\$57,652

Source: American Community Survey, Census Bureau, 2020

Education

Approximately 9.9% (n = 72,936) of those aged 25 and older in the CSRA have less than a high school education. Breaking that percentage down by county, 17 of 18 CSRA counties have over 25% of their adult populations without a high school degree. In rural counties, such as Taliaferro County, that percentage reaches over 47%.

For Georgia and South Carolina as a whole, the percentage is 13.6% without a high school degree, and for the United States, it is 12.7%.

Access to Care (health insurance, rural pops, HPSAs/MUAs)

One aspect of access to care is being able to pay for the medical care using some form of health insurance. However, despite the Affordable Care Act initiatives that began in 2012, 14.5% of Georgians and 8.5% of those in South Carolina were still without health insurance in 2020 (Table 4).

Georgia’s uninsured rate is the third highest in the country, with a little over 1.4M Georgians without any type of health insurance coverage. Georgia nor South Carolina has currently

expanded Medicaid although during the COVID-19 waiver, various 1135 Waivers were put into place to assist with coverage during the pandemic.

Georgia ranks 44th for access to preventive care services while South Carolina ranks 33rd. The relation between the total populations of uninsured compared to the lack of preventive care services is visible in these rankings. Due to the high and rising cost of care, the population will not be receiving preventive care and only emergent care services.

Table 4: Health Distribution Status - 2020

Category	Georgia	South Carolina	USA
Employer	46.9%	47.7%	50.3%
Non-Group	5.9%	4.7%	5.5%
Medicaid	15.9%	15.7%	17.8%
Medicare	13.6%	18.5%	15.6%
Military	3.2%	5.0%	2.3%
Uninsured	14.5%	8.5%	8.6%

Source: American Census Bureau, 2020

3.2.1c Chronic Disease States

Compiling data and national survey results from multiple sources (Appendix B) for a full list of and links to sources, the following chronic disease data were obtained and then ranked in order of incidence to then be analyzed against the primary data to determine focus.

Cancer

One of the leading and most well-known chronic conditions affecting Americans is cancer. Cancer comes in several forms and can be found in one or multiple areas of the body. According to the National Health Inventory Survey (2014), 586 participants said that they currently had cancer, of which 23.3% (n = 136) had been diagnosed within the last year. Looking at the immediate area around AU Health system using the Behavioral Risk Factor Surveillance System (BFRSS) metropolitan area tool, 5.93% of the population in the Augusta-Richmond County area have been told that they have or had some form of cancer either in or prior to 2016. Using BFRSS data from 2014 to 2018, Table 5 shows comparisons of cancer incidence.

Table 5: Cancer Incidence Rate Comparisons (new cancers per 100,000)

	Georgia	South Carolina	USA	Time Period
Cancer Incidence	469	450	449	2014-2018
Female breast	128	130	127	2014-2018
Prostate	127	113	106	2014-2018
Lung and bronchus	61	63	57	2014-2018
Colon and rectum	41	38	38	2014-2018
Corpus and uterus	25	23	27	2014-2018
Skin melanomas	27	24	23	2014-2018
Urinary bladder	18	18	20	2014-2018

Source: CDC, 2018 US Cancer Statistics

The above table shows that the overall incidence of cancer occurs more frequently in breast, prostate and lung, colon and rectum and skin melanomas.

The table below demonstrates the cancer incidence rates specifically for the 18-counties in the CSRA. Only female breast and prostate are above the national incident rate average.

Table 6: Cancer Incidence Rates per 100,000 for the CSRA 2014-2018

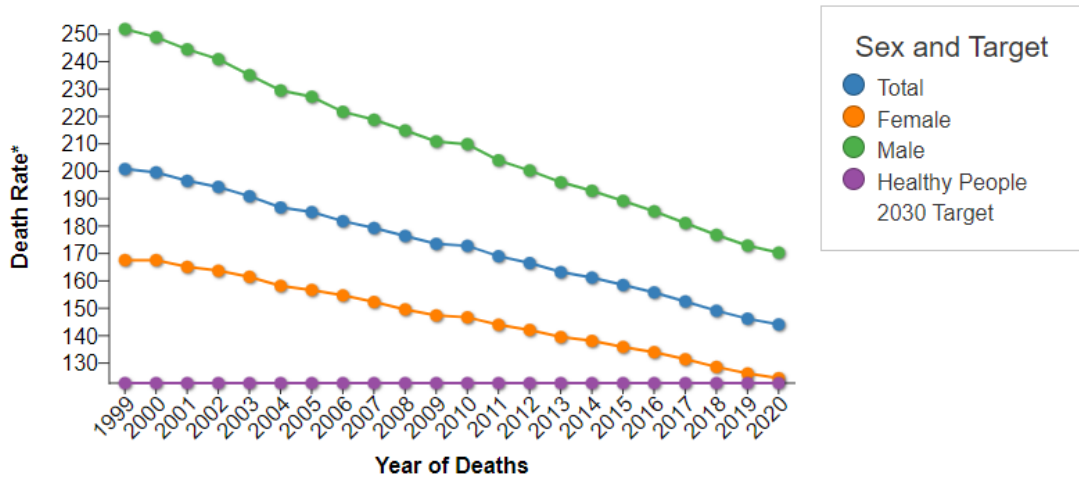
	CSRA
<i>Cancer Incidence per 100,000</i>	
Female breast	131.12
Prostate	116.06
Lung and bronchus	48.96
Colon and rectum	34.11
Corpus and Uterus	26.95
Skin melanomas	17.48
Urinary bladder	18.68

Source: CDC, 2018 US Cancer Statistics

According to Healthy People, in the past 20 years, the cancer death rate has decreased 27% from 196.5 to 141.11 for deaths per 100,000 people. Healthy People 2030 has set an objective of 122.7 deaths per 100,000 people. The cancer rate decreased in males by 30% compared to females decline by 25%, but cancer rates has still higher in males. (Figure 6)

Figure 6: Cancer Rate in the past 20 years

Figure 1. Age-adjusted cancer death rates, by sex, United States, 1999–2020



*Deaths per 100,000 standard population. Please note that, due to graphing limitations, the y-axis starts at 122.7.

Source: *Healthy People 2030*

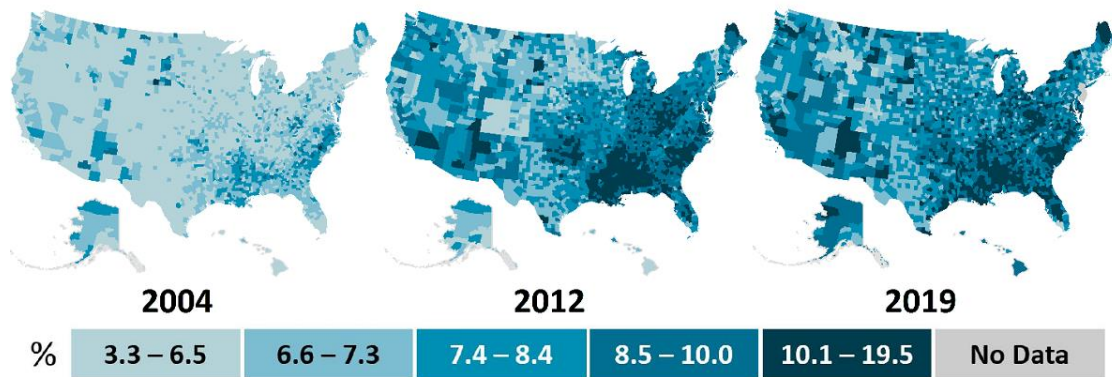
Diabetes

The overall incidence of diabetes in the United States has drastically increased over the past twenty years (Figure 7).

There are a total of 37.3 million Americans with diabetes and of those population, a total of 8.5 million who are undiagnosed with diabetes. After two decades of continual increases, the incidence of newly diagnosed cases of diabetes decreased from 9.3 per 1,000 adults in 2009 to 5.9 per 1,000 adults in 2019. (Figure 8)

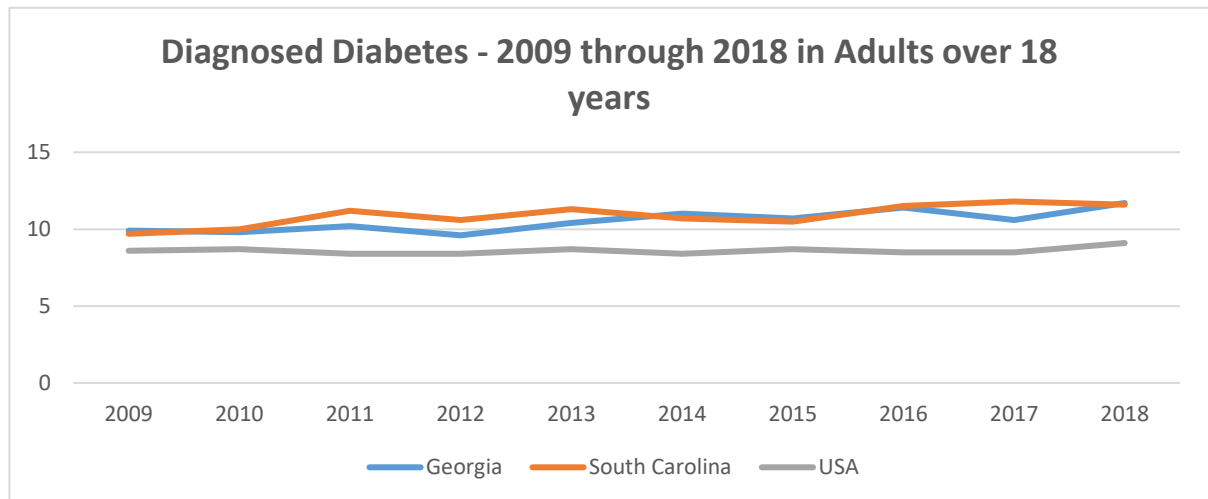
Diabetes emerged as an underlying condition that increased severity of illness for patients with COVID-19. Nearly 4 out of 10 adults who died from COVID-19 also had diabetes.

Figure 7: Prevalence of Diabetes over the past 20 years



Source: Centers for Disease Control, Diabetes Atlas

Figure 8: Diagnosed Diabetes in Adults in Georgia, South Carolina & USA – 2009 through 2018



Source: Centers for Disease Control, Diabetes Atlas

Heart and Vascular Disease

Heart and vascular diseases are also among the more prevalent chronic conditions in the United States with nearly a third of the population diagnosed with one or more of the conditions, including heart disease, hyperlipidemia, and hypertension. Hyperlipidemia prevalence rates are higher in South Carolina; however, hypertension prevalence rates are higher in Georgia (Table 7).

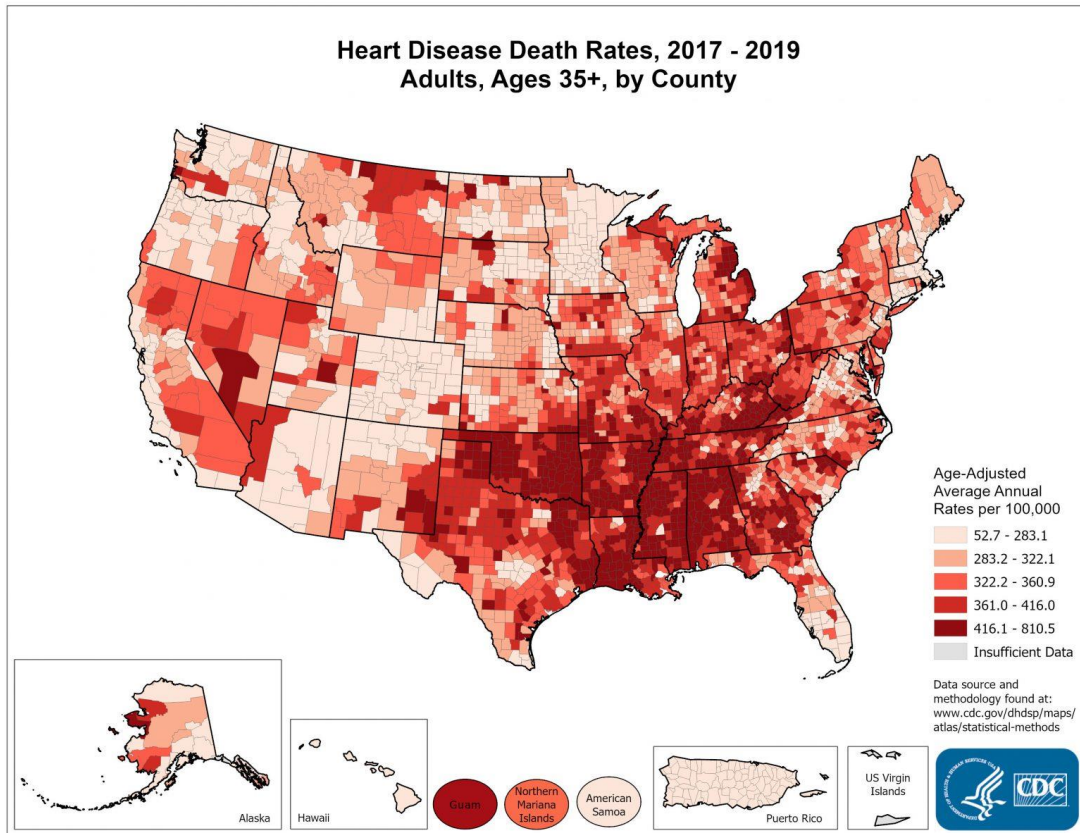
Table 7: Prevalence Rates of Heart and Vascular Diseases in Georgia, South Carolina and USA

	Georgia	South Carolina	USA	Time Period
Hyperlipidemia Prevalence	29.2%	31.3%	33.1%	2019
Hypertension Prevalence	32.7%	34.3%	32.3%	2019
Heart Disease Mortality Rate (per 100,000)	183.7	170.9	163.69	2019

Source: CDC BFRSS, 2019

As with the other chronic conditions, overall death rates from the disease remain concentrated within the Southeastern portion of the United States (Figure 9).

Figure 9: Death Rates per 100,000 from All Heart Disease, 2017 – 2019, Age 35+



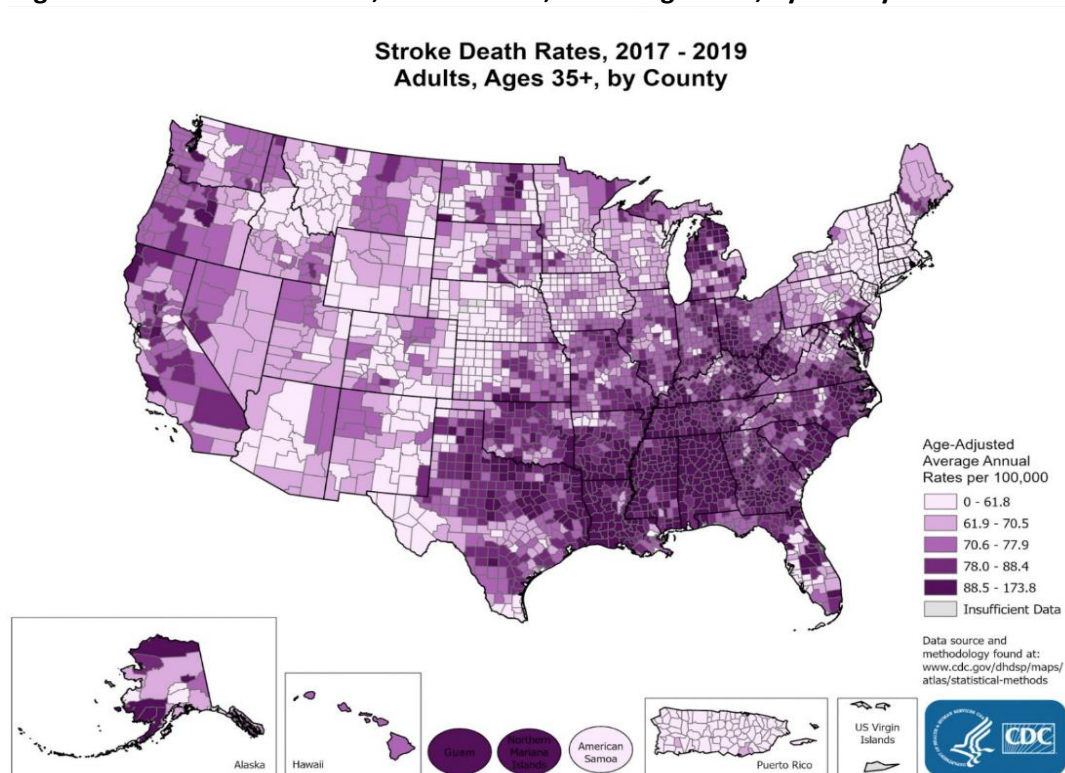
Source: CDC Interactive Atlas of Heart Disease and Stroke, 2015-2017

Stroke

According to the American Stroke Association, stroke is the fifth leading cause of death and the leading cause of adult disability in the United States. While Healthy People 2020 or 2030 does not have any goals specific to stroke, as with all other disease related topic areas, there is a desire to decrease the mortality rate from strokes. AU Health System and Georgia as a whole tend to appear on the higher end of the stroke mortality spectrum as it is located in the “buckle’ of the southeastern “Stroke Belt”. This “Stroke Belt”, according to the Centers

for Disease Control (CDC), is where the incidence and mortality from stroke is the highest in the United States (Figure 10).

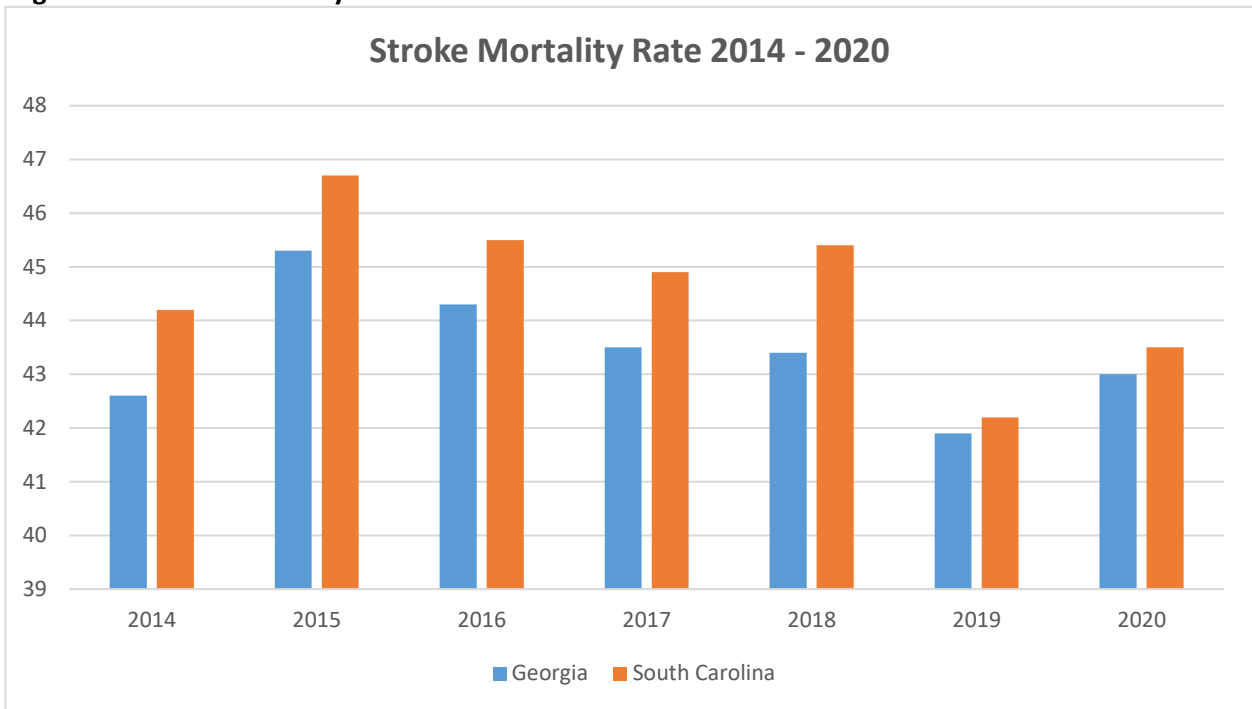
Figure 10: Stroke Death Rates, 2017 to 2019, Adults Aged 35+, by County



Source: Centers for Disease Control, Stroke and Heart Disease Atlas

Despite increased awareness of stroke prevention, the CDC data from 2014-2020 shows that Georgia stroke deaths rates show an overall improvement. There was an increase in 2015 and 2016, but the rate has improved for 2019 and 2020. (Figure 11)

Figure 11: Stroke Mortality Rate 2014-2020



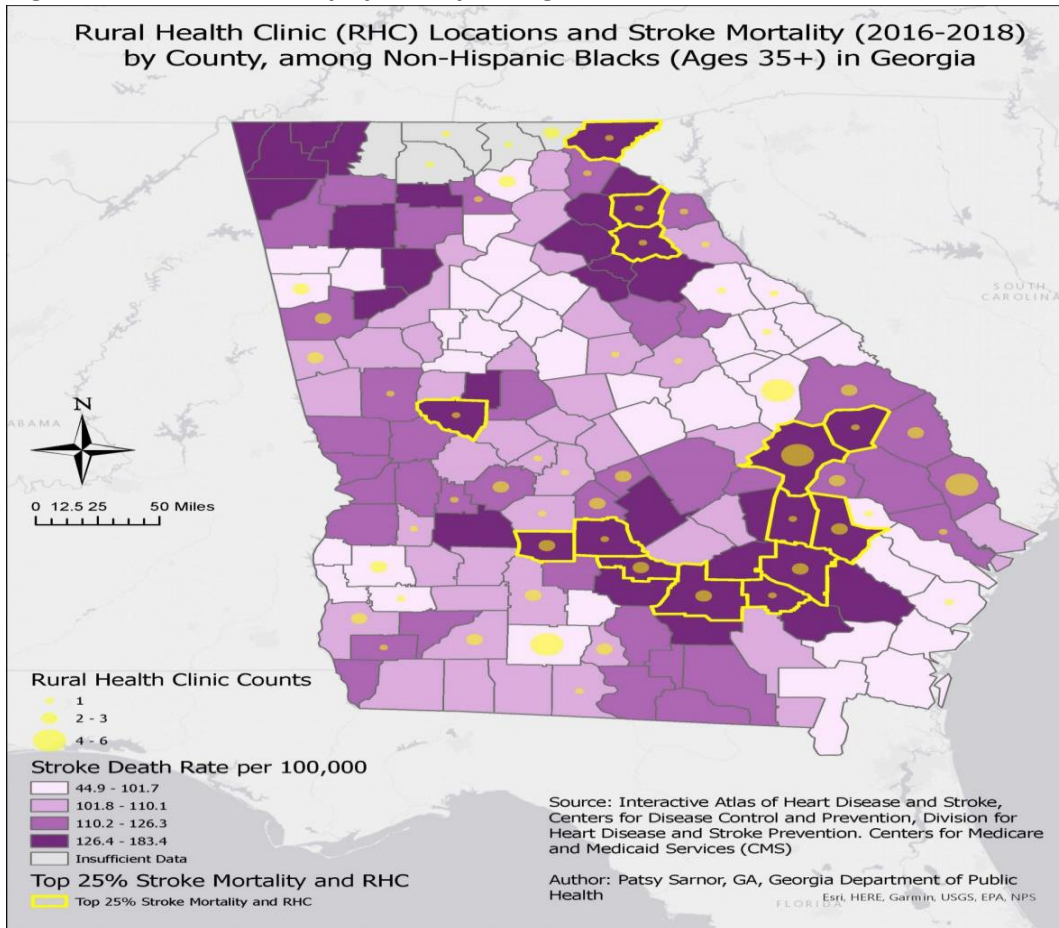
Source: CDC, Stats of the State of Georgia and South Carolina, 2020

While stroke mortality has improved, parts of rural Georgia still suffer from high mortality rates. Stroke education and awareness has improved drastically, as well as access to specialty care through tele-stroke services. AU Health has an extensive tele-stroke network (REACH) that provides stroke care to rural hospitals across the state of Georgia. (Figure 12) This program has had great impact in improving mortality rate, but there are still strides that need to be taken to continue improving. (Figure 13)

Figure 12: Map of Tele-Stroke (REACH) Network



Figure 13: Stroke Mortality by County, Georgia, 2016-2018



Source: Centers for Disease Control, 2018

Respiratory Diseases

Within the spectrum of respiratory diseases, both asthma and chronic obstructive pulmonary disease (COPD) have moderate prevalence in the United States. Georgia has lower prevalence and mortality rates in asthma and COPD as compared to South Carolina, but still slightly above national rates (Table 8).

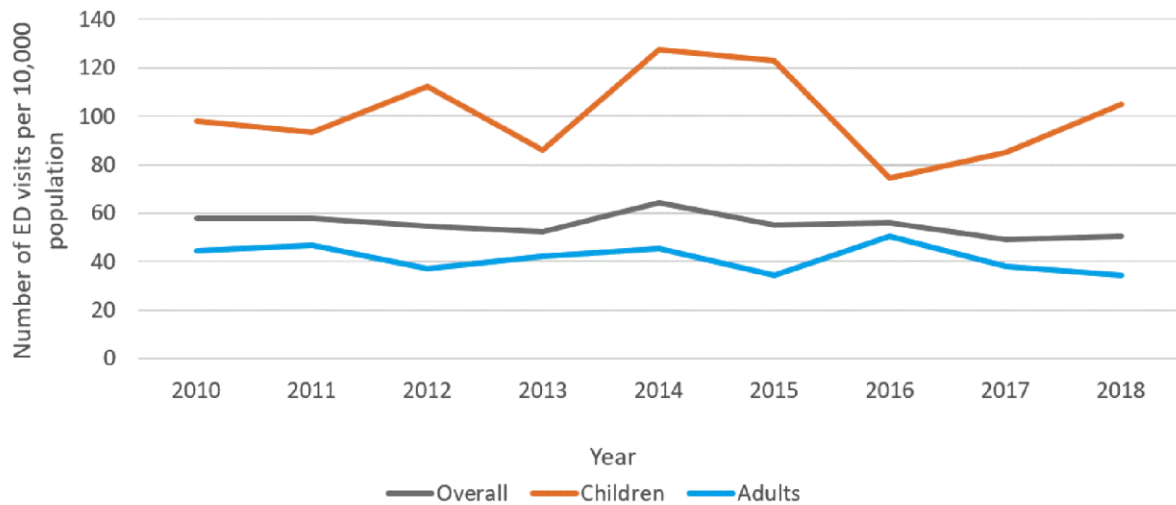
Table 8: Asthma and COPD Prevalence and Mortality, GA, SC, and USA- 2019

	Georgia	South Carolina	USA	Time Period
Asthma Prevalence (Adults)	7.7%	9.4%	7.8%	2019
Asthma Mortality Rate (cases per	10.5	8.4	10.7	2019
COPD Prevalence (Adults)	7.4%	8.1%	6.5%	2019
COPD Deaths (cases per 100,000)	45.7	48.5	40.3	2019

Source: Centers for Disease Control, 2022

Looking at a trend of state data from CDC, mortality rates for asthma are lower than Chronic Obstructive Pulmonary Disease (COPD). According to Healthy People 2020, more than 23 million people living in the United States have asthma). In a trend comparison from 2010 to 2018, the rate of asthma related Emergency Department visits in children compared to adults was drastically different. Children averaged from 2010-2018 88.1 visits per 10,000 patients as compared to adults at 42.1 visits per 10,000. (Figure 14)

Figure 14: Asthma emergency department (ED) visits rate* (per 10,000 population) by age group† and year: United States, 2010–2018



Source: CDC, Most Recent National Asthma Data, 2018

Mental Health, Mental Disorders, & Addictive Behaviors

Mental health issues and addictive behaviors can be underlying issues for or could lead to chronic conditions later on. Unlike with other issues, Georgia and South Carolina are actually below the national average for alcohol usage, but is below average for current smoking behavior.

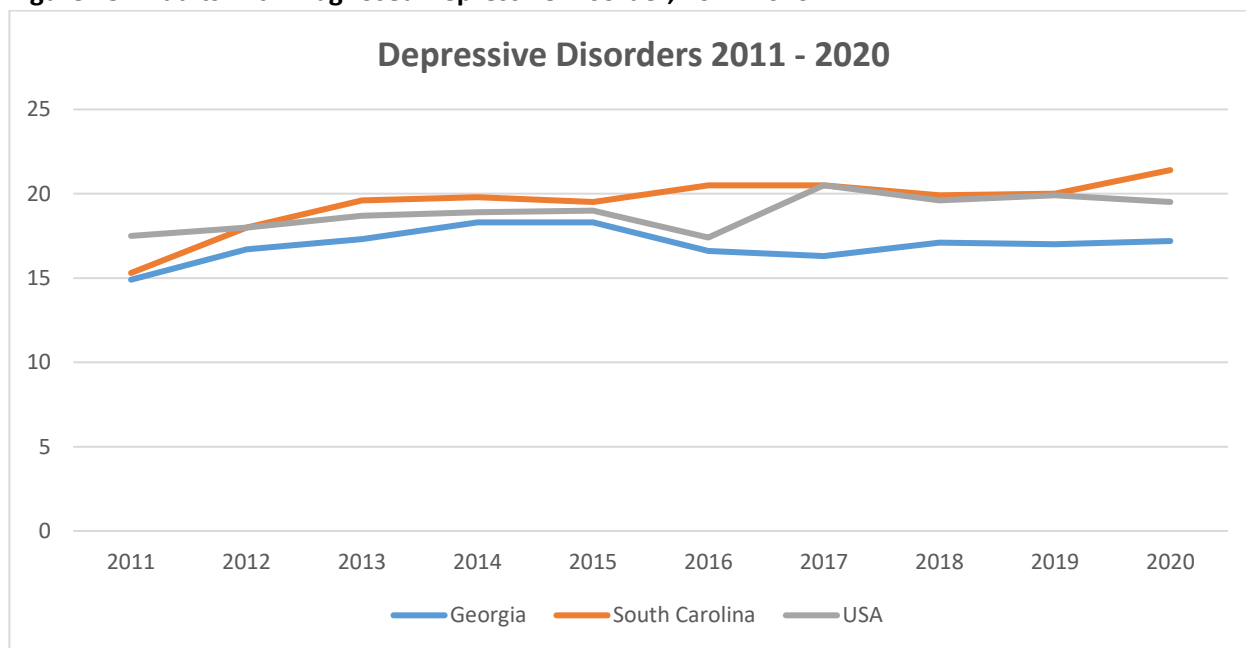
Table 9: Prevalence of Alcohol and Tobacco Use in Georgia, South Carolina and USA - 2020

Prevalence (%)	Georgia	South	USA	Time
Alcohol Use (Adults)	51.60%	51.10%	52.40%	2020
Binge Drinking Prevalence (Adults)	14.6	17.1	15.7	2020
Heavy Drinking Prevalence (Adults)	6.1	8	6.7	2020
Current Smokeless Tobacco Use	6.8	4	3.7	2020
Current Smoking (Adults)	15.9	18.7	15.5	2020

Source: CDC, BFRSS, 2020

Adults with a diagnosis depressive disorder including depression, minor depression, major depression, or dysthymia has increased in the United States since 2011. The below table shows the increase in this population. Notably, Georgia has been below the national median since 2011 while South Carolina has remained above or higher the median rate except in 2011. (Figure 15) South Carolina’s multi-racial population represents the majority of the population with 39.7% being diagnosed with depressive disorder in 2020. In Georgia, Caucasians make up the majority of the population with 21.2% in 2020. In both states, females make up the largest population for being diagnosed with a depressive disorder.

Figure 15: Adults with Diagnosed Depressive Disorder, 2011-2020



Source: America’s Health Rankings, 2020

Obesity, Oral Health, and Bone Diseases

As with mental health, obesity, poor oral health, and arthritis have also all been found to be underlying issues for other chronic conditions. Overall, Georgia and South Carolina have higher prevalence levels of adults being overweight or obese. South Carolina also has higher prevalence of arthritis (Table 10).

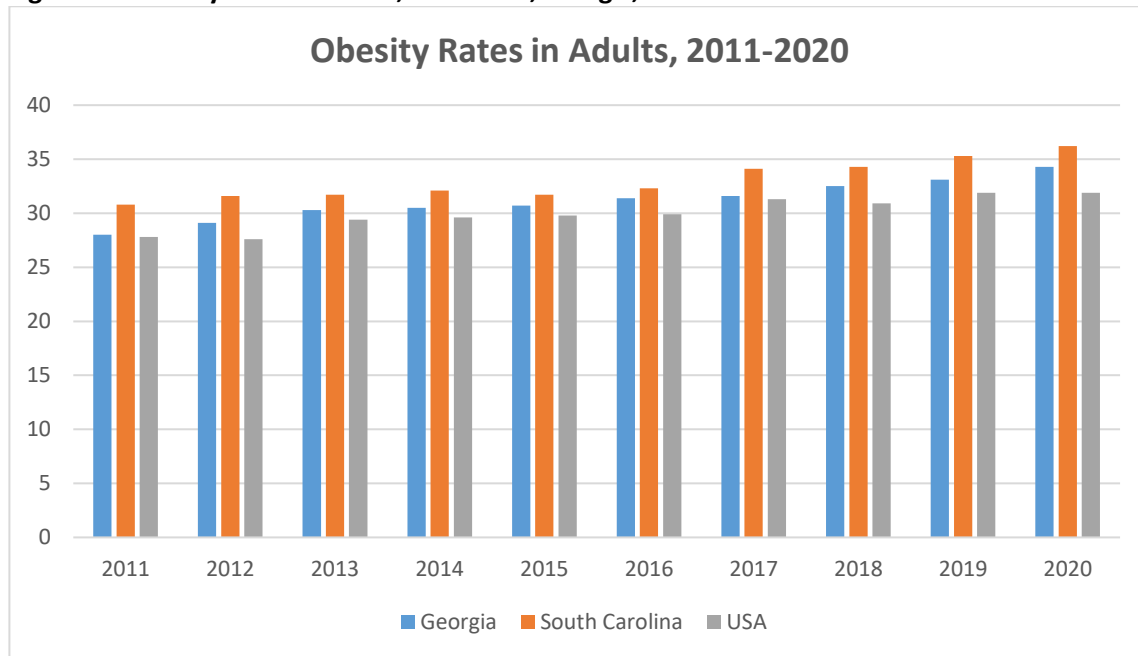
Table 10: Prevalence of Arthritis, Obesity, and Poor Oral Health, GA, SC, and USA

	Georgia	South Carolina	USA	Time Period
Arthritis Prevalence (Adults)	22.4%	26.9%	24.4%	2020
Overweight or Obesity (Adults)	67.2%	69.5%	67.1%	2020
Obesity Only(Adults)	34.2%	36.2%	31.9%	2020
Tooth loss (Adults 18-64)	26.9%	41.7%	40.2%	2020

Source: CDC, BFRSS, 2020

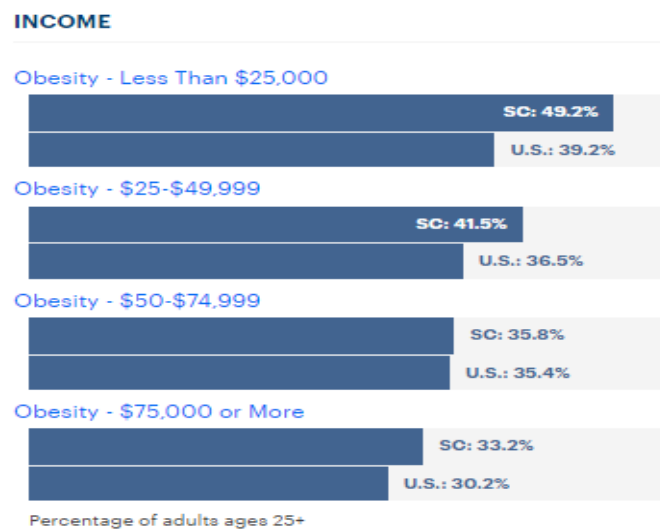
Obesity continues to increase in populations in Georgia and South Carolina. South Carolina ranks as the 11th highest rate of obesity in the United States, whereas Georgia ranks as #17. (Figure 16) The majority of the population that has a BMI greater than 30 in Georgia and South Carolina live below the poverty line and make less than \$25,000 for household income. (Figure 17 and 18) People who are diagnosed as obese have a decreased quality of life and are at a higher risk for developing additional chronic diseases such as Diabetes, heart disease and stroke. The cost of care for treating is obesity is also staggering, with an estimated cost of \$342.2 Billion.

Figure 16: Obesity Rates in Adults, 2011-2022, Georgia, South Carolina and the USA



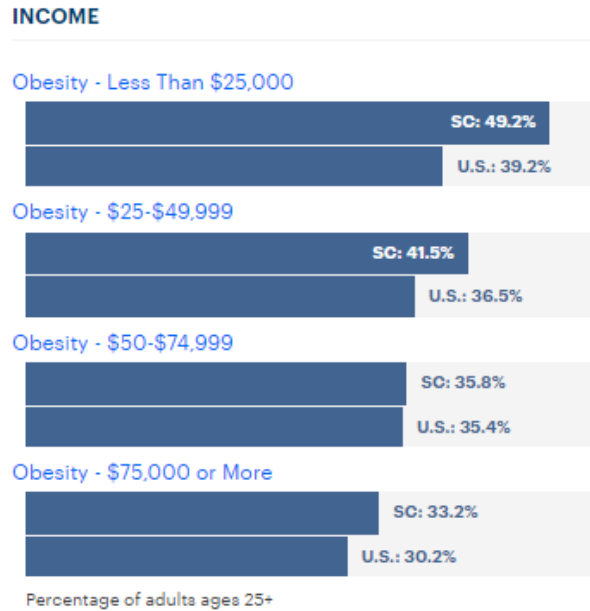
Source: America’s Health Rankings, 2020

Figure 17: Obesity Rate by Income Level, 2020, Georgia



Source: America’s Health Rankings, 2020

Figure 18: Obesity Rate by Income, 2020, South Carolina



Source: America's Health Rankings, 2020

Other Factors Influencing Healthcare in Georgia and South Carolina

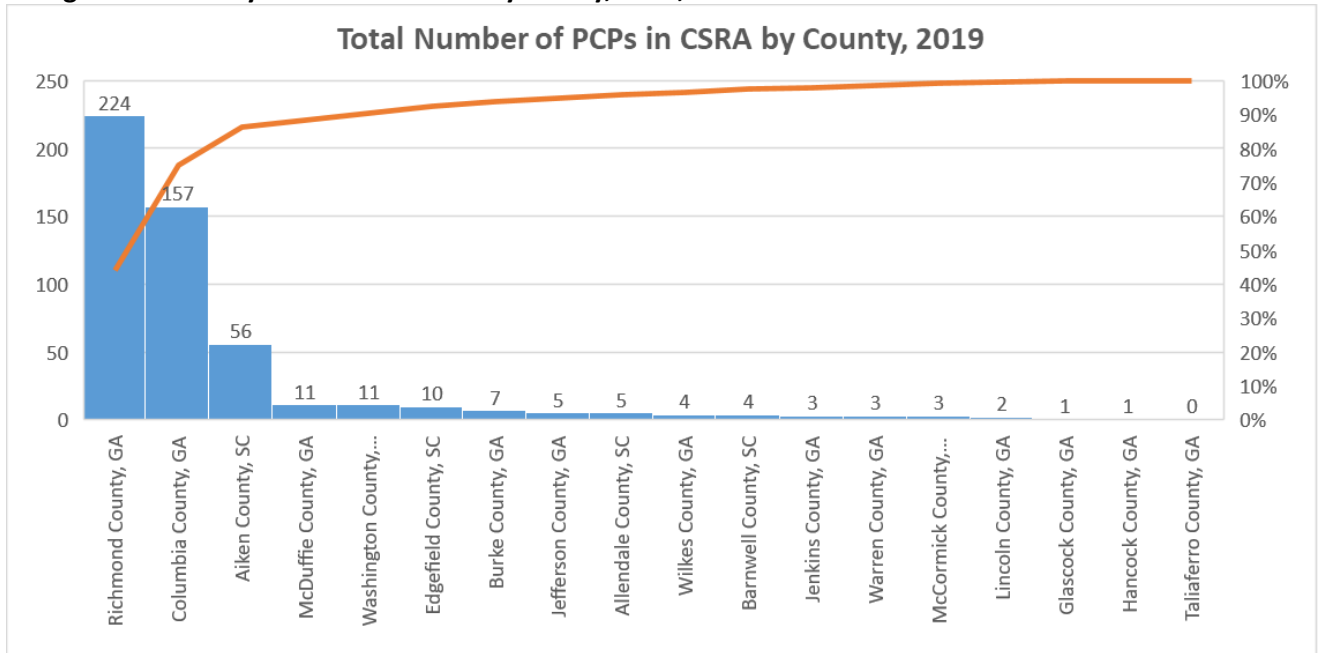
In the United States, various factors directly affect a way a person can receive healthcare. This includes availability of health care providers in a community, access to specialty providers, access to primary care physicians, transportation, insurance coverage availability, and health literacy. Access to primary care providers offers continuity of care, access to early detection/screening services, chronic disease management and lower cost of care than an emergency department.

In Georgia and South Carolina, there are pockets of rural areas that have limited access to primary care providers. Within the CSRA, there are 10 counties that had less than 5 primary care providers in 2019. (Figure 19). The lack of this access impacts other factors including increase cancer rates and chronic conditions as we have documented in previous sections. Two counties comprise 80% of the total primary care providers available in the entire CSRA region, Columbia County and Richmond County, both in Georgia.

Combine the limited access to primary care and patients that are uninsured, cost of care continues to rise and healthcare becomes unsustainable for most Americans. Table 11 provides a breakdown of total uninsured population in 2019 by counties in the CSRA.

Another factor that access to primary care providers can impact is life expectancy. In 2019, the United States life expectancy age was 78.8 years as compared to Georgia at 77.3 years and South Carolina at 76.4 years. The CSRA average is worse than both the state and national averages at 74.4 with 11 out of 13 states in Georgia being worse than the state average. The only two counties that were above the state average were Columbia County (80.1) and Lincoln County (77.9). Of the five counties making up the CSRA in South Carolina, only one was above the state average, Edgefield County (79.0).

Figure 19: Primary Care Provider Total by County, CSRA, 2019



Source: County Health Rankings, 2022

Table 11: Uninsured Percentage by County, CSRA, 2019

CSRA County	% Uninsured - 2019
Allendale County, SC	11%
Columbia County, GA	12%
Barnwell County, SC	12%
McCormick County, SC	12%
Hancock County, GA	13%
Aiken County, SC	13%
Glascock County, GA	14%
Edgefield County, SC	14%
Burke County, GA	15%
Richmond County, GA	15%
Warren County, GA	15%
McDuffie County, GA	16%
Washington County, GA	16%
Jefferson County, GA	18%
Jenkins County, GA	18%
Lincoln County, GA	18%
Taliaferro County, GA	18%
Wilkes County, GA	20%

Source: County Health Rankings, 2022

3.2.2 Primary Data Analysis

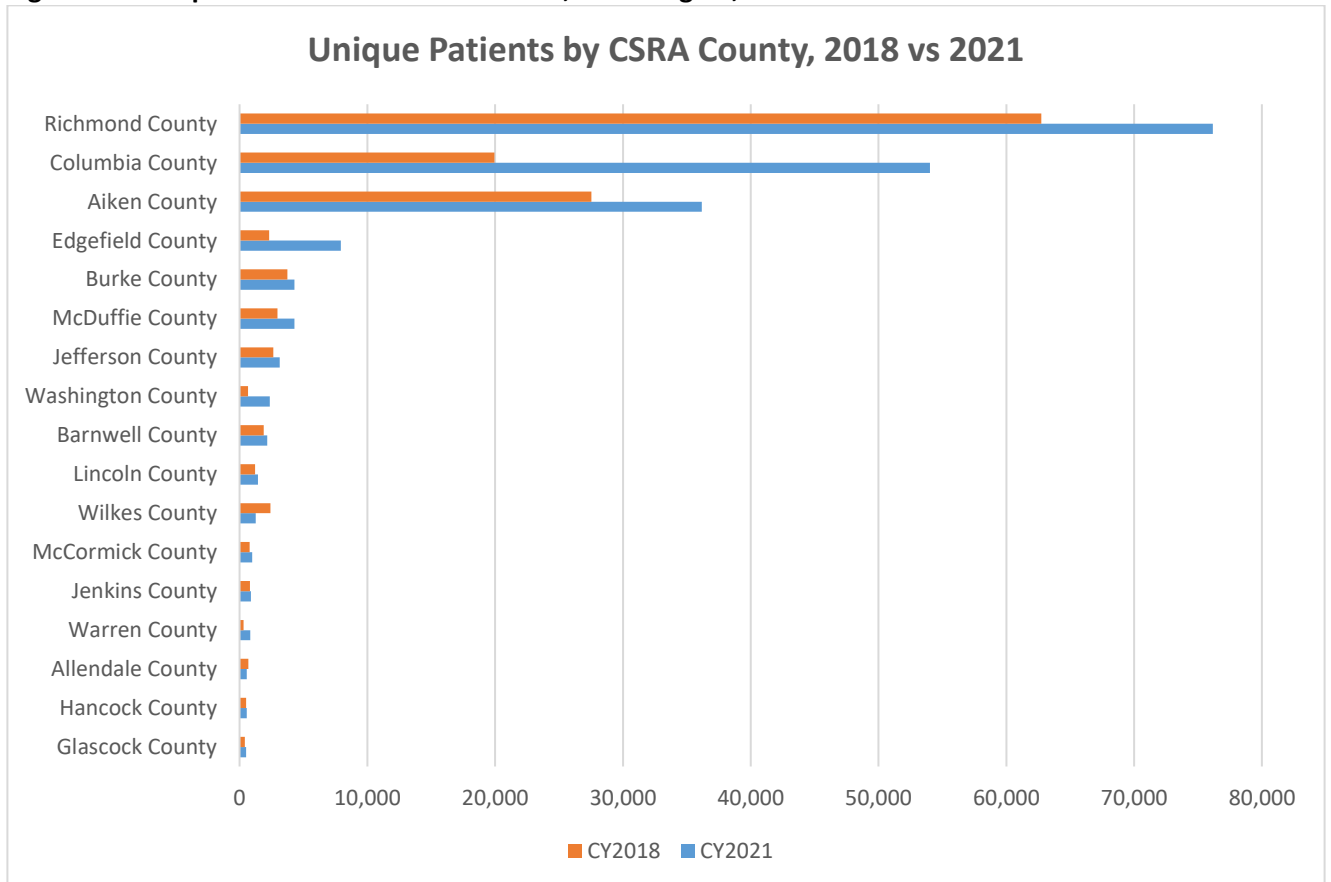
3.2.2a AU Health CSRA Patient Data

Within calendar year 2021, AU Health had approximately 1,590,113 visits from patients living in the CSRA, with a large portion of those having come from Columbia, Richmond and Aiken counties (Figure 20). For unique patient seen whose address is in the CSRA, AU Health saw a total of 195,008 in Calendar Year 2021 as compared to Calendar Year 2018, where AU Health saw a total of 131,678 unique patients. This represents a 48.1% increase in unique patients seen.

For this same population, females represented 50.67%, males comprised 39.98% and unspecified gender made up 9.35% (Figure 21). The percentage of females and males both decreased in CY 2021 as compared to CY 2018 seen at AU Health by almost 5% respectively in both genders.

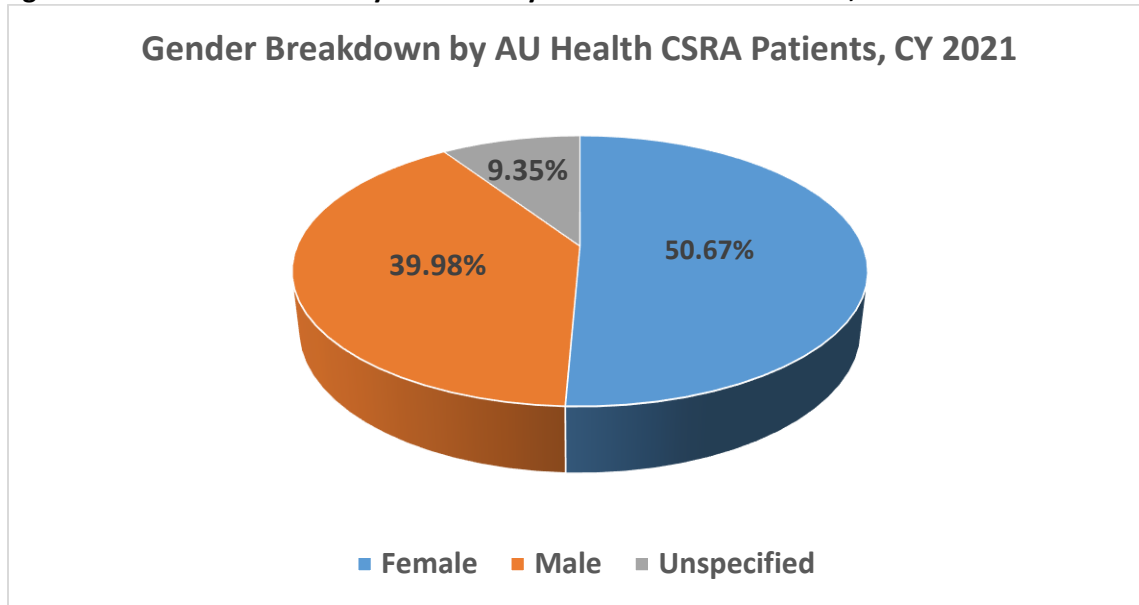
Figures 22 and 23 represent the population breakdown for the patients seen at AU Health from the CSRA region, including age and ethnicity/race breakdowns. For ethnicity/race, all populations saw a decline but an increase in other ethnic groups. This can be attributed to growing economic development within the CSRA through Fort Gordon, Amazon and the healthcare sector.

Figure 20: Unique Patients Seen at AU Health, CSRA Region, 2018 vs 2021



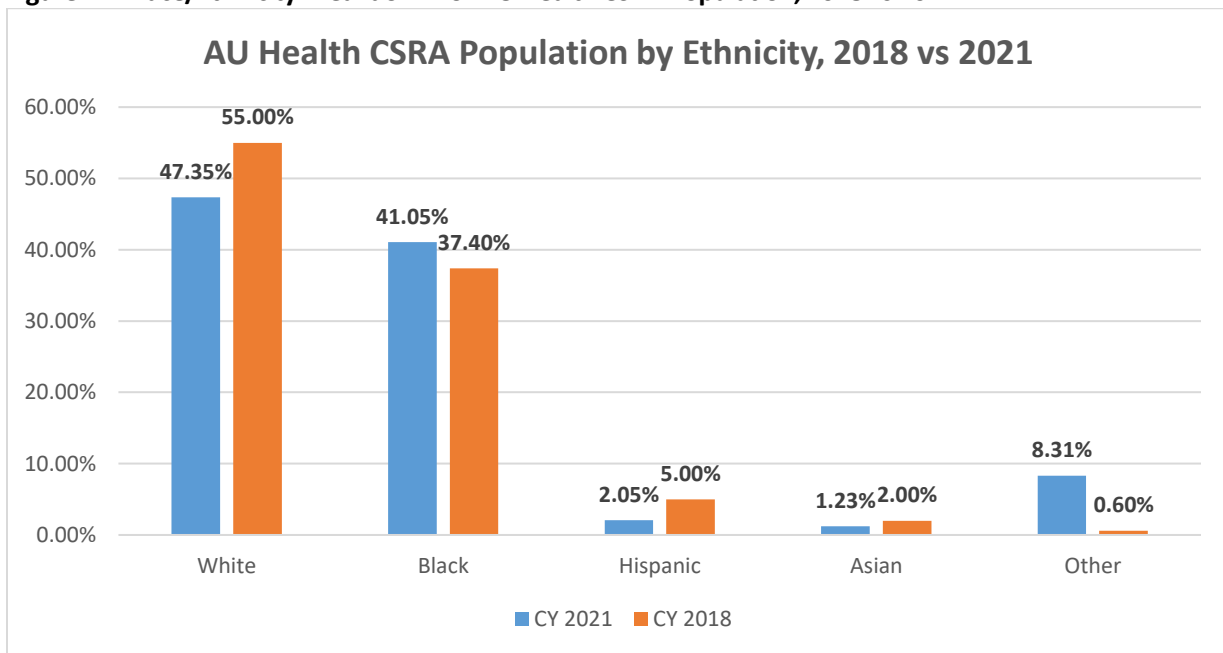
Source: Strata, 2022

Figure 21: Gender Breakdown by CSRA County Patients seen at AU Health, CY 2021



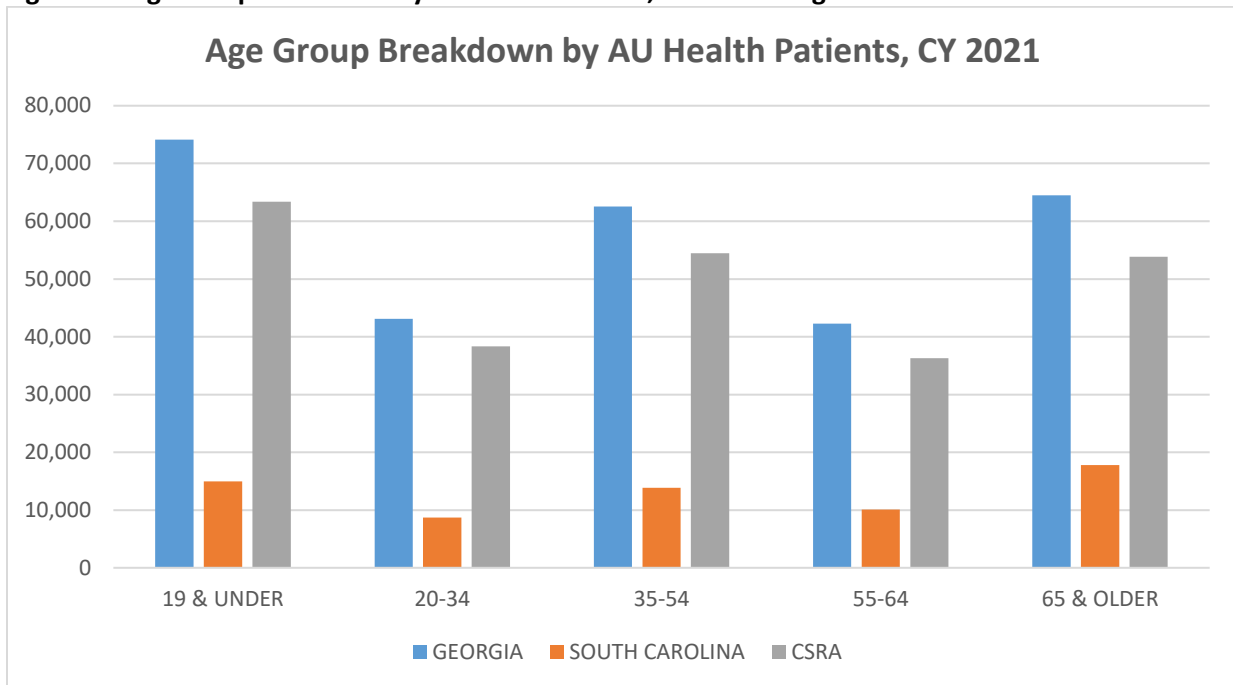
Source: Strata, 2022

Figure 22: Race/Ethnicity Breakdown for AU Health CSRA Population, 2018 vs 2021



Source: Strata, 2022

Figure 23: Age Group Breakdown by AU Health Patients, CSRA vs Georgia vs South Carolina



Source: Strata, 2022

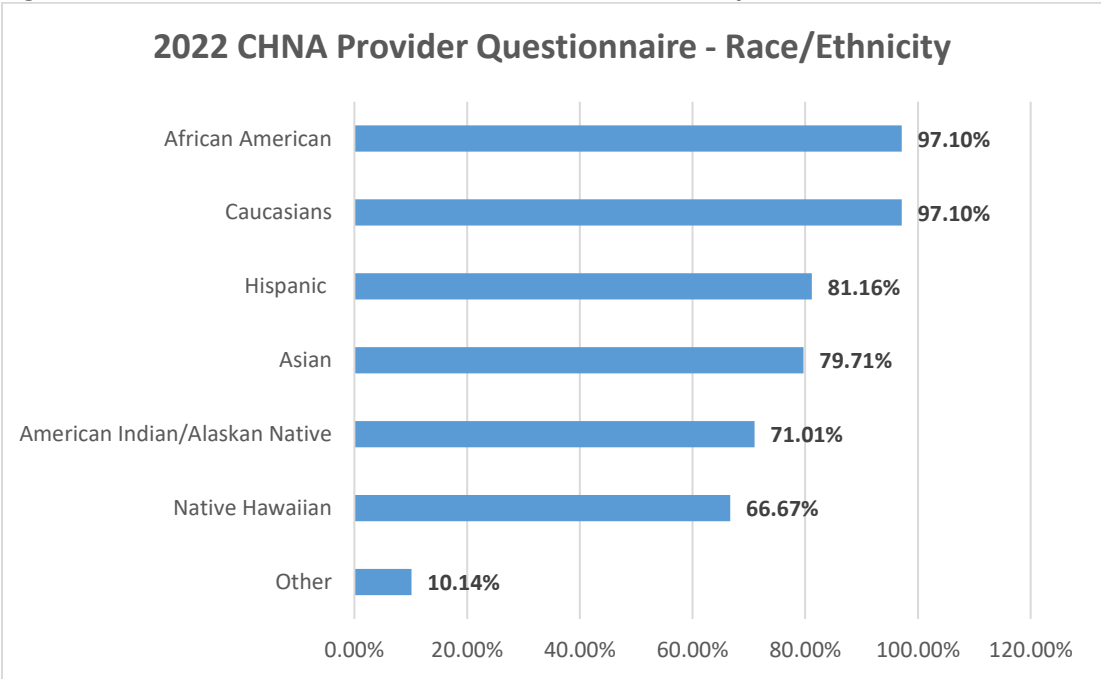
3.2.2b Key Informant Survey/Interviews

A total of 69 surveys were completed by the faculty, residents and attending physicians from AU Health clinical teams as well as community practice providers that are not employed by AU Health. These were completed during the spring of 2021. The survey emphasized barriers to care and conditions treated in their department. The respondents practice across the CSRA and outside the CSRA. The survey results was compared to internal data to understand the greatest need and opportunities present in the community. The survey was completed by a variety of medical specialties including the majority being completed by Adult Sub-Specialist and Family Medicine providers. See Appendix A for the full questionnaire that was provided to the physicians.

The survey results are listed below based on the question which included ethnicity of patient population, age of populations served, primary insurance, chronic conditions, behaviors impacting their populations and other pertinent questions as it related to being able to better assess the community and its needs.

For population served, 46.38% of respondents treat 18 years and younger, 89.86% treat ages 19-64, and 81.16% treat 65 years and older. As compared to the 2019 Community Health Needs provider survey, 100% of respondents treated ages 19-64 years, 86% treated ages 65 years and older, and over 66% treated ages 18 years and younger. This could be due to a wider variety of medical specialists who completed the survey compared to 2019. For ethnic groups treated as compared to 2018, there was an increase in both Asian and Hispanic populations treated, but the majority population seen is still Caucasians and African Americans. (Figure 24)

Figure 24: 2022 CHNA Provider Questionnaire, Race/Ethnicity within Practice

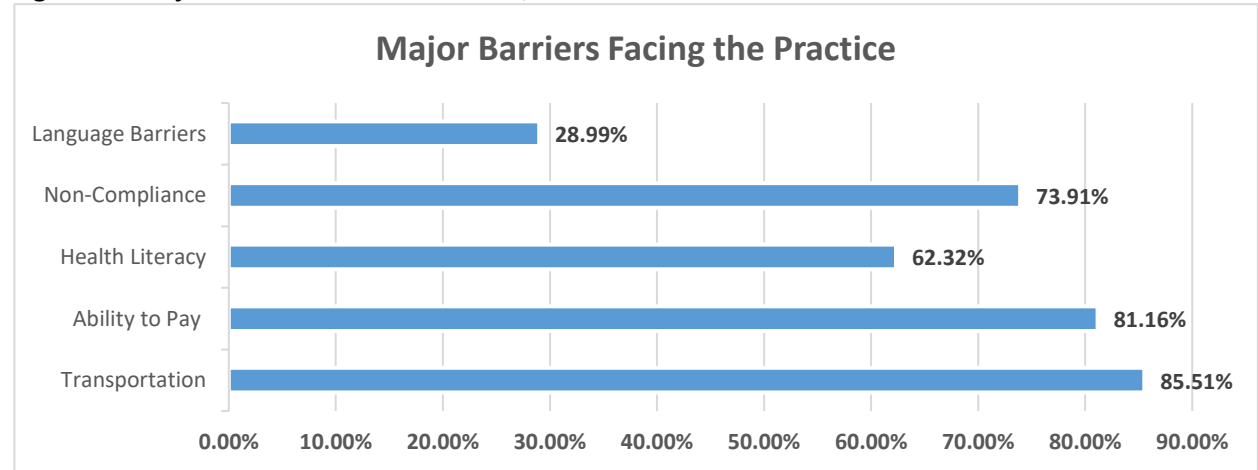


Source: 2022 AU Health’s Community Health Needs Provider Questionnaire

As far as insurance coverage, Commercial insured patients make up the majority of the population composition with 98.55%, with Medicaid/Managed Medicaid patients comprising 95.65%, Medicare/Managed Medicare with 92.75% and Self-Pay/Indigent care representing 97.10%. The self-pay/indigent population has increased since the 2018 survey where respondents answered that only 62% treat self-pay/indigent patients. This increase can be attributed to multiple factors including COVID-19, rising cost of healthcare, and lack of Medicaid expansion.

When surveyed pertaining the major barriers facing their practice, the majority cited transportation and ability to afford medications/co-pays/deductibles/other services as the top two barriers. (Figure 25)

Figure 25: Major Barriers within the Practice, 2022 CHNA Provider Questionnaire



Source: AU Health’s 2022 Community Health Needs Provider Questionnaire

The various types of chronic conditions treated by these providers are shown in Table 12. The types of conditions have grown since 2018 to include more mental health disorders including anxiety and chronic pain disorders.

Table 12: Chronic Conditions seen in the practices

Chronic Condition	# of Providers Who Treat in their Practice	% of Providers Who Treat in their Practice
Diabetes	34	49.28%
COPD	29	42.03%
Hypertension	34	49.28%
Asthma	32	46.38%
Obesity	33	47.83%
CHF	29	42.03%
Depression	34	49.28%
Other Mental Health Disorders	24	34.78%
Neurological Disorders	25	36.23%
HIV/AIDS	19	27.54%
Cancer	28	40.58%
Anxiety	34	49.28%
Chronic Pain	27	39.13%

Source: AU Health's 2022 Community Health Needs Assessment Provider Questionnaire

Below are practice operations questions that have an impact on access, quality outcomes, and patient satisfaction. (Table 13) Chronic Care Management services can be offered to patients with multiple chronic conditions and include care management outreach and support to assist patients in between provider office appointments. Transitional Care Management are services provided to patients after they are discharged from the hospital to assist with transitioning back into their community setting and help to reduce further hospital visits or Emergency Department visits. Non-emergent transportation was defined as offering rides through Taxis, Uber/Lyft, or Bus Tickets to assist in accommodating patient's needs.

Table 13: Practice Operation Questions

Do you provide?	% Provide
After Hours/Weekend Clinic	13.04%
Chronic Care Management	62.32%
Transitional Care Management	43.48%
Non-Emergent Transportation	11.59%

Source: AU Health's 2022 CHNA Provider Questionnaire

The next set of questions inquired around what was the most important health issues plaguing the community and what was the unhealthiest behaviors impacting the community. (Figure 26 and 27)

These results correspond to CSRA statistics discussed earlier whereas Diabetes, Heart Disease, Mental Health and Obesity are dominant chronic conditions plaguing Georgia and South Carolina.

Figure 26: Most Important Health Issue, 2022 CHNA Provider Questionnaire

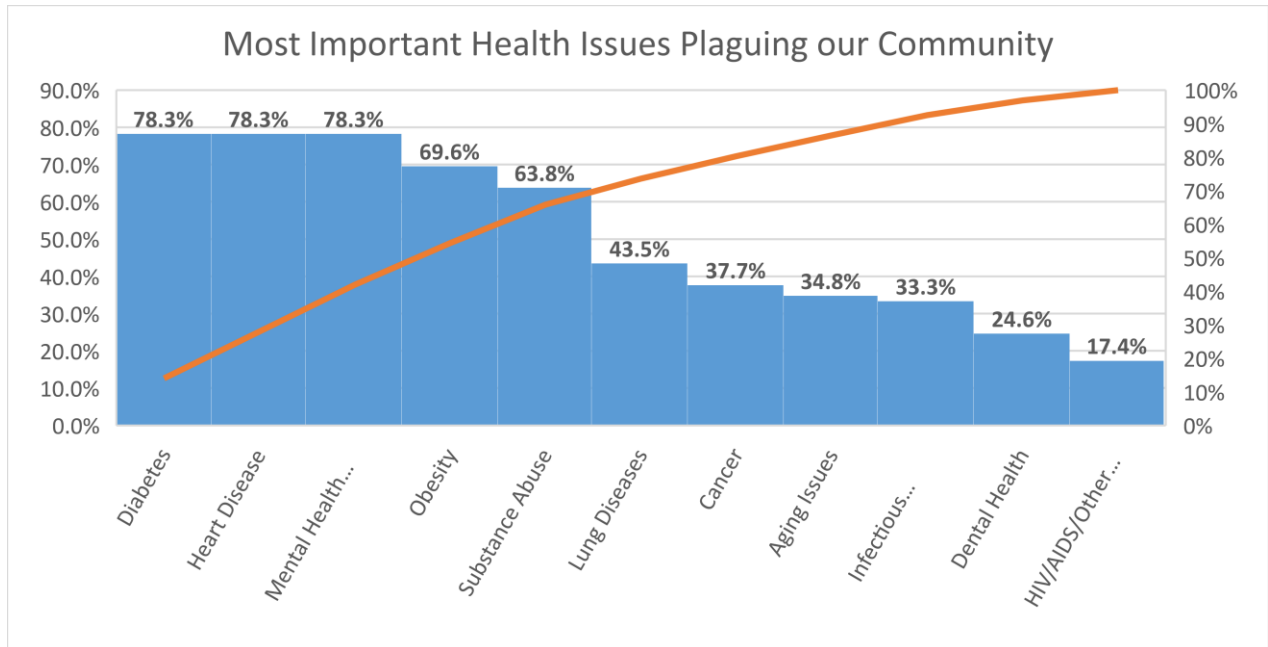
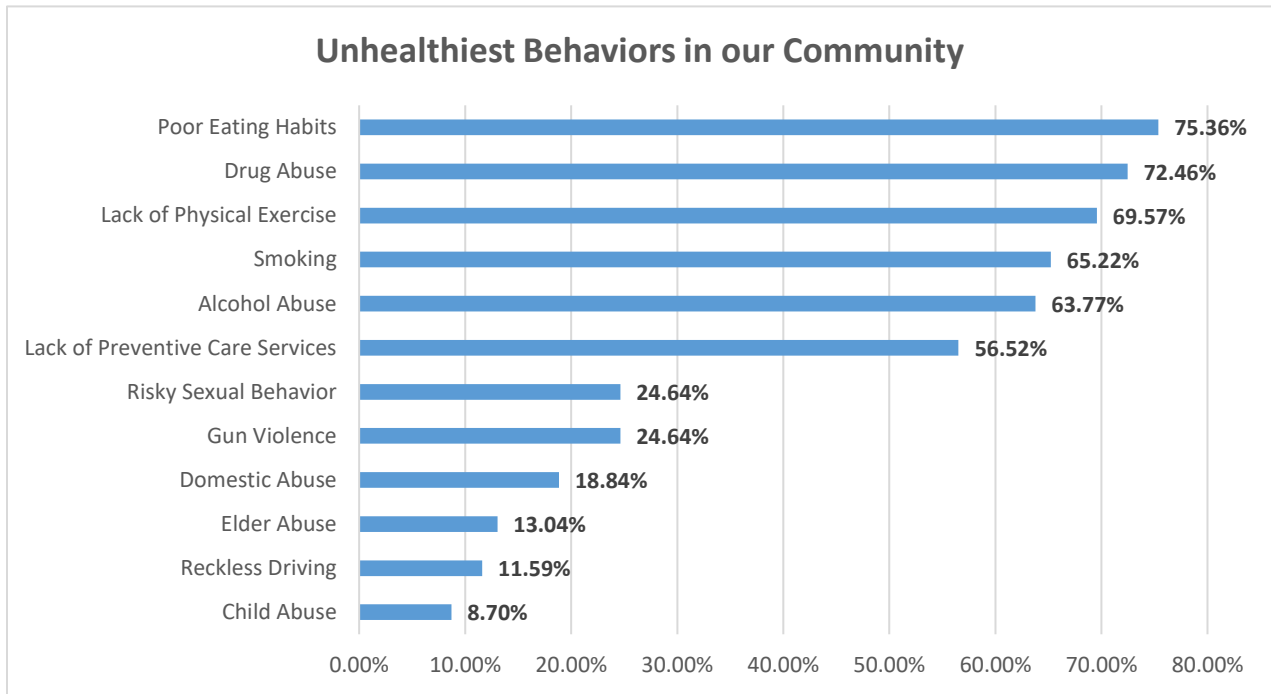


Figure 27: Unhealthiest Behaviors in our Community, 2022 CHNA Provider Questionnaire



The final group of questions (Figure 28 and 29) asked healthcare providers what is impacting the ability to make improvements in our community on these behaviors. This feedback was vital to understanding the tactics that our providers think should be focused on within their practices to help not only the patients, but the providers themselves in providing high, quality healthcare to their patients.

Figure 28: Barriers that are impacting the community to improve overall health, 2022 CHNA Questionnaire

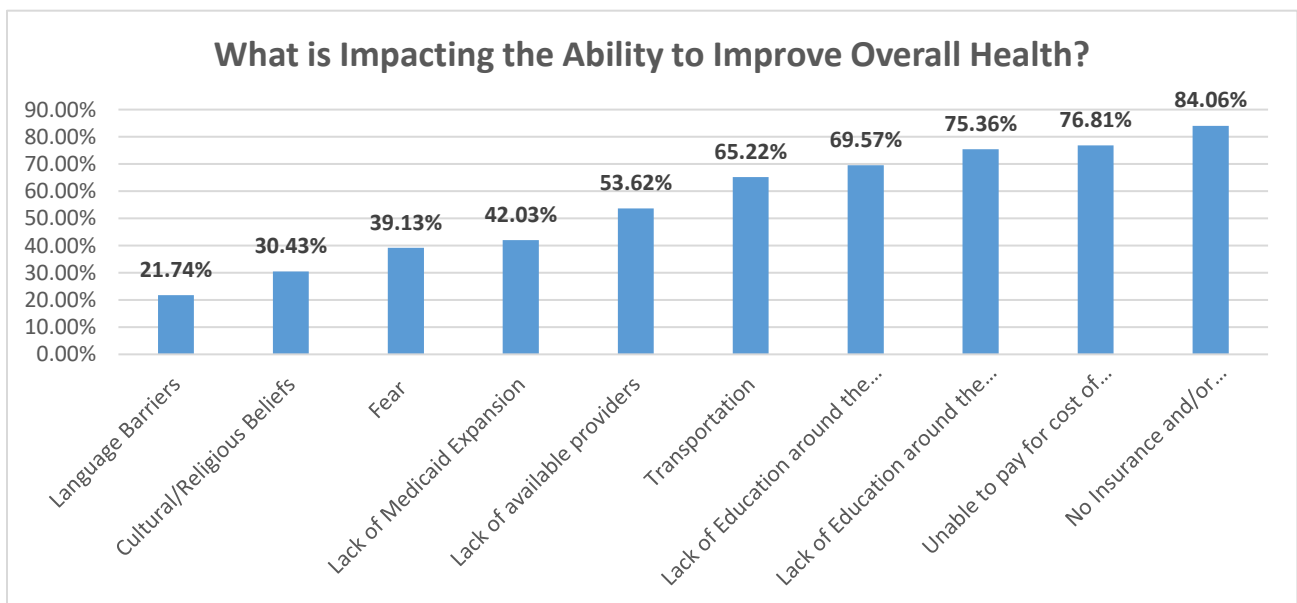
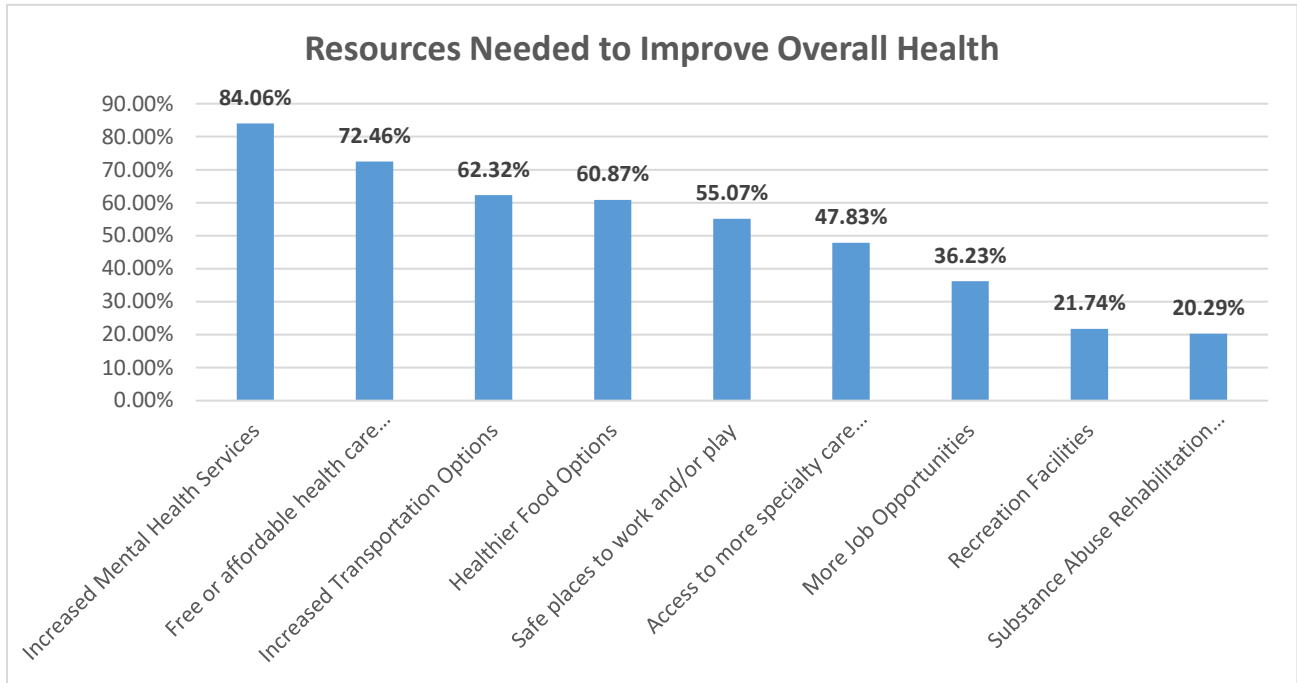


Figure 29: Resources needed to improve overall health, 2022 CHNA Questionnaire



While the medical specialty completing the questionnaire might have been different, there was still an overwhelming theme in needs across practices. This included lack of preventive care and primary care services, education to their population around the importance of these services, the ability for their population to pay for health care goods/services such as medications, co-pays, and deductibles, and the lack of insurance within their population. There were positives within the data that included the wide-spread adoption of chronic care management and transitional care management within the practices. These services can improve health outcomes by providing assistance patients without them needing to be seen in a practice setting. This coupled with telehealth access and digital health tools such as remote monitoring devices, will continue to improve outcomes and satisfaction.

3.3 Project(s) Design and Goals

After conducting our review, we feel that the most productive focus for the Augusta University FY23 CHNA and CHNA project lies in reviewing how to expand access to primary care and preventive care services. These two areas, especially during and after the COVID-19 pandemic, have had an impact on our current and future health outcomes. (Laing, S., Johnston, S. Estimated impact of COVID-19 on preventive care service delivery: an observational cohort study. *BMC Health Serv Res* **21**, 1107 (2021). <https://doi.org/10.1186/s12913-021-07131-7>) Per this same article, COVID-19 decreased access to preventive care services, increased mortality, and increased health care costs.

In a 2021 article by Fierce Healthcare, while telehealth visits increased, this did not increase preventive care services. Of 59 Million office-based visits performed in Quarter Two 2020,

only 10% of telehealth visits had a blood pressure recorded while 70% of in-office visits captured a reading; cholesterol was assessed less in telehealth visits as compared to in-office visits from 14% to 22%; and new prescriptions were prescribed less often in telehealth visits as compared to in-office visits from 39% to 45%. This article does detail that an estimated 60% of providers do not feel they can provide adequate quality care via telehealth. While studies are available showing the decline in preventive care services, providers are still continuing to use telehealth in their practice.

This article demonstrates that more telehealth education and training is needed for providers so they can feel more comfortable providing higher quality care remotely. It also should encourage providers to look into the use of digital tools and remote monitoring programs for their populations to assist in capturing of vital signs and chronic disease management.

3.3.1 Tactics to Increase Access to Primary Care and Preventive Care Services in the Community

AU Health is embarking on several initiatives and relationships in order to expand access to all for primary care services and preventive care services. There are also several established programs that can be utilized and education provided to the population and healthcare providers.

- **AU Health Wellness on Wheels Primary Care Mobile Outreach Van:** AU Health will begin its first mobile outreach program in the Fall 2022 by deploying a mobile van to rural and underserved communities in the CSRA, partnering with churches, community groups, insurance companies, and other civic organizations to provide free primary care services. This van will provide routine health-checks, wellness visits, and preventive care services such as blood pressure checks, labs, and immunizations. The van will begin with primary care but with the goal of adding mental health care providers to assist in providing expanded access to mental health care services.
- **AU Health Mobile Mammography Mobile Outreach Bus:** AU Health will deploy in the spring 2023 a mobile mammography van that will be able to provide mammograms, women's well-exams, and cervical cancer screening exams. This bus will partner with the Wellness on Wheels Primary Care Van to provide care to uninsured patients in the community to avoid unnecessary Emergency Department visits, help to reduce healthcare costs and improve overall health and well-being of the CSRA.
- **AU Health Virtual Care @ Home:** In February 2021, AU Health created a new program designed to treat acute care patients in their home instead of the hospital to assist with reduction of length of stay, cost of care reduction, and improve bed capacity and throughput for the hospital. This program provides patients a virtual remote monitoring kit to treat their condition, and provides telehealth services to patients in their home. In fall 2022, AU Health will deploy clinical resources to

patients home to be able to enhance the program and expand the population served. These resources will provide nursing care, medication administration, infusions/injections, lab draws and also delivery necessary medical supplies to patients in their home.

- **Expansion of Primary Care Providers in the Columbia-Richmond County Community:** While this does not cover all counties in the CSRA, these counties continue to grow and the need for primary care providers are still a demand. The expansion of services is for not only adults but also pediatrics and women’s health services. These clinics have direct access to specialist at AU Health and can refer patients if needed. These clinics also provide in-clinic labs, ancillary services, and utilize the same electronic health record to improve continuity of care.
- **Equality Clinic, Homeless Clinic, Latino Clinic, and the Women’s Clinic:** Augusta University, in collaboration with the Medical College of Georgia (MCG), operates clinics to provide care to the vulnerable populations that have limited resources and little to no insurance coverage. This includes preventive care as well as mental health screening and treatment. Pharmacy is involved in these clinics to assist patients with resources for prescription drug needs.
- **After-Hours/Weekend Clinic Coverage for Primary Care:** AU Health is exploring the feasibility of providing after-hours/weekend clinic coverage for pediatrics. There are current offerings in the community such as prompt cares or urgent care practices, but the options for pediatrics are limited or a patient must be established to receive care.
- **Augusta University’s HUB for Community Innovation:** This establishment was created to pursue innovative, collaborative solutions that bolster equitable access to all essentials of a thriving community – mixed income housing, a variety of healthy food sources, quality healthcare, and educational supports. This initiative was started by the Medical College of Georgia Foundation, the Boys and Girls Club of Greater Augusta, and the Community Foundation of the CSRA. The official grand opening for the HUB was June 2022.
- **Digital Health Care Strategy:** Along with these tactics for expanding access to primary and preventive health care, AU Health continues to explore a more robust digital support model for providers. This includes the deployment of remote patient monitoring tools for patients, a virtual direct to consumer prompt care clinic, increased utilization and enhancement of patient portal by connecting to smart phone apps such as Apple Health or Nike, and exploring consumer facing tools to assist with check-in and pre-visit processes prior to clinics. These focuses will help in improving chronic disease management, improved communication between patients and providers, and overall health outcome improvement.
- **Mobile Integrated Health/Community Paramedics:** Program designed to provide in-home care for patients who experience barriers to care such as transportation, home bound, or are non-compliant with their care plan. A Nurse Practitioner provides in-home care to the patient following discharge from Inpatient or Emergency Department to educate patient, family, and ensure they have all needs met to stay at

their home. This program will partner with the existing AU Health Virtual Care @ Home infrastructure to provide in-home visits to patients enrolled in that program and others who are identified as needing an in-person visit to avoid unnecessary ER visits or hospital admissions/readmissions.

- **Lyft:** AU Health has implemented a contract with Lyft in order to provide transportation options for patients who have difficulty locating transportation on their own. By facilitating this option, patients will be able to receive the care they need in and avoid potentially major medical issues.

In addition to these tactics, AU Health continues to expand resources within the clinics and hospital for social work services, care coordination, and transitional care management support. These resources will be vital in assisting patients, care givers, and providers with providing additional support. AU Health System is a large system that can be overwhelming to navigate, especially for new patients or those with limited resources. These resources will assist patients in understanding their health care coverage options, appointment support when needed, referral navigation, prescription and medication education/assistance and be available to provide needed encourage and support to patients during their most difficult of times. These resources have proved to be very valuable to the health system since they were introduced in 2016.

Overall, AU Health is taking an approach to broaden access to care for patients across the state and region. We recognize that more patients could benefit from our specialty care physicians and programs in rural communities across the region and state. AU Health is dedicated to collaborating with community resources such as churches, schools, and employers to provide education, training, and health care access to ensure all populations, both insured and under-insured have access to modernized health care

2022 AU Health Community Health Needs Assessment Provider Questionnaire

1. What is your Medical Specialty?
 - Family Medicine
 - Internal Medicine/Geriatrics
 - General Pediatrics
 - Adult Sub-Specialty
 - Pediatric Sub-Specialty
 - Emergency Medicine
 - RN/LPN/CMA

2. What age groups do you see in your practice? (Check all that apply)
 - 0-18 years
 - 19-64 years
 - 65 years & older

3. What ethnic groups do you see in your practice? (Check all that apply)
 - White/Caucasian
 - African American/Black
 - Hispanic
 - Asian
 - American Indian or Alaska Native
 - Native Hawaiian or Other Pacific Islander
 - Other

4. What type of insurance do you accept? (Check all that apply)
 - Commercial
 - Traditional Medicare/Managed Medicare
 - Traditional Medicaid/Managed Medicaid
 - Self-Pay/Indigent Trust

5. What counties do your patients reside in? (Check all that apply)

- Burke County GA
- Columbia County GA
- Glascock County GA
- Hancock County GA
- Jefferson County GA
- Jenkins County GA
- McDuffie County GA
- Richmond County GA
- Taliaferro County GA
- Warren County GA
- Washington County GA
- Wilkes County GA
- Aiken County SC
- Allendale County SC
- Barnwell County SC
- Edgefield County SC
- Lexington County SC
- McCormick County SC
- Saluda County SC

6. What conditions do you treat in your practice? (Check all that apply)

- Diabetes
- Heart Failure/Congestive Heart Failure
- COPD
- Heart Disease
- Asthma
- Cancer
- HIV/AIDS
- Depression
- Anxiety
- Chronic Pain
- Hypertension
- Neurological Disorders
- Other Mental Health Disorders
- Obesity
- Other: (Please describe) _____

7. What are major barriers for your patient population within your practice? (Check all that apply)

Transportation

Ability to pay for medications/co-pays/deductibles/other goods or services

Health Literacy

Non-Compliance

Language Barriers

Other: _____

8. Does your practice provide after hours or weekend clinic?

YES

NO

9. Does your practice provide care management or chronic care management services/programs?

YES

NO

10. Does your practice provide transitional care management program in place?

YES

NO

11. Does your practice provide non-emergent transportation options for your patients? (EX: Uber, Lyft, Bus Tickets, contracts with taxis, practice owned van or bus)

YES

NO

12. If you answered Yes to Question #11 (above), what do you provide? (Check all that apply)

Uber/Lyft

Bus Tickets

Taxi

Practice owned Van or Bus

13. What do you think are the most important health issue(s) plaguing our community? (Please check at least 5)

- Aging issues such as Alzheimer's disease, memory loss, or hearing loss
- Cancer
- Substance Abuse
- Dental Health
- Diabetes
- Heart Disease
- HIV/AIDS/Other Sexually Transmitted Diseases (STDs)
- Infectious/contagious Diseases such as COVID-19, Flu, Pneumonia
- Lung Disease such as COPD or Asthma
- Mental Health Issues such as Anxiety, Depression, Anger, etc...
- Obesity

14. What do you think are the unhealthiest behaviors plaguing our community? (Check at least 3)

- Domestic Abuse (verbal & physical)
- Gun Violence
- Drug Abuse
- Alcohol Abuse
- Child Abuse
- Elder Abuse
- Lack of physical activity/exercise
- Lack of preventive care services
- Poor Eating Habits
- Reckless Driving
- Risky Sexual Behavior
- Smoking

15. What do you think is impacting our community's ability to improve overall health & health outcomes? (Check all that apply)

- Cultural/Religious Beliefs
- Lack of education around the need to establish a primary care provider
- Lack of education around the importance of preventive care services
- Fear (not ready to discuss their health)
- Lack of available providers
- Language barriers
- No insurance and/or underinsured
- Lack of Medicaid expansion
- Unable to pay for the cost of medications, co-pays, deductibles, and other health needs
- Transportation
- Other: _____

16. What do you think is needed to improve our community's overall health and health outcomes? (Check all that apply)

- Healthier food options for everyone
- Increased job opportunities
- Increased mental health services
- Recreation Facilities
- Increased transportation options
- Access to more specialty care providers
- Free or affordable health care options
- Safe places to work and/or play/exercise
- Substance Abuse Rehabilitation Services
- Other: _____

17. Are you aware or have access to all community resources available to you and your patients?

_____ YES

_____ NO

APPENDIX B: Community Resources

Medical (Free Clinics; Sliding Scale Clinics; Federally Qualified Health Centers)

- Burke County, Georgia
 - Burke County Health Department <http://ecphd.com/>?
 - Medical Associates (Waynesboro)
 - Medical Associates of Sardis
 - Medical Associates Plus - Keysville
- Columbia County, Georgia
 - Columbia County Health Department <http://ecphd.com/>?
 - FaithCare Medical Clinic <http://wesleyumc.net/ministries/missions>
 - Thomson Pediatrics and Internal Medicine
- GlascocK County, Georgia
 - GlascocK County Health Department <http://ecphd.com/>?
 - Tri-County Health System
 - Community Health Care Systems, Inc. (Gibson)
- Hancock County, Georgia
 - Hancock County Primary Health Care
 - Tri-County Health System
 - Community Health Care Systems, Inc. (Sparta)
- Jefferson County, Georgia
 - Jefferson County Health Department <http://ecphd.com/>?
 - Neighborhood Improvement Project, Inc. (Medical Associates Plus – Wrens)
 - Community Health Care Systems, Inc. (Wrens)
- Jenkins County, Georgia
 - Jenkins County Health Department <http://ecphd.com/>?
- Lincoln County, Georgia
 - Lincoln County Health Department <http://ecphd.com/>?
- McDuffie County, Georgia
 - McDuffie County Health Department <http://ecphd.com/>?
- Richmond County, Georgia
 - Richmond County Health Department <http://ecphd.com/>?
 - Belle Terrace Health and Wellness Center (Neighborhood Improvement Project, Inc.; Medical Associates Plus – Belle Terrace)
 - Beulah Grove Baptist Church – Lamar Medical Center
<http://bgcrcenter.org/lamarmedicalcent.html>
 - Christ Community Health Services Augusta, Inc. (2 locations)
<http://www.christcommunityaugusta.org/>
 - Augusta St. Vincent de Paul Health Clinic
 - Harrisburg Family Health Center <http://mjstluke.wix.com/harrisburgfamily>
 - Druid Park Community Health Center, Miracle Making Ministries
 - Southcare Medical Center
 - Medical Associates Plus – Augusta

- Richmond County Medical Society Project Access www.rcprojectaccess.org
- Augusta University Ryan White Outreach Team <http://www.csrafety.net.org/>
- Taliaferro County, Georgia
 - Taliaferro County Health Department <http://ecphd.com/?>
- Warren County, Georgia
 - Warren County Health Department <http://ecphd.com/?>
 - Tri-County Health System
 - Community Health Care Systems, Inc. (Warrenton)
- Washington County, Georgia
 - Washington County Health Department
 - Sandersville Community Health Center (Community Health Care Systems, Inc.)
 - Tonnille Community Health Center (Community Health Care Systems, Inc.)
- Wilkes County, Georgia
 - Wilkes County Health Department <http://ecphd.com/?>
- Allendale County, South Carolina
 - Lafitte and Warren Medical Center
 - Low County Health Care System, Inc. <http://www.lowcountryhealthcaresystem.com/>
 - Allendale County Health Department
- Aiken County, South Carolina
 - Margaret J. Weston Medical Center
 - Margaret J. Weston Community Health Center
 - Family Health Center <http://findahealthcenter.hrsa.gov/>
 - Clyburn Center for Primary Care
- Barnwell County, South Carolina
 - Barnwell County Health Department
 - Barnwell Pediatrics (Low County Health System, Inc.)
 - Barnwell Family Medicine
 - Best Chance for Women (mammograms)
 - Polly Best – Mental Health
- Edgefield County, South Carolina
 - Edgefield Medical Clinic
- McCormick County, South Carolina
 - McCormick Family Practice Center
 - McCormick Elementary School Health

Dental

- Burke County, Georgia
 - Burke County Health Department Dental Clinic
- Richmond County, Georgia
 - Dental College of Georgia student clinic
 - Richmond County Health Department Dental Clinic
 - Broad Street Ministry Center – Hope Dental Clinic
<http://www.bsmcaugusta.org/hope-dental-clinic>
- Aiken County, South Carolina
 - Rural Health Services, Inc. – Dental

APPENDIX C: Sources

American Community Survey, Census Bureau, 2021

<https://www.census.gov/quickfacts/fact/table/SC,GA/POP010220>

<https://censusreporter.org/profiles/79500US1304200-central-savannah-river-area-regional-commission-west-outside-richmond-columbia-puma-ga/>

American Fact Finder, Census Bureau, 2019

<https://censusreporter.org/profiles/79500US1304200-central-savannah-river-area-regional-commission-west-outside-richmond-columbia-puma-ga/>

<https://censusreporter.org/profiles/04000US13-georgia/>

<https://censusreporter.org/profiles/04000US45-south-carolina/>

CDC, 2018 US Cancer Statistics

https://gis.cdc.gov/Cancer/USCS/?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcancer%2Fdataviz%2Findex.htm#/AtAGlance/

Healthy People 2030

<https://health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/reduce-overall-cancer-death-rate-c-01/data-methodology>

<https://www.cdc.gov/cancer/dcpc/research/update-on-cancer-deaths/index.htm#:~:text=Is%20cancer%20increasing%20or%20decreasing,cancer%20deaths%20per%20100%2C000%20population>

Centers for Disease, Diabetes Atlas

<https://www.cdc.gov/diabetes/atlas/countydata/atlas.html>

CDC BFRSS, 2019

<https://gis.cdc.gov/grasp/diabetes/diabetesatlas-surveillance.html#>

CDC BFRSS, 2020

https://nccd.cdc.gov/BRFSSPrevalence/rdPage.aspx?rdReport=DPH_BRFSS.ExploreByLocation&rdProcessAction=&SaveFileGenerated=1&irbLocationType=States&isLocation=99&isState=&isCounty=&isClass=CLASS13&isTopic=TOPIC57&isYear=2020&hidLocationType=States&hidLocation=99&hidClass=CLASS13&hidTopic=TOPIC57&hidTopicName=Teeth+Removed&hidYear=2020&irbShowFootnotes=Show&rdICL-iclIndicators= EXTETH3&iclIndicators_rdExpandedCollapsedHistory=&iclIndicators= EXTETH3&hidPreviouslySelectedIndicators=&DashboardColumnCount=2&rdShowElementHistory=divTopicUpdating%3dHide%2cislTopic%3dShow%2cdivYearUpdating%3dHide%2cislYear%3dShow%2c&rdScrollX=0&rdScrollY=316&rdRnd=28932

<https://www.cdc.gov/diabetes/data/statistics-report/diagnosed-diabetes.html>

CDC Interactive Atlas of Heart Disease and Stroke, 2015-2017

https://nccd.cdc.gov/brfssprevalence/rdPage.aspx?rdReport=DPH_BRFSS.ExploreByLocation&rdProcessAction=&SaveFileGenerated=1&rbLocationType=States&islLocation=45&islState=&islCounty=&islClass=CLASS10&islTopic=TOPIC31&islYear=2019&hidLocationType=States&hidLocation=45&hidClass=CLASS10&hidTopic=TOPIC31&hidTopicName=High+Blood+Pressure&hidYear=2019&irbShowFootnotes=Show&rdICL-iclIndicators= RFHYPE5&iclIndicators_rdExpandedCollapsedHistory=&iclIndicators= RFHYPE5&hidPreviouslySelectedIndicators=&DashboardColumnCount=2&rdShowElementHistory=divClassUpdating%3dHide%2cislClass%3dShow%2cdivTopicUpdating%3dHide%2cislTopic%3dShow%2cdivYearUpdating%3dHide%2cislYear%3dShow%2c&rdScrollX=0&rdScrollY=327&rdRnd=41392

https://www.cdc.gov/dhdspl/maps/images/hd_all.jpg?noicon

Centers for Disease Control

https://www.cdc.gov/dhdspl/maps/images/stroke_all.jpg?noicon

CDC, Stats of the State of Georgia and South Carolina, 2020

<https://www.cdc.gov/nchs/pressroom/states/georgia/ga.htm>

<https://www.cdc.gov/nchs/pressroom/states/southcarolina/sc.htm>

Centers for Disease Control, 2018

https://www.cdc.gov/dhdspl/maps/gisx/mapgallery/ga_rhcs.html

https://www.cdc.gov/dhdspl/maps/gisx/mapgallery/ga_rhcs.html

Centers for Disease Control, 2022

https://www.cdc.gov/asthma/most_recent_data_states.htm

CDC, Most Recent National Asthma Data, 2018

[https://www.cdc.gov/asthma/asthma_stats/asthma-ed-visits_2010-](https://www.cdc.gov/asthma/asthma_stats/asthma-ed-visits_2010-2018.html#:~:text=Asthma%20emergency%20department%20(ED)%20visits%20rate*%20(per%2010%2C000,than%20among%20men%20(31.1))

[2018.html#:~:text=Asthma%20emergency%20department%20\(ED\)%20visits%20rate*%20\(per%2010%2C000,than%20among%20men%20\(31.1\)](https://www.cdc.gov/asthma/asthma_stats/asthma-ed-visits_2010-2018.html#:~:text=Asthma%20emergency%20department%20(ED)%20visits%20rate*%20(per%2010%2C000,than%20among%20men%20(31.1))

America's Health Rankings, 2020

https://www.americashealthrankings.org/explore/annual/measure/Depression_a/state/SC

https://www.americashealthrankings.org/explore/annual/measure/Depression_a/state/GA

<https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/SC>

<https://www.americashealthrankings.org/explore/annual/measure/Obesity/state/GA>

County Health Rankings, 2022

<https://www.countyhealthrankings.org/app/south-carolina/2022/measure/factors/4/data>

<https://www.countyhealthrankings.org/app/georgia/2022/overview>

Strata, AU Health Data Systems. 2022

Laing, S., Johnston, S. (2021). Estimated impact of COVID-19 on preventive care service delivery: an observational cohort study. *BMC Health Serv Res* **21**, 1107 [Online]. Available: <https://doi.org/10.1186/s12913-021-07131-7>)

Fierce Healthcare (2021). Preventive care dropped during COVID-19 pandemic despite rise in telehealth visits: study. [Online]. Available: <https://www.fiercehealthcare.com/tech/preventive-care-dropped-during-covid-19-pandemic-despite-rise-telehealth-visits-study>