



Novant Health Brunswick Medical Center

Community Health Needs Assessment

Brunswick County, North Carolina

2022-2024

Approved by the Novant Health Brunswick Medical Center Board of Directors on December 6, 2022

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I. Introduction

Novant Health Brunswick Medical Center (NHBMC), in partnership with Brunswick County Health Department and Kulik Strategic Advisers, Inc. (dba KSA), conducted a community health needs assessment in 2022 to identify the most pressing health needs in our community. Novant Health Brunswick Medical Center will enhance the community's health by offering health and wellness programming, clinical services, and financial support in response to the specific health needs identified.

a) Organization Overview

Novant Health is an integrated network of hospitals, physician clinics, and outpatient facilities that delivers a seamless and convenient healthcare experience to communities in North Carolina, South Carolina, and Georgia. The Novant Health network consists of more than 1,800 physicians and over 35,000 team members who provide care at more than 800 locations, including 15 hospitals and hundreds of outpatient facilities and physician clinics. *Diversity MBA Magazine* ranked Novant Health first in the nation on its 2021 list of "Best Places for Women & Diverse Managers to Work." In 2021, Novant Health provided more than \$1.1 billion in community benefits, including financial assistance and services.

Mission

Novant Health exists to improve the health of our communities, one person at a time.

Our team members and physician partners strive every day to bring our mission, vision, and values to life. We demonstrate this commitment to our patients in many ways. For example, our organization:

- Maintains an active community health outreach program.
- Demonstrates superior outcomes for many health conditions as indicated by our state and national quality scores.
- Creates innovative programs that address important health issues, with many of our programs and services being recognized nationally.
- Believes in its role as a socially responsible organization, working with community agencies and organizations to make our communities better places to live and work.

Novant Health Brunswick Medical Center (NHBMC) is a 74-bed hospital offering a wide range of services in emergency, medical, surgical, imaging, rehabilitative, and maternity.

b) Our Defined Community

Primary and Secondary Service Areas

The Primary Service Area (PSA) for Novant Health Brunswick Medical Center is defined by the zip codes that represent at least 75% of the hospital’s in-patient population as outlined below:

Zip Code	City	County
28462	Supply	BRUNSWICK
28470	Shalotte	BRUNSWICK
28461	Southport	BRUNSWICK
28422	Bolivia	BRUNSWICK
28469	Ocean Isle Beach	BRUNSWICK
28451	Leland	BRUNSWICK
28467	Calabash	BRUNSWICK
28465	Oak Island	BRUNSWICK

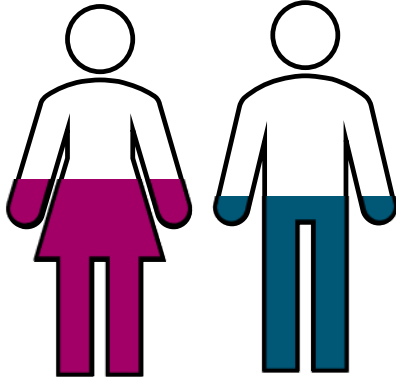
Brunswick County, NHBMC’s primary service area and defined community, includes the county seat of Bolivia.

NHBMC’s Primary Service Area (PSA) includes the cities of Bolivia, Leland, Shalotte, Southport, Supply, Calabash, Oak Island, and Ocean Isle Beach, which are all located in Brunswick County. 77% of patients reside in the PSA of Brunswick County and 90% of patients reside in the Primary and Secondary Service Areas of Brunswick County. Most patients reside in Brunswick County, it represents the highest population of potentially underserved, low-income, and minority individuals. Therefore, Brunswick County will be the focus of demographic, health, and social indicators.

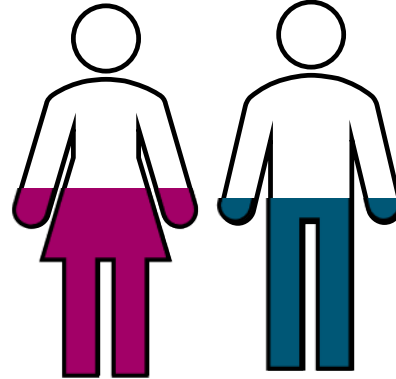
The Secondary Service Area for Novant Health Brunswick Medical Center includes Brunswick, Columbus, New Hanover, and Horry Counties.

Brunswick County Population: Demographics

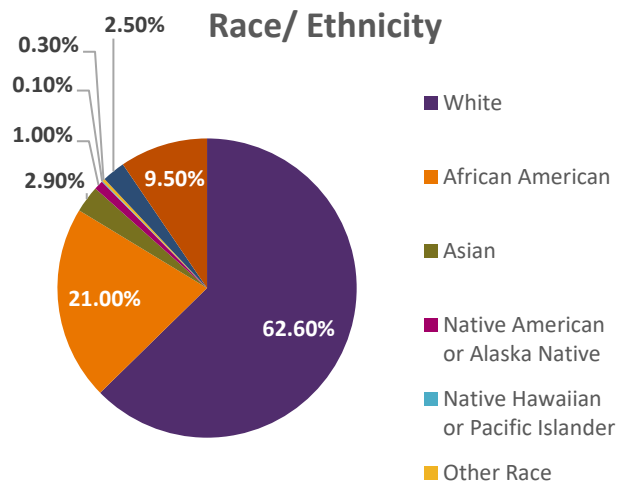
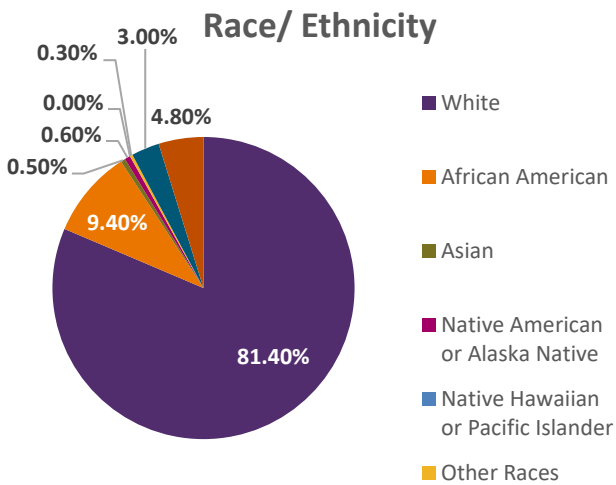
Brunswick County has a population of 144,215 (in 2020) compared to the total North Carolina population of 10,551,162.

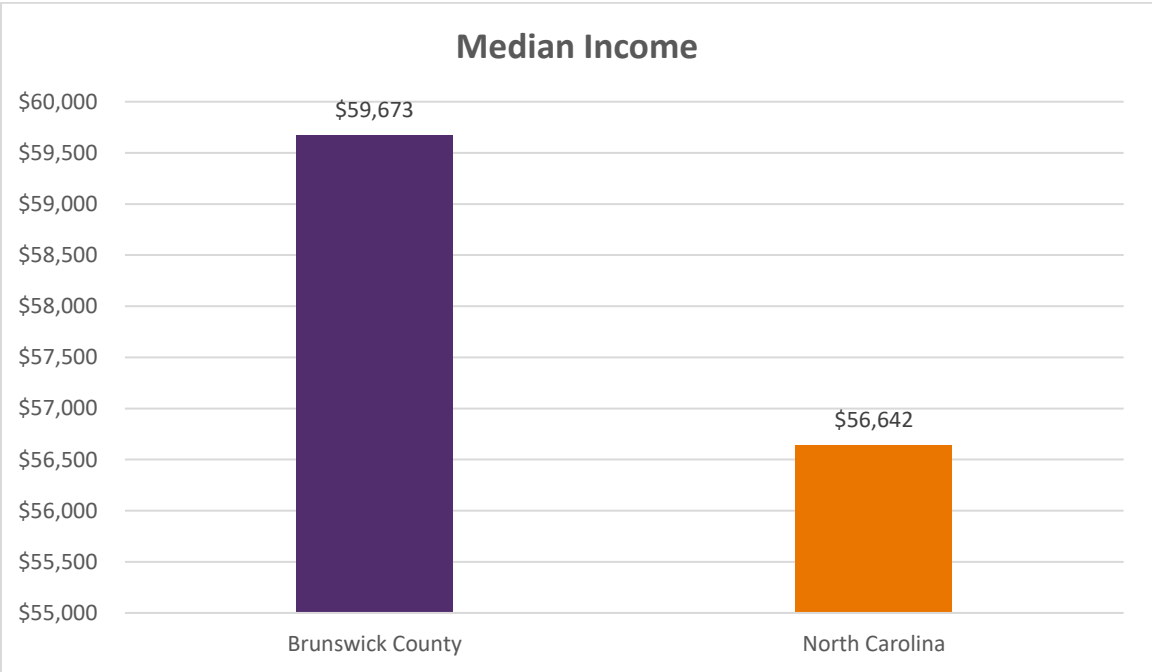
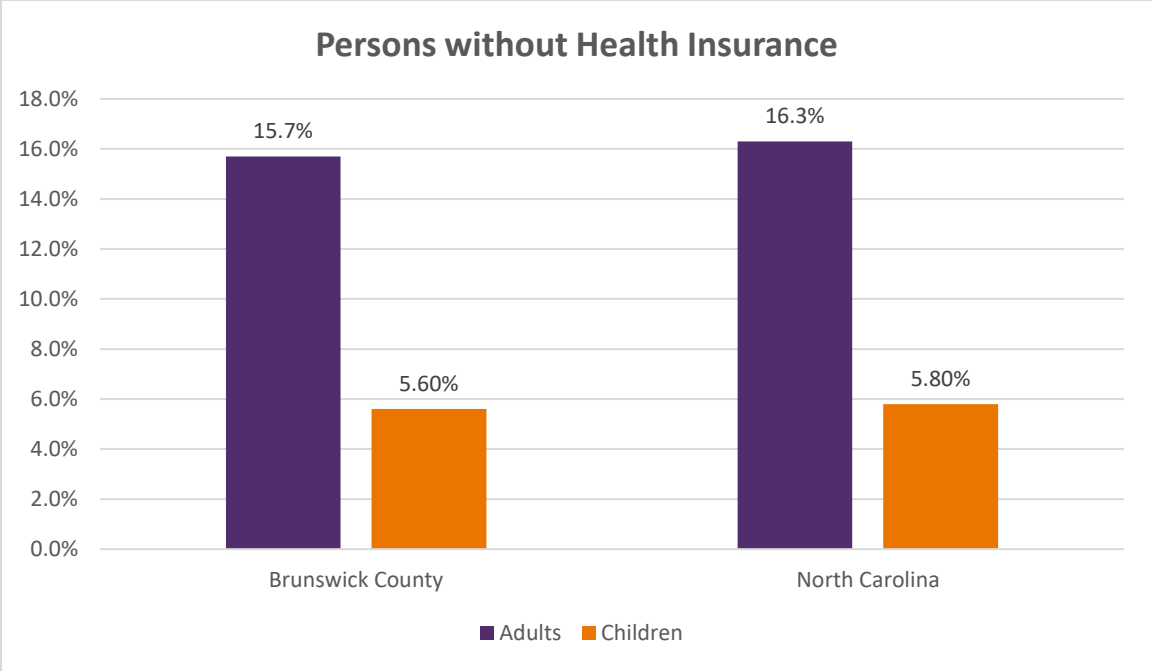


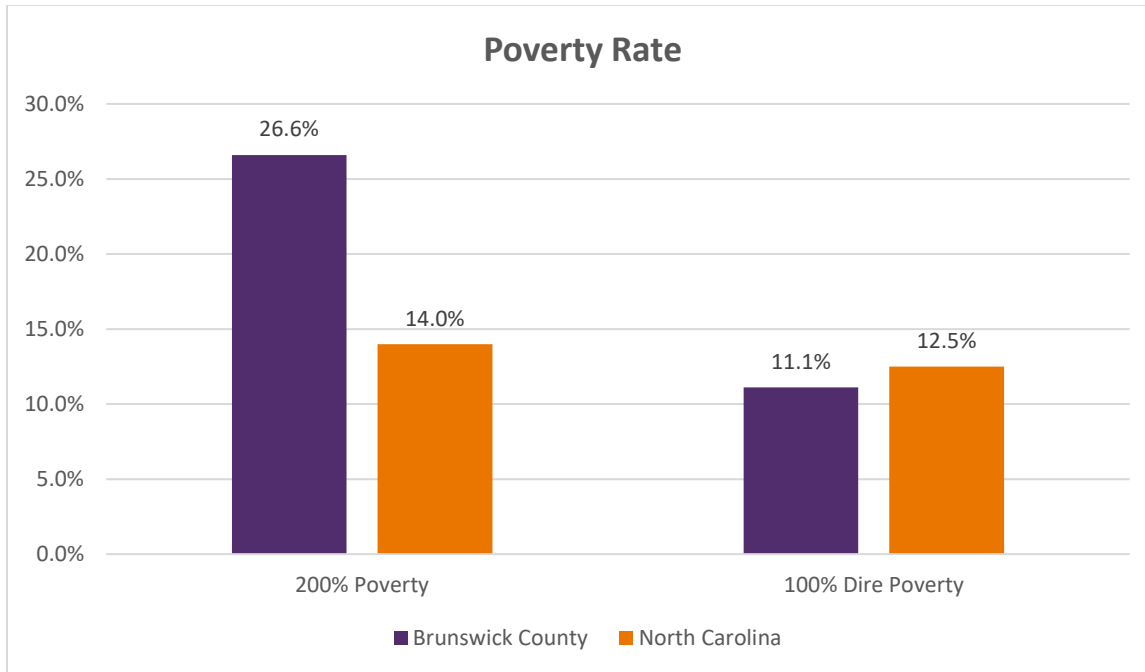
Brunswick County
 Female – 52.0%
 Male – 48%



North Carolina
 Female – 51.4%
 Male – 48.65%



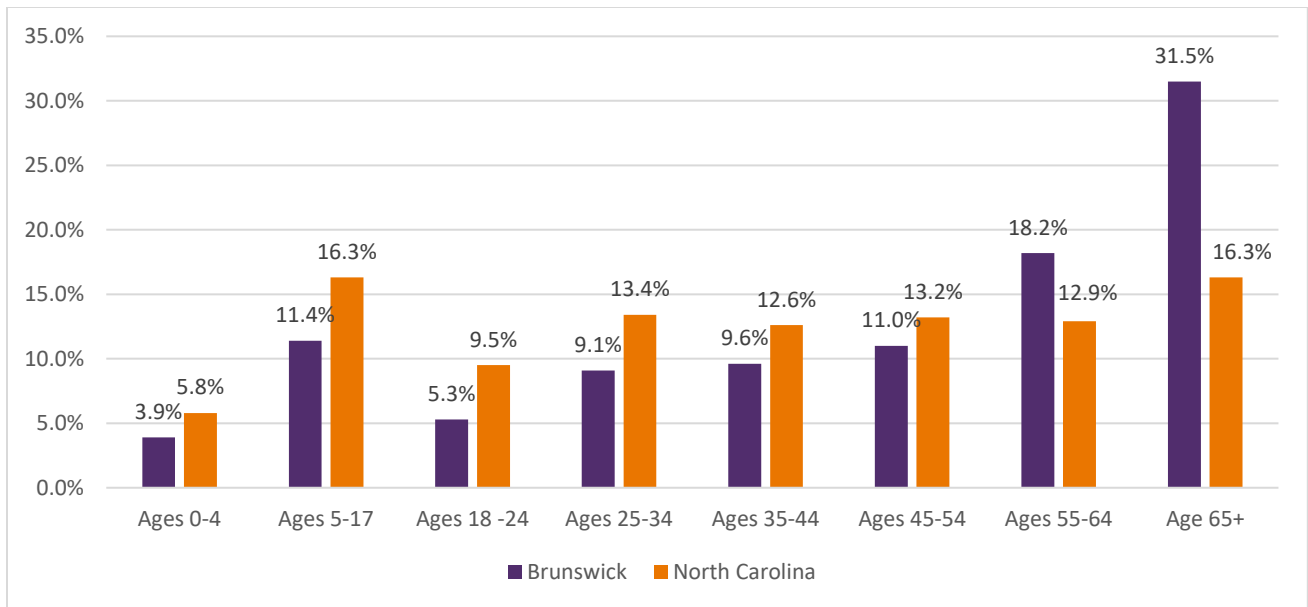




Educational attainment:

- Almost one-third (29.4%) of Brunswick County’s population holds a bachelor’s degree or higher compared to 34.9% in North Carolina. The distinction by educational attainment in Brunswick County is:
 - High School degree or equivalent – 29.1%
 - Some College, no degree – 21.9%
 - Associate’s degree – 11.6%
 - Bachelor’s degree – 18.9%
 - Graduate degree – 10.5%

Age mix:



A notable feature of Brunswick County is the higher age group representation. Almost 45% (44.8%) of the population is 60 years and above, a statistic that continues with significant in-migration of retirees to this coastal County. Between 2017 and 2018, North Carolina grew by nearly 87,000 new residents from net in-migration from other states and countries. Most people moving to North Carolina in 2017 moved here from elsewhere within the United States: 314,000 or 85% of all in-migrants to North Carolina. The top states were Florida (32K), Virginia (29K), South Carolina (29K), New York (29K), and California (20K). Brunswick County (6.6K) had the third largest population gains from net migration in 2017 of any North Carolina County, after Wake and Mecklenburg. While Brunswick is technically part of the Myrtle Beach metropolitan area—and borders on New Hanover County (Wilmington)—most of its growth is from its appeal as a retirement destination, not from suburban spillover. This influx displaced many local residents, particularly along coastal boundaries. This growth brings with it dramatic aging of the overall population, with many of new residents lacking family or social support. The social isolation manifest in loneliness, alcohol use, and a higher burden of chronic disease. This places a strain on the local healthcare systems related to chronic disease and behavioral health. As these retirees further age, the female fraction increases, and the potential dependence on social supports increases.

DEMOGRAPHICS	TOTAL #	TOTAL %
Age		
Under 5 years	4,940	3.4%
5-9 years	5,867	4.1%
10-14 years	5,478	3.8%
15-19 years	4,861	3.4%
20-24 years	7,668	5.3%
25-29 years	5,529	3.8%
30-34 years	6,261	4.3%
35-40 years	7,421	5.1%
40-44 years	6,146	4.3%
45-49 years	6,318	4.4%
50-54 years	9,324	6.5%
55-59 years	9,772	6.8%
60-64 years	15,695	10.9%
65+	48,935	33.9%
Gender		
Male	68,790	47.7%
Female	75,425	52.3%
Race/Ethnicity		
White	118,256	82%
Black	14,422	10%
Asian Pacific	1,154	0.8%
Native American	1,154	0.8%
Multi-Race	2,596	1.8%
Hispanic	7,067	4.9%
Poverty Level	16,152	11.2%
Language other than English	7,067	4.9%
Uninsured	19,469	13.5%
Township		
Lockwood Folly	35,018	24%
Northwest	16,014	11%
Shallotte	33,250	23%
Smithville	16,019	11%
Town Creek	40,215	28%
Waccamaw	3,699	3%
TOTAL	144,215	100%

Brunswick County Population: Health Indicators

Brunswick County's leading causes of death in 2019 are displayed below with a comparison to the five-year death trend showing mortality rates per 100,000 population and age-adjusted rates.

TYPE	#	Rate- 2019	# 2015-2019	Rate/100,000	Age-Adjusted
CANCER	379	265.4	1,820	276.1	149.0
HEART DISEASE	339	237.4	1,618	245.5	146.7
CANCER-TRACHEA/BRONCHUS	102	71.4	550	83.5	42.0
CHRONIC LOWER RESPIRATORY DISEASE	93	65.1	476	72.2	40.4
CEREBROVASCULAR DISEASE	93	65.1	440	66.8	39.4
UNINTENTIONAL INJURY OR ACCIDENT	69	48.3	325	49.3	50.8
ALZHEIMER'S DISEASE	60	42.0	243	36.9	24.0
DIABETES	55	38.5	197	29.9	18.1
POISONING	47	32.6	211	40.6	
DRUG OVERDOSE DEATHS	44	24.3			
CANCER-ANUS	39	27.3	148	22.5	13.1
MOTOR VEHICLE ACCIDENTS	31	21.7	113	17.1	19.1
SEPTICEMIA	27	18.9	99	15.0	8.6
SUICIDE	25	17.5	93	14.1	13.7
PNEUMONIA & INFLUENZA	25	17.5	112	17.0	10.4
CANCER-BREAST	23	20.8	111	32.4	17.5
NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS	23	16.1	129	19.6	11.6
CANCER-PROSTATE	22	32.3	90	28.5	18.0
CHRONIC LIVER DISEASE & CIRRHOSIS	17	11.9	89	13.5	9.1
HOMICIDE	11	7.7	29	4.4	5.0
INFANT DEATHS	5	4.9	32	6.3	
ALL OTHER	92				
TOTAL	1,621	1,135.0	7,401	1,122.9	707.8

Source: [North Carolina Vital Statistics 2019 Volume 2: Leading Causes of Death \(ncdhhs.gov\)](https://www.ncdhhs.gov/vital-statistics/2019-volume-2); published January 2021 and accessed October 12, 2022.

1. Health Services: Clinical Care

Secondary Research:

Publicly available data is provided with a comparison of Brunswick County to North Carolina and the United States. Data sources and date range are listed for each indicator, with disparities by gender, age, race/ethnicity provided, where applicable. Following this overview, a primary search from the resident or *Community Health Opinion Survey (CHOS)* and qualitative data from the key informant interviews and focus groups are provided to give insight into perceptions about community health status in Brunswick County as of June – September 2022.

- **Chronic Disease**
 - **Cancer**

Cancer Incidence (new cases) 2014-2018	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
New Cases	1,082	56,784	1,703,249
Cancer Incidence Rate (per 100,000 population)	473.0	468.9	448.6
White: New Cancer cases	471.6	465.6	451
Black: New Cancer cases	432.4	460.7	444.9

Source: State Cancer Profiles, 2014-2018

Cancer cases by type:

Cancer Incidence (new cases) by Type 2014-2018	Brunswick County, NC	Cancer incidence rate per 100,000	Cancer Incidence (new cases) by Type 2014-2018	State of North Carolina	Cancer incidence rate per 100,000
1. Lung & Bronchus (all stages)	163	65.3	1. Breast (all Stages)	8,713	136.5
2. Breast (all Stages)	154	134.3	2. Lung & Bronchus (all stages)	8,252	66.3
3. Prostate (all stages)	142	104.9	3. Prostate (all stages)	7,140	119.3
4. Colon & Rectum (all stages)	81	38.6	4. Colon & Rectum (all stages)	4,391	36.8
5. Melanoma of the Skin (all stages)	80	33.8	5. Melanoma of the Skin (all stages)	3,044	26.0

Source: State Cancer Profiles, 2014-2018

- **Diabetes**

Diabetes Incidence (new cases) 2014-2018	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Adults with Diagnosed Diabetes (Age 20+)	14,317	812,564	24,189,620
Age-Adjusted Diabetes Rate	8.2%	9.0%	9.0%
Males with Diabetes	7,158	394,075	12,120,715
Males: Diabetes %	8.6%	9.4%	9.5%
Females with Diabetes	7,159	418,485	12,068,861
Female: Diabetes %	7.8%	8.8%	8.5%

Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2019

▪ Heart disease

Coronary Heart Disease (CHD) Deaths, 2016-2020	BRUNSWICK COUNTY, NC		NORTH CAROLINA		UNITED STATES	
Five-year total deaths from CHD	1,018		51,983		1,838,830	
CHD Crude Death Rate (per 100,000)	147.6		100.2		112.5	
CHD Age-Adjusted Death Rate (per 100,000)	83.0		82.9		91.5	
Gender Disparity, CHD	Males	Females	Males	Females	Males	Females
CHD Age-Adjusted Death Rate (per 100,000)	113.9	56.5	116.9	56.8	125.3	64.6
Race/Ethnic Disparity, CHD	White	Black	White	Black	White	Black
Age-Adjusted CHD Deaths, By Race/Ethnicity	83.4	97.4	83.6	89.0	93.8	108.1

Source: Centers for Disease Control and Prevention, CDC-National Vital Statistics System, 2016-2020

Heart Disease Medicare Fee-For-Service Beneficiaries, 2018	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Medicare FFS Beneficiaries with Heart Disease	8,319	284,907	8,979,902
Heart Disease Rate	24.5%	24.5%	26.8%

Source: Centers for Medicare & Medicaid Services, CMS-Chronic Conditions Warehouse, 2018

▪ Hypertension

Hypertension Medicare Fee-For-Service Beneficiaries, 2018	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Medicare FFS Beneficiaries with High Blood Pressure	21,073	697,259	19,162,770
High Blood Pressure Rate	62.1%	60.0%	57.2%

Source: Centers for Medicare & Medicaid Services, CMS-Chronic Conditions Warehouse, 2018

▪ Asthma

Asthma	BRUNSWICK COUNTY, NC		NORTH CAROLINA		UNITED STATES	
Medicare FFS Beneficiaries with Asthma	1,411		55,316		1,665,694	
Asthma Rate	4.2%		4.8%		5.0%	
Asthma Disparity by Age	Below 65	65 years+	Below 65	65 years+	Below 65	65 years+
	7.2%	3.9%	7.6%	4.2%	7.5%	4.5%

Source: Centers for Medicare & Medicaid Services, CMS-Chronic Conditions Warehouse, 2018

- Risk Factors for Chronic Disease

- Alcohol Use

Alcohol Use (18 years+)	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Adults reporting excessive drinking	22,233	1,353,411	50,612,058
% of Adults reporting excessive drinking	18.92%	16.54%	19.79%
Percent of Adults Binge Drinking in the Past 30 days	12.80%	15.44%	16.70%

Source: Centers for Disease Control & Prevention, Behavioral Risk Factor Surveillance System, 2019

Definitions: Excessive drinking: Percentage of men who report more than two drinks per day for men or more than one per day for women. Binge drinking: Percentage of the population who report at least one binge drinking episode involving five or more drinks for men or four or more for women in a 2-hour period over the past 30 days.

- Tobacco Use

Current Tobacco Use (18 years+)	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Adults reporting current tobacco use (crude rate)	16.90%	18.15%	15.30%
% Of adults reporting Current tobacco use (age-adjusted rate)	18.70%	18.65%	15.70%

Source: Centers for Disease Control & Prevention, Behavioral Risk Factor Surveillance System, 2019

- Physical Inactivity

Physical Inactivity	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Adults with no leisure time physical activity	16,422	1,775,644	54,200,862
% Of adults with no leisure time physical activity	20.1%	21.8%	22.0%
Gender Disparity			
Males with no leisure time physical activity	11,780	794,551	24,675,186
Males: % with no leisure time physical activity	19.4%	20.6%	20.8%
Females with no leisure time physical activity	14,642	981,102	29,525,666
Female: % with no leisure time physical activity	20.7%	22.9%	23.1%

Source: Centers for Disease Control & Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2019

- Obesity

Obesity	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Adult Overweight (18+)	36.1%	41.9%	38.6%
Adult Obesity (18+)	26.0%	27.8%	22.4%
Overweight Adolescents (10-17)	13.2%	14.6%	15.1%

Obese Adolescents (10-17)	14.2%	13.4%	19.7%
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Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2019 & Adolescent: CDC, Division of Adolescent and School Health.

Infant Mortality

Infant Deaths	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
Infant deaths (within 1 year) per 1,000 live births.	9			803			19,582		
Infant Death rate	5.4			6.9			5.6		
DISPARITY	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Infant Deaths by Race/Ethnicity	3	5	1	297	366	112	8,603	5,821	5,770
Infant Death Rate	4.1	7.0	1.4	4.8	12.8	5.8	4.5	10.6	5.0

Source: North Carolina Vital Statistics System and Centers for Disease Control, National Vital Statistics, 2014-2020.

○ Pre-Term Births

Pre-Term Births	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
% Live Births born Pre-term	4.5%			10.8%			5.6%		
DISPARITY	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Pre-Term Birth % by Race/Ethnicity	4.2%	6.3%	3.7%	9.4%	14.2%	9.5%	9.2%	14.2%	9.8%

Source: North Carolina Vital Statistics System and Centers for Disease Control and Prevention, National Vital Statistics System, 2014-2020

Definition: A pre-term birth is defined as a live birth before 37 completed weeks gestation.

○ Late Entry into Prenatal Care

Late Entry into Prenatal Care	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
No or Late Prenatal Care (after first Trimester)	25.6			24%			19.3		
DISPARITY	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Teen births by Race/Ethnicity	24.3	23.5	37.8	14.6	27.2	28.2	13.5	28.2	29.6

Source: <https://schs.dph.ncdhs.gov/schs/births/babybook/2021/brunswick.pdf>

○ Teen Births

Teen Births (15-19)	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
Teen Birth Rate (per 1,000 live births)	25.6			20.8			19.3		
DISPARITY	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Teen births by Race/Ethnicity	24.3	23.5	37.8	14.6	27.2	28.2	13.5	28.2	29.6

Source: Centers for Disease Control and Prevention, CDC-National Vital Statistics System, 2014-2020.

○ Birth Attendants

Birth Attendants	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
OBGYNs/family medicine physicians/Certified Nurse	7.7	4.2	8.8

Midwives per 10,000 population			
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Sources: <https://nhealthworkforce.sirs.nc.edu>, 2019 and <https://www.cesareanrates.org/>

○ Low Birth Weight Infants

Low Birth Weight Infants	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Total Live Births	7,143	836,612	26,896,859
Low Birth Weight Births	661	77,245	2,203,029
LBW Rate, Percentage	9.3%	9.2%	8.2%
DISPARITY			
Non-Hispanic White	8.8%	7.5%	6.9%
Non-Hispanic Black	13.5%	14.4%	13.6%
Hispanic	8.0%	7.3%	7.3%

Source: University of Wisconsin Population Health Initiative, County Health Rankings, 2014-2020

Source: <https://schs.dph.ncdohhs.gov/schs/births/babybook/2021/brunswick.pdf>

Definition: Infant weighed less than 2,500 grams (5 lbs, 8 ounces) at birth.

● **Risk Factors:**

MATERNAL AGE

During 2018-2020 (average) in the United States, preterm birth rates were highest for women ages 40 and older (14.4%), followed by women under age 20 (10.4%), ages 30-39 (10.3%) and ages 20-29 (9.6%).

SMOKING

In 2020, 14.8% of women of childbearing age reported smoking in the United States. Smoking is a significant factor contributing to preterm births.

MULTIPLE BIRTHS

In the United States in 2020, 8.4% of singleton births were preterm, compared to 60.9% of multiple births. Multiple births represent 3.2% of live births in the United States. Current multifetal pregnancy is one of the most consistently identified risk factors for preterm birth.

BIRTH SPACING

Birth spacing, or inter-pregnancy interval, is the timing between live birth and the beginning of the next pregnancy. Birth spacing of less than 18 months increases the risk of preterm birth and other adverse outcomes. In United States, 31.5% of pregnancies with a prior live birth have a birth spacing of less than 18 months (2018-2020 average).

OBESITY

While obesity does not directly cause preterm birth, it does increase rates of medical complications (e.g., hypertension, diabetes) that contribute to preterm birth. In the United States, 31.1% of women of childbearing age were obese in 2020.

HEALTH INSURANCE COVERAGE

In 2020, about 1 in 9 women of childbearing age (11.6%) was uninsured in the United States. Health care before, during, and after pregnancy can help identify and manage conditions that contribute to preterm birth.

- **Behavioral Health**

- Mental Health and Substance Use, 2017

MH/Substance Use ER Visits	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
MH/Substance Use ER Visits per 100,000 population	1,880.9	1,902.3	26,896,859
Opiate Poisoning Deaths	23.2	15.3	11.8

Source: NC Hospital Association, Special Data Request (ER visits) and North Carolina Public Health, <https://injuryfreenc.ncdhhs.gov/DataSurveillance/poisoning/DEATH-3-UnintentionalOpioidPoisoningsbyCounty-2008-2017.pdf>

- Rates of Depression

Rates of Depression	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Rates of Depression per 100,000 population (Adults, 18+)	21.2%	20.8%	19.5%

Source: America's Health Rankings analysis of CDC, Behavioral Risk Factor Surveillance System, United Health Foundation, AmericasHealthRankings.org, accessed 2022.

NHBMC will consider health indicators such as leading causes of death and disease incidence and prevalence in the Brunswick County population but will also consider how to impact root causes with an analysis of social determinants of health, social risks, and social needs.

Brunswick County Population: Social Indicators

Social Determinants of Health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health functioning, and quality-of-life outcomes and risks.

Data sources for definitions: [Healthy People 2030](#), [Health Affairs](#), [The Milbank Quarterly](#)

The top Social Determinants of Health include:

1. **Education:** The percent of the population possessing a bachelor’s degree or higher is 29.4% compared to 32.0% for the State of North Carolina. The breakdown by educational degree is:

LEVEL OF EDUCATIONAL ATTAINMENT	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
No High School Diploma	8.0%	11.5%	11.5%
High School Diploma Only	29.1%	25.5%	26.7%
Some College	21.9%	21.1%	20.3%
Associate’s degree	11.6%	9.9%	8.6%
Bachelor’s degree	18.9%	20.4%	20.2%
Graduate degree	10.5%	11.6%	12.7%

Source: U.S. Census Bureau, American Community Survey, 2016-2020

2. **Income Level**

INCOME LEVEL	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Per Capita Income	\$34,528	\$31,993	\$35,384
Median Household Income	\$59,673	\$56,642	\$64,994
Average Family Income	\$76,620	\$79,620	\$91,547
Income Equality (GINI Coefficient)	0.44	0.48	0.48

Source: U.S. Census Bureau, American Community Survey, 2016-2020

DEFINITIONS

Per Capita Income is the reported income from wages and salaries as well as income from self-employment, interest or dividends, public assistance, retirement, and other sources. Per capita income is the average (mean) income for residents in the defined area.

Median Household Income is the income of the household including that of all individuals 15 years old and over in the household, whether related to the head of household or not. Because many households consist of only one person, the average household income is usually less than the average family income.

GINI Coefficient is a coefficient indicating income equality. A value of 1 indicates perfect inequality and zero is perfect equality, where all households have equal income.

Two sources of data—secondary research and primary research from the Community Health Opinion Survey (CHOS) inform the remainder of the Social Determinants. Secondary research is publicly available data, with sources provided and a comparison of Brunswick County to North Carolina and the United

States. Primary research is from the Community Health Opinion Survey. This quantitative research is further clarified with themes from the 50 key informant interviews and the two focus groups on which 36 residents participated.

3. Environment

Secondary Research:

- Air & Water Quality
- Built Environment
 - Broadband Access
 - Liquor Stores
 - Recreation & Fitness Facilities
- Climate & Health – Drought Severity

ENVIRONMENT	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Air Pollution (avg daily density of fine particulate matter, micrograms/cubic meter) <i>Source: CDC-National Environmental Public Health, 2016</i>	8.5	9.8	8.3
Broadband Access <i>Source: National Broadband Map, June 2021</i>	97.7%	97.8%	97.7%
Liquor Stores- Establishments per 100,000 population <i>Source: U.S. Census Bureau, County Business Patterns, 2020</i>	8.05	6.08	10.47
	11	635	34,692
Recreation & Fitness Facilities <i>Source: U.S. Census Bureau, County Business Patterns, 2020</i>	8.78	12.93	11.94
	12	1,350	39,562
Drought Severity, Weeks in Drought, Any Percentage <i>Source: U.S. Drought Monitor, 2017-2019</i>	3.78%	8.81%	13.21%

4. Transportation Availability

Secondary Research:

HOUSEHOLDS WITH NO MOTOR VEHICLE	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Total Households	59,416	4,031,592	122,354,219
Households with no motor vehicle	1,821	223,909	10,344,521
Percent of households with no motor vehicle	3.06%	5.55%	8.45%

Source: U.S. Census Bureau, American Community Survey, 2016-2020

5. Water And Sanitation Facilities

Secondary Research:

HOUSEHOLDS LACKING PLUMBING FACILITIES	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Occupied Housing Units	59,416	4,031,592	122,354,219
Housing Units Lacking Complete Plumbing Facilities	134	12,023	460,275
Percent of Housing Units Lacking Complete Plumbing	0.23%	0.30%	0.38%

Source: U.S. Census Bureau, American Community Survey, 2016-2020



Standard Housing Units, Percent of Total by Tract, ACS 2016-20



6. Accessibility of Food

Secondary Research:

FOOD INSECURITY	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Food Desert Population	10,696	1,593,822	39,074,974
Source: US Department of Agriculture, Food Research Atlas, 2019	2 census tracts	353 census tracts	9,293 census tracts
Grocery Stores	23	1,959	62,268
Grocery Store establishments per 100,000 population Source: U.S. Census Bureau, County Business Patterns, 2020	16.83	18.77	18.79
Fast Food Restaurants	112	8,083	251,533
Fast Food establishments per 100,000 population Source: U.S. Census Bureau, County Business Patterns, 2020	81.94	76.95	75.89
SNAP Authorized Food Stores	124	8,986	248,526
SNAP Authorized Food Store establishments per 100,000 population Source: U.S. Department of Agriculture, Food and Nutrition Service, USDA SNAP Retail Locations, 2021	8.32	8.48	7.47

7. Housing Facilities

Secondary Research:

HOUSING	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Households	59,416	4,031,592	122,354,219
<i>Source:</i> US Census Bureau, American Community Survey, 2016-2020			
Substandard Housing with 1 or more conditions	16,150	1,124,108	38,476,032
Percent of Substandard Housing <i>Source:</i> U US Census Bureau, American Community Survey, 2016-2020	27.2%	27.9%	31.5%
Cost-Burdened Households (30%+ of annual income to housing expenses)	16,092	1,099,976	37,128,748
Percent of Cost-Burdened Households <i>Source:</i> US Census Bureau, American Community Survey, 2016-2020	27.1%	27.3%	30.4%
Evictions (of Renter-Occupied Housing)	2.2%	4.6%	2.3%
<i>Source:</i> Eviction Lab, 2019			

8. Employment Status

Secondary Research:

EMPLOYMENT	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Labor Force Participation Rate (age 16+)	118,971	8,352,255	261,649,873
<i>Source:</i> US Census Bureau, American Community Survey, 2016-2020	48.2%	61.2%	63.0%
Unemployment	2,749	199,869	6,326,504
<i>Source:</i> U US Census Bureau, American Community Survey, 2016-2020	4.8%	3.9%	3.8%
Disconnected or Opportunity Youth (16-19, not in school and not employed)	380	40,308	1,153,005
Percent of Disconnected or Opportunity Youth <i>Source:</i> US Census Bureau, American Community Survey, 2016-2020	8.2%	7.2%	6.8%

9. Limited English Proficiency

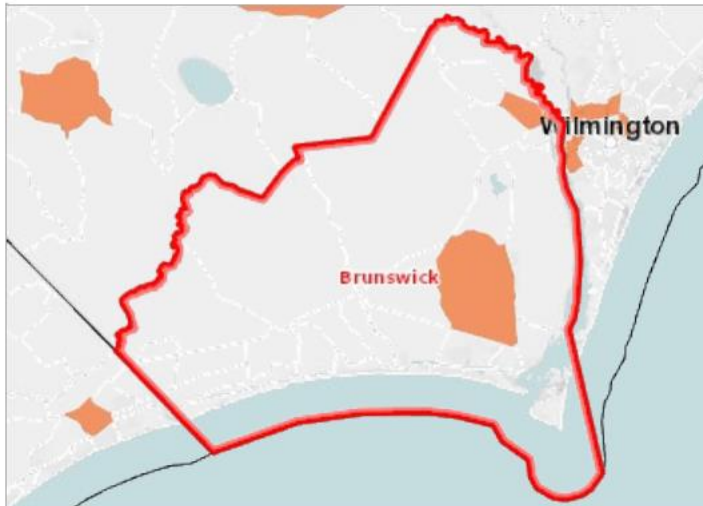
Secondary Research:

LIMITED ENGLISH PROFICIENCY	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Limited English Proficiency (age 5+)	2,043	434,577	25,312,024
<i>Source:</i> US Census Bureau, American Community Survey, 2016-2020	1.6%	4.4%	8.3%

Social Risk is adverse social conditions associated with poor health outcomes, such as food insecurity and housing instability.

Data sources for definitions: [Healthy People 2030](#), [Health Affairs](#), [The Milbank Quarterly](#)

- **Food Insecurity:** Only 26 or 3% of respondents cited food insecurity in the CHOS survey despite 2 census tracts cited as 'food deserts' by the U.S. Department of Agriculture (USDA, 2019), and 10,096 residents living in food deserts (6% of the population).



Source: U.S. Department of Agriculture, Economic Research Service, USDA-Food Access Research Atlas, 2019.

- **Housing Instability:** 63 or 8% of CHOS respondents worried about losing housing in the past year. From the secondary research, 59,016 total households are in Brunswick County, of which 16,092 or 27% are 'cost-burdened' according to the U.S. Housing and Urban Development (HUD) definition of 30% or more of annual income dedicated to housing costs. The breakdown of cost-burdened is 4,910 rental (31%), 9,034 owner-occupied with mortgage (56%) and 2,148 or 13% among owner-occupied housing without mortgage.



Source: American Community Survey, 2016-2020, U.S. Census Bureau

Social Needs are the nonclinical needs that individuals identify as essential to their well-being.

- The #1 response to the CHOS was ‘exercise more’ by 600 of 78.3% of CHOS respondents
- The #2 response to the CHOS was to ‘eat more healthy food’ to improve their health by 453 or 59% of respondents
- The #3 response was to ‘learn more about healthy living by 110 of CHOS respondents or 14%
- The #4 response was to ‘stop or reduce prescription drug use’ by 67 or 8.8%
- The #5 response was to ‘stop or reduce alcohol’ by 61 or 8%

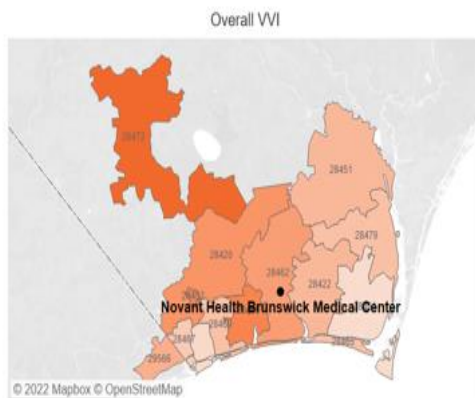
Focus indicators are on:

- Access To Healthcare – (single parents associated with high ED use and/or Maternal Care)
- Food Insecurity – (particularly associated with Diabetes diagnosis)

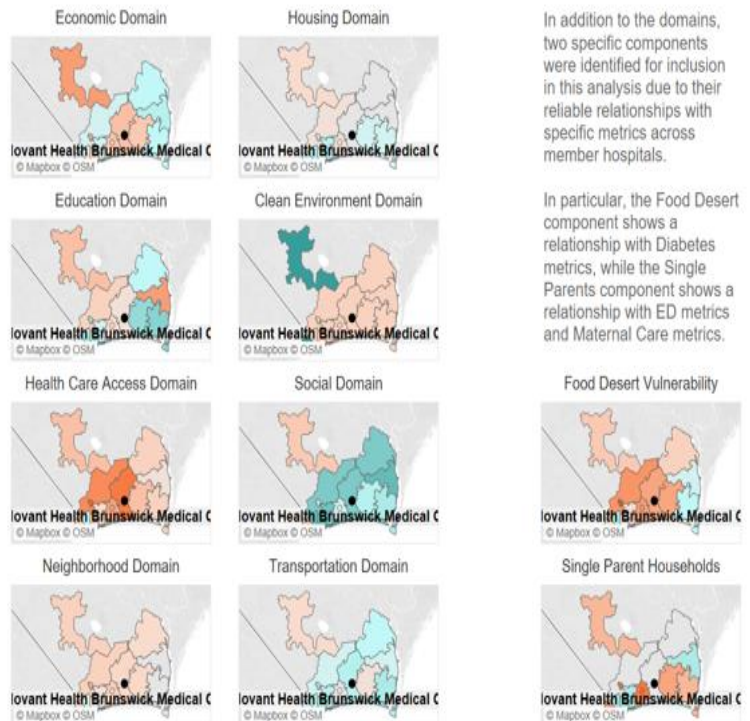
Source for definitions: [Healthy People 2030](#), [Health Affairs](#), [The Milbank Quarterly](#)

Domains and Components: Novant Health Brunswick Medical Center

Each of these maps illustrates the regional variation in the overall VVI, the eight specific domain vulnerabilities, and three selected components that will be referenced in the clinical outcomes and utilization section.



Data source: CDB distinct patients of any age seen in this hospital in any setting 2019-2020, identified by zip code. Zip codes representing less than 0.5% of all hospital patients are omitted from map.



In addition to the domains, two specific components were identified for inclusion in this analysis due to their reliable relationships with specific metrics across member hospitals.

In particular, the Food Desert component shows a relationship with Diabetes metrics, while the Single Parents component shows a relationship with ED metrics and Maternal Care metrics.

vizient.

According to the Vizient Vulnerability Index (screenshot provided above) released in January 2022, patients admitted to Novant Health Brunswick Medical Center experience the most profound social risks if they live in zip codes 28472, 28452, 28420, 28462, and 28470. These zip codes experience

disproportionately high social risks when compared to their counterparts in neighborhoods. Areas of particular concern include access to healthcare, education, poverty, and food insecurity.

More data on these concerns is highlighted below.

Access to Healthcare

ACCESS: UNINSURED	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Uninsured Adults (18-64 years)-2019	15.7%	15.5%	14.5%
Uninsured Children (0-17 years)-2019	6.6%	5.4%	5.7%
Population receiving Medicaid, 2016-2020	16.6%	20.1%	22.0%

Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2019

Zip codes 28472, 28452, 28420, 28462, and 28470 have a 21.4% response to the Resident Survey:

28420 – Ash (12), 28452 -Longwood (47), 28462-Supply (66), 28470-Shalotte (36), 28472-Whiteville (9)
 = 170/795 = 21.4% of total Community Health Opinion Survey (CHOS) responses in 2022

Disparities:

- The rates of uninsured children are especially high among Hispanic children, undocumented children, and children in families with lower incomes.
- More than half of American Indian/Alaska Native, Black, multi-racial, and Hispanic children rely on Medicaid and CHIP as their source of health coverage.

The contrast of the five ‘hot spot’ zip codes to Brunswick County average.

ACCESS: UNINSURED	BRUNSWICK COUNTY (ALL)	28420 (Ash)	28452 (Longwood)	28462 (Supply)	28470 (Shalotte)	28472 (Whiteville)
% Uninsured Adults	15.7%	15.7%	15.7%	15.7%	15.7%	20.6%
% Uninsured Children	6.6%	5.6%	5.6%	5.6%	5.6%	6.2%
% Population receiving Medicaid	16.6%	25.2%	54.1%	21.0%	27.2%	33.7%

Access to Educational Opportunities

ACCESS: EDUCATIONAL OPPORTUNITIES	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
High-Quality Child Care (% of kids in 4- or 5-star childcare)	84.0%	73.0%	
<i>Source:</i> 2019 NC Division of Child Development and Early Education			
% Of third-grade students reading at grade level	55.7%	57.8%	
<i>Source:</i> 2020 http://www.ncpublicschools.org/accountability/reporting/			
% Of high school students who graduate on time	83.8%	86.5%	87.7%
<i>Source:</i> 2020 http://www.ncpublicschools.org/accountability/reporting/			
Chronic Absenteeism	17.4%	14.8%	15.9%
<i>Source:</i> U.S. Department of Education, Civil Rights Data Collection, 2017-2018			
Homeless Children and Youth	1.90%	1.80%	2.77%
<i>Source:</i> U.S. Department of Education, ED Facts, 2019-2020			
Disconnected or Opportunity Youth (16-19, not in school and not employed)	380	40,308	1,153,005
Percent of Disconnected or Opportunity Youth <i>Source:</i> US Census Bureau, American Community Survey, 2016-2020	8.2%	7.2%	6.8%

Zip codes 28472, 28452, 28420, 28462, and 28470

ACCESS: EDUCATION	BRUNSWICK COUNTY (ALL)	28420 (Ash)	28452 (Longwood)	28462 (Supply)	28470 (Shallotte)	28472 (Whiteville)
High-Quality Child Care Centers	84.0%	60%	58%	55%	67%	59%
% Third Grade students reading at Grade-Level	55.7%	45%	47%	51%	54%	49%
% High School Students who graduate on time	83.8%	41.8%	48.5%	37%	32.9%	37.2%
% Chronic Absenteeism	17.4%	6.6%	18.2%	25.5%	19.31%	15.73%
% Homeless Children/Youth	1.90%	1.93%	1.93%	1.93%	1.93%	0.92%
% Disconnected Youth	8.2%	6.1%	9.1%	6.6%	0%	15.8%

Poverty

POVERTY	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
Adults living at or below 100% of the Federal Poverty Level (dire)	15,137			1,411,939			40,910,326		
% Adults living at or below 100% FPL	11.1%			14.0%			12.8%		
DISPARITY									
% Adults living at or below 100% FPL by Race/Ethnicity	W	B	H	W	B	H	W	B	H
	10.0%	16.8%	27.9%	10.8%	21.4%	23.9%	10.6%	22.1%	18.3%
Children living at or below 100% of the Federal Poverty Level (dire) – 0-17 year of age	3,574			452,423			12,598,699		
% Children living at or below 100% FPL	17.2%			20.0%			17.5%		
DISPARITY									
% Children living at or below 100% FPL by Race/Ethnicity	W	B	H	W	B	H	W	B	H
	13%	27.4%	35.7%	11.3%	31.9%	32.3%	10.6%	31.8%	24.7%
% Adults living at or below 200% FPL	26.6%			37%			33%		
% Children living at or below 200% FPL	41.4%			42.8%			38.9%		

Source: U.S. Census Bureau, American Community Survey, 2016-2020

Zip codes 28472, 28452, 28420, 28462, and 28470:

POVERTY	BRUNSWICK COUNTY (ALL)	28420 (Ash)	28452 (Longwood)	28462 (Supply)	28470 (Shallotte)	28472 (Whiteville)
% Adults living at or below 100% FPL	11.1%	12.7%	11.2%	11.2%	15.9%	21.3%
% Children living at or below 100% FPL	17.2%	18.4%	27.4%	7.6%	31.7%	30.7%
% Adults living at or below 200% FPL	23.9%	40.7%	44.7%	32.5%	30.9%	43.9%
% Children living at or below 200% FPL	41.1%	55.1%	87.4%	52.7%	53.8%	52.9%

Food Insecurity

FOOD INSECURITY	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
Estimated Population that is Food Insecure, 2016	16,360			1,565,910			13.8 million		
% Population that is Food Insecure, 2016	13.7%			15.4%			10.5%		
DISPARITY									
	W	B	H	W	B	H	W	B	H
% Of the Population that is Food Insecure by Racial/Ethnic Group	5.6%	20.1%	16.2%	7.8%	22.1%	15.0%	7.9%	19.1%	15.6%
Food Desert Population	10,696			1,593,822			39,074,974		
Source: US Department of Agriculture, Food Research Atlas, 2019	2 census tracts			353 census tracts			9,293 census tracts		
Grocery Stores	23			1,959			62,268		
Grocery Store establishments per 100,000 population Source: U.S. Census Bureau, County Business Patterns, 2020	16.83			18.77			18.79		
Fast Food Restaurants	112			8,083			251,533		
Fast Food establishments per 100,000 population Source: U.S. Census Bureau, County Business Patterns, 2020	81.94			76.95			75.89		
SNAP Authorized Food Stores	124			8,986			248,526		
SNAP Authorized Food Store establishments per 100,000 population Source: U.S. Department of Agriculture, Food and Nutrition Service, USDA_SSNAP Retail Locations, 2021	8.32			8.48			7.47		

Sources of Food Insecure: https://www.feedingamerica.org/sites/default/files/research/map-the-meal-gap/2016/overall/NC_AllCounties_CDs_MMG_2016.pdf?s_src=WXXX1MTMG&s_subsrc=https%3A//www.feedingamerica.org/research/map-the-meal-gap/data-by-county-in-each-state.html%3Freferrer%3Dhttp%3A//map.feedingamerica.org/
United States Department of Agriculture, 2021

Black families are twice as likely to be food insecure compared to any other racial/ethnic group. For about a third of these households, access to food was so limited that their eating patterns were disrupted, and food intake was reduced.

Zip codes 28472, 28452, 28420, 28462, and 28470:

FOOD INSECURITY	BRUNSWICK COUNTY (ALL)	28420 (Ash)	28452 (Longwood)	28462 (Supply)	28470 (Shalotte)	28472 (Whiteville)
Residing in 1 of 2 Food Desert Census Tracts	13.7%	4.7%	0	0	52.9%	26.0%
Food Insecure	16,360	164	0	0	5,130	5,071
# Fast Food Restaurants	112	5	1	10	9	14
Rate of Fast food/100,000	81.9	90.0	81.9	92.0	93.0	85.3
SNAP Authorized Food Stores	124	3	1	17	14	29
Rate of SNAP per 100,000	8.3	6.3	3.7	10.6	9.4	16.3

When segmented by race and ethnicity, Black patients tend to skew more vulnerable than other groups. The data below shows secondary and primary research specific to the Black population in Brunswick County.

Access to care/Workforce

Primary data specific to Black resident response:

ACCESS: INSURANCE	BRUNSWICK COUNTY, NC	BLACK RESIDENTS
% Uninsured Adults	15.7%	16.5%
% Uninsured Children	6.6%	11.4%
% Population receiving Medicaid	16.6%	21%

Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2019

Food Hardship

Secondary data:

FOOD INSECURITY	BRUNSWICK COUNTY, NC	BLACK RESIDENTS
Food Insecure	13.7%	20.1%
Food Desert Population	10,696	2,597
Grocery Stores	23	2
Fast Food Restaurants	112	
SNAP Authorized Food Stores	124	



Housing Hardship

Secondary data:

HOUSING	BRUNSWICK COUNTY, NC	NORTH CAROLINA	UNITED STATES
Households	59,416	4,031,592	122,354,219
<i>Source: US Census Bureau, American Community Survey, 2016-2020</i>			
Substandard Housing with 1 or more conditions	16,150	1,124,108	38,476,032
Percent of Substandard Housing	27.2%	27.9%	31.5%
<i>Source: U US Census Bureau, American Community Survey, 2016-2020</i>			
Cost-Burdened Households (30%+ of annual income to housing expenses)	16,092	1,099,976	37,128,748
Percent of Cost-Burdened Households	27.1%	27.3%	30.4%
<i>Source: US Census Bureau, American Community Survey, 2016-2020</i>			
Evictions (of Renter-Occupied Housing)	2.2%	4.6%	2.3%
<i>Source: Eviction Lab, 2019</i>			

Primary data specific to Black resident response:

HOUSING	BRUNSWICK COUNTY, NC	BLACK RESIDENTS
Substandard Housing with 1 or more conditions	27.2%	31.3%
Cost-Burdened Households	27.1%	31.1%
Evictions	2.2%	4%

Life Expectancy

Secondary Research:

LIFE EXPECTANCY	BRUNSWICK COUNTY, NC			NORTH CAROLINA			UNITED STATES		
Life Expectancy	76.5			77.6			76.1		
DISPARITY									
Life Expectancy by Race/Ethnicity	W	B	H	W	B	H	W	B	H
Age of Expected Death by Race/Ethnicity	78.4	72.0	77	80.1	71.6	76.9	76.4	70.8	77.6
Years of Potential Life Lost	16,150			1,124,108			38,476,032		
Premature Deaths	8,400			5,600			8,000		
DISPARITY									
Years of Potential Life Lost by Race/Ethnicity	W	B	H	W	B	H	W	B	H
Rate of Potential Life Lost per 100,000 population by Race/ Ethnicity	8,728	8,874	4,863	7,560	10,880	4,533	7,171	11,451	5,628
<i>Source: Centers for Disease Control, National Vital Statistics System, 2018-2020</i>									

II. Assessment process

COVID-19 impact on the CHNA assessment process:

The COVID-19 pandemic has been a global public health emergency, requiring the diversion of significant resources from hospital systems, public health departments, clinical healthcare providers, community organizations, and local, state, and national government agencies. In each of the communities we serve, Novant Health has worked tirelessly to keep our patients, team members, and community members safe and healthy, delivering free/accessible COVID-19 education, masks, and vaccines.

The pandemic further exposed health inequities and other problems associated with Social Determinants of Health, including those experienced by the medically underserved, low-income, and minority populations. In its COVID-19 response, Novant Health conducted targeted outreach and education to build trust with—and increase access to—these particularly vulnerable communities and individuals, as well as with the community organizations that serve them.

As it relates to the CHNA process, significant COVID-19 impact and interruption were in the areas of survey distribution and input solicitation as well as the availability of collaborating community partners to be involved in the planning and prioritization process. Every effort was made to engage with and solicit input from individuals and organizations serving or representing the interests of medically underserved, low-income, and minority populations, but these efforts were sometimes hindered by limited resources and capacity because of the COVID-19 pandemic response and heightened safety precautions. While this CHNA cycle process was impacted by COVID-19, Novant Health will continue to inclusively incorporate and serve the interests of all community members in our community response and community benefit work, including those of the medically underserved, low-income, and minority populations.

a) Collaborative community partners

Local Health Departments in North Carolina are required to conduct a comprehensive Community Health Assessment (CHA) every four years to maintain local health department accreditation. As part of the Patient Protection and Affordable Care Act of 2010, not-for-profit hospitals are also now required to conduct a Community Health Needs Assessment (CHNA) once every three years.

Building from that process, Brunswick County Health Services, Doshier Memorial Hospital, and Novant Health Brunswick Medical Center collaborated on the 2022 Brunswick County Community Health Assessment to update existing data and receive feedback from the community. This work included the 2022 Community Health Opinion Survey (CHOS) with 795 resident responses, 50 key informant interviews, and 2 focus groups involving 36 residents for a total of 881 community touches. The project was facilitated by Kulik Strategic Advisers with bimonthly sessions of Leadership from the three sponsors to review data collection tools, response, and primary and secondary data from June through September. Actual information was assembled in draft reports in October with the finalization of Priorities in November and final reports in December 2022. No incentives were offered to elicit resident survey responses.

b) Solicitation

Residents were encouraged to participate in the CHOS through social media posts on the Brunswick County website, the Statesman-Pilot newspaper and through flyers recruiting involvement posted at community-based organizations throughout the County.

Survey distribution occurred at the following sites:

1. Brunswick Wellness Coalition	11. Christian Recovery Centers
2. Brunswick Resiliency Taskforce	12. Hope Harbor Homes
3. Cape Fear Health Net	13. New Hope Clinic
4. Cedar Grove Community Center	14. Brunswick Baptist Association
5. Senior Resources (all their Senior center locations)	15. Communities In Schools
6. Town of Leland	16. Town of Shallotte
7. Brunswick Transit	17. Smart Start
8. Brunswick County WIC & Traffic Court	18. Brunswick Family Assistance
9. Town of St. James	19. Brunswick County Schools
10. Coastal Horizons	20. Brunswick County Department of Social Services (DSS)

In addition, on-site survey collection occurred at:

1. Shallotte Farmer’s Market (7/9/22)
2. Oak Island Farmer’s Market (7/11/22)

c) Data collection and analysis

Primary Data (Included in full in Appendix B)

The Community Health Opinion Survey resulted in 795 residents responding to a 46-question survey instrument. Data collection occurred from late June through mid-September of 2022. The survey samples targeted 382 total residents with a confidence interval of 95% and a 5-point margin of error. Due to enthusiastic response and persistent outreach, the actual confidence interval concluded with 795 responses at a 97% confidence interval and a 3.5-point margin of error.

Demographic data collected from the sample of survey participants is illustrated below:

SAMPLE FRAME FOR BRUNSWICK COUNTY, NORTH CAROLINA CHNA (2022-2024)				
DEMOGRAPHIC	TOTAL #	TOTAL %	ACTUAL # and % at n=795	
Age				
Under 5 years	4,940	3.4%		
5-9 years	5,867	4.1%		
10-14 years	5,478	3.8%		
15-19 years	4,861	3.4%	32	4.0%
20-24 years	7,668	5.3%	45	5.7%
25-29 years	5,529	3.8%	33	4.2%
30-34 years	6,261	4.3%	36	4.5%
35-40 years	7,421	5.1%	45	5.7%
40-44 years	6,146	4.3%	37	4.7%
45-49 years	6,318	4.4%	38	4.8%
50-54 years	9,324	6.5%	63	7.9%
55-59 years	9,772	6.8%	74	9.3%
60-64 years	15,695	10.9%	97	12.2%
65+	48,935	33.9%	295	37.1%
Gender				
Male	68,790	47.7%	241	30.3%
Female	75,425	52.3%	554	69.7%
Race/Ethnicity				
White	118,256	82%	641	80.6%
Black	14,422	10%	84	10.5%
Asian Pacific	1,154	0.8%	6	0.8%
Native American	1,154	0.8%	9	1.1%
Multi-Race	2,596	1.8%	14	1.8%
Hispanic	7,067	4.9%	41	5.2%
Poverty Level				
Poverty Level	16,152	11.2%	89	11.2%
Language other than English				
Language other than English	7,067	4.9%	39	4.9%
Uninsured				
Uninsured	19,469	13.5%	110	13.8%
Township				
Lockwood Folly	35,018	24%	192	24%
Northwest	16,014	11%	89	11%
Shallotte	33,250	23%	188	23%
Smithville	16,019	11%	114	11%
Town Creek	40,215	28%	232	28%
Waccamaw	3,699	3%	20	3%
TOTAL	144,215	100%	795	100%

Secondary Data

Along with the primary data outlined above, secondary data was primarily collected and analyzed from the following sources, with attribution for each indicator presented with that data element.

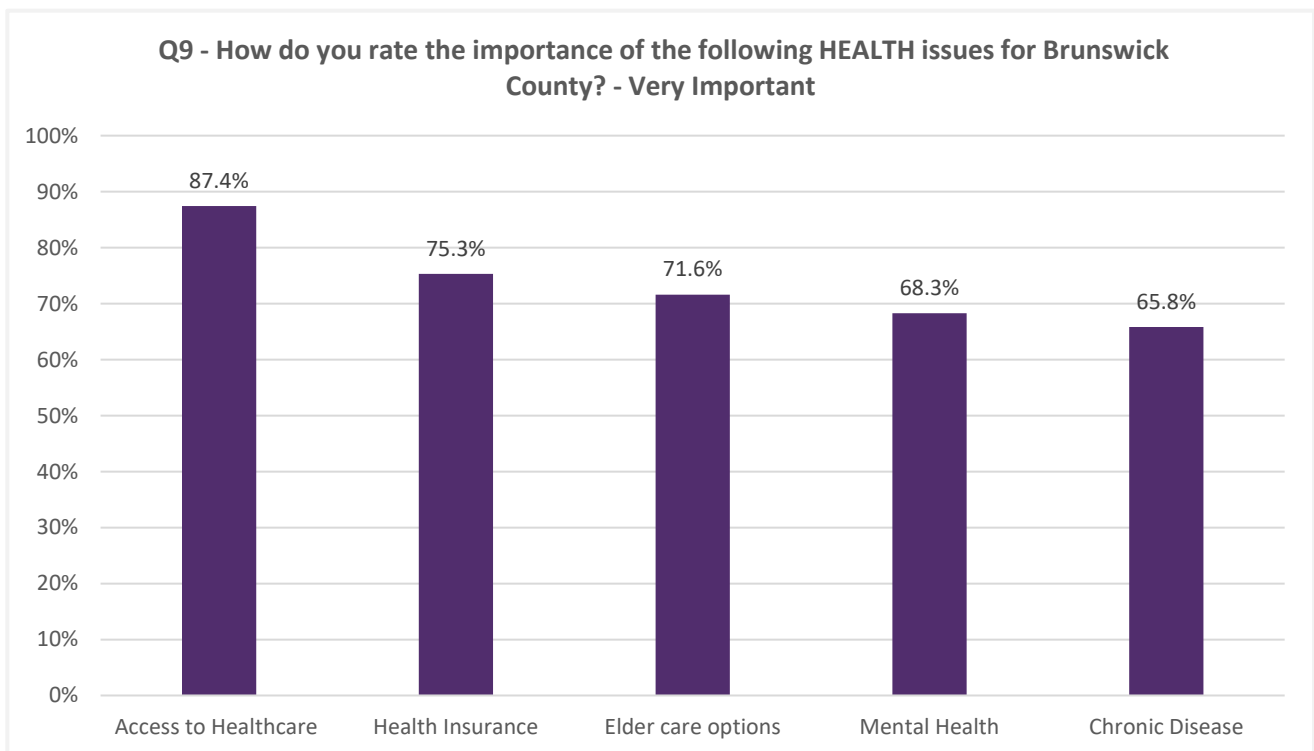
- (1) U.S. Census Bureau, American Community Survey, 2016-2020
- (2) Cape Fear Collective, Brunswick County, North Carolina profile
- (3) County Health Rankings & Rankings, 2022.
- (4) America's Health Rankings, United Health Foundation, 2021
- (5) North Carolina Public Health, County Health Data, 2021

III. Identification and Prioritization of Health Needs

a) Identified Significant Health Needs

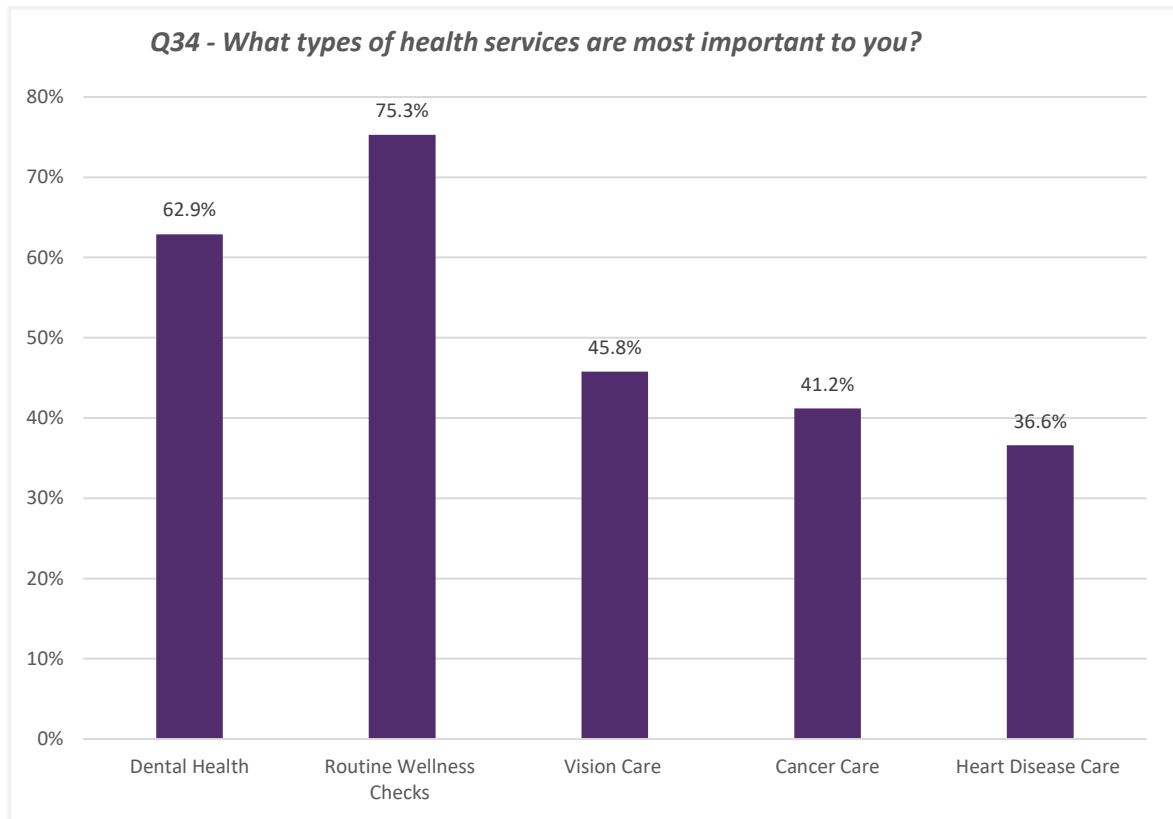
Utilizing the Community Health Opinion Survey (CHOS), residents from Brunswick County were asked to rank 15 health issues from very important to least important. Health disparities and social determinants of health are not called out specifically as health issues but rather incorporated within each issue. The following 15 health issues are ranked from very important to least important:

1. Access to Healthcare – 695 (87.4%)
2. Health Insurance – 599 (75.3%)
3. Elder care options – 569 (71.6%)
4. Mental Health (including Counseling/Support Groups) – 543 (68.3%)
5. Chronic Disease – 523 (65.8%)
6. Child/Adult Immunizations – 495 (62.3%)
7. Cancer – 493 (62.0%)
8. Health Resource Information – 472 (59.4%)
9. Respite for Caregivers – 450 (56.6%)
10. Dental health – 441 (55.5%)
11. Pregnancy & infant wellness – 439 (55.2%)
12. Teen Births – 438 (55.1%)
13. Infant mortality – 387 (48.7%)
14. Family planning – 381 (47.9%)
15. Child obesity/Physical Activity – 381 (47.9%)



The table below demonstrates the health services that CHOS respondents identified as most

important at an individual level.



These 15 ranked health issues are categorized into the following broader categories, and represent the top identified significant health needs for NHBMC's 2022-2024 CHNA:

- Access to healthcare
- Mental health
- Chronic disease
- Dental health
- Elder care options
- Respite for caregivers
- Family planning
- Pregnancy & infant wellness
- Child obesity & physical activity

These categories informed the prioritized needs discussed below. See Appendix B for all supporting data.

b) Analysis and Prioritization

A priority decision matrix was developed to summarize the extensive findings from the 2022 Community Health Needs Assessment. The secondary and primary research represented by quantitative data reflecting population profiles (secondary) and a statistically representative sample of current resident perceptions of their individual and community health (primary survey data: Community Health Opinion

Survey) were illuminated by qualitative data in the form of key informant interviews and focus group response.

This data was then summarized into three (3) categories. The categories are:

- (1) Size and Seriousness of the issue including the Importance of Health & Community;
- (2) Ranking (Areas of Strength/ Areas to Explore);
- (3) Disparities or Inequities of Issue: Disproportionate impact by Age, Gender, Race/Ethnic group, or zip code of residence in Brunswick County.

County Prioritized Health Outcomes

The following issues were considered in 2022 for Brunswick County’s health priorities for the next CHNA cycle.

SIZE AND SERIOUSNESS OF ISSUE	RANKING	DISPARITIES
<p><i>Deaths: (Rate per 100,000 population in 2019)</i></p> <ol style="list-style-type: none"> 1. Cancer – 379 (265.4/100,000) 2. Heart Disease – 339 (237.4) 3. Cancer-Trachea/Bronchus – 102 (71.4) 4. Chronic Lower Resp. Disease – 93 (65.1) 5. Cerebrovascular Disease (Stroke) – 93 (65.1) 6. Unintentional Injury – 69 (48.3) 7. Alzheimer’ Disease – 60 (42.0) 8. Diabetes – 55 (38.5) 9. Poisoning – 47 (32.6) 10. Drug Overdose – 44 (24.3) <p><i>Hospitalizations:</i></p> <ol style="list-style-type: none"> 1. COVID-19 – 298 2. Sepsis, unspecified – 292 3. Hypertensive heart disease w heart failure – 102 4. Hypertensive heart and chronic kidney disease with heart failure – 100 5. Acute Kidney failure, unspecified - 85 <p><i>ER Visits:</i></p> <ol style="list-style-type: none"> 1. COVID-19 – 2,130 2. Other Chest Pain - 1,018 3. Acute Upper Respiratory Infection, unspecified - 695 4. Urinary tract infection, site not specified – 574 5. Nausea with vomiting, unspecified – 486 	<p>#26/100 Counties</p> <p>#11 – Clinical Care</p> <p>#11 – Physical Environment</p> <p>#20 – Quality of Care</p> <p>#21 – Health Behaviors</p> <p>#33 – Quality of Life</p> <p>#55 – Social Determinants</p> <p><u>Areas of Strength:</u></p> <p><i>Health Indicators</i></p> <ul style="list-style-type: none"> ○ Preventable Hospital Stays ○ Mammography Screening ○ Flu vaccinations <p><i>Social Determinants:</i></p> <ul style="list-style-type: none"> ○ H.S. Completion ○ Income Inequality <p><i>Environmental Health:</i></p> <ul style="list-style-type: none"> ○ Air pollution <p><u>Areas to Explore:</u></p> <p><i>Life Expectancy/ Years of Potential Life Lost</i></p> <ul style="list-style-type: none"> ○ Life Expectancy ○ Premature Death <p><i>Health Indicators</i></p> <ul style="list-style-type: none"> ○ Sexually Transmitted Infections ○ Low Birth Weight Infants ○ Teen Births ○ Mental Health ER Visits <p><i>Health Behaviors</i></p> <ul style="list-style-type: none"> ○ Adult Smoking ○ Excessive Drinking 	<p><i>Health Conditions</i></p> <ul style="list-style-type: none"> ○ Coronary Heart Disease: Male/Black ○ Hypertension – Black and over 65 years of age ○ Diabetes – Male/ Black and Hispanic ○ Asthma – Age (below 65) ○ Infant Mortality: Black ○ Opiate Poisoning Deaths: White, 16-29 years <p><i>Health Indicators</i></p> <ul style="list-style-type: none"> ○ Premature Birth: Black ○ Low Birth Weight Infants: Black ○ Teen Births: Hispanic <p><i>Health Behaviors</i></p> <ul style="list-style-type: none"> ○ Late Entry into Prenatal Care: Hispanic <p><i>Social Determinants</i></p> <ul style="list-style-type: none"> ○ Adults/Children living below 100% and 200% of FPL – Black and Hispanic ○ Food Insecure – Black & Hispanic ○ Disconnected Youth- 16-24, Black, Male
<p>COMMUNITY HEALTH OPINION SURVEY</p> <p><i>Perceived Health Issues of Importance:</i></p> <ol style="list-style-type: none"> 1. Access to Healthcare –87.4% 2. Health Insurance – 75.3% 3. Elder care options – 71.6% 4. Mental Health – 68.3% 5. Chronic Disease – 65.8% <p><i>Perceived Community Issues of Importance:</i></p>		

1. Child maltreatment – 74.4% 2. Domestic/Sexual Violence – 70.0% 3. Violent Crime – 64.0% 4. Educational Opportunities – 62.4% 5. Services for Disabled – 61.2% <i>Perceived Environmental Issues of Importance:</i> 1. Safe drinking water – 79% 2. Water pollution – 68% 3. Over-development – 58% 4. Coastal climate change – 45% 5. Housing – 44%	○ Opiate Poisoning Deaths ○ Alcohol Impaired ○ driving deaths ○ Injury deaths <i>Social Determinants:</i> ○ Uninsured (Adults & Children) ○ Unemployment ○ Social Associations ○ Child Care ○ Disconnected Youth	
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The following issues were established in 2022 as Brunswick County’s health priorities for the next CHNA cycle. This prioritization occurred on November 11th with the Core Leadership, followed by Steering Committee validation at the December 2, 2022, session.

1. Chronic Disease (emphasis on hypertension and diabetes resulting in heart failure and kidney disease)
2. Behavioral Health (Mental Health with focus on Adult Depression)
3. Social Determinant of Health: Food Insecurity

Facility prioritization

In addition to the primary and secondary data described above, Novant Health Brunswick Medical Center reviewed the top five diagnosis codes for inpatient and outpatient hospital emergency room visits from July 2021 to June 2022.

Novant Health Brunswick Medical Center Emergency Department
Top 5 Diagnoses July 2021 to June 2022

Novant Health Brunswick Medical Center			
Top 5 ED Diagnoses July 2021 - June 2022			
Inpatient Diagnosis	Volume	Outpatient Diagnosis	Volume
COVID-19	298	COVID-19	2130
Sepsis, unspecified organism	292	Other Chest pain	1018
Hypertensive heart disease with heart failure	102	Acute upper respiratory infection, unspecified	695
Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	100	Urinary tract infection, site not specified	574
Acute Kidney Failure, unspecified	85	Nausea with vomiting, unspecified	486

The top 5 diagnoses from July 2021 to June 2022 were greatly impacted by the Covid-19 pandemic in the outpatient and inpatient settings. As a result of Covid-19 and encouraging virtual visits for patient safety, when possible, the inpatient diagnosis trend for adults was more serious diagnoses like heart and kidney failures. Outpatient trending diagnoses were severe symptoms and side effects of Covid-19.

Upon a comprehensive review of the primary and secondary data and NHBMC's ED top 5 diagnosis codes, the Novant Health Brunswick Medical Center leadership team and Board of Trustees evaluated this information based on the scope, severity, and health disparities associated with the need, and the estimated feasibility and effectiveness of possible interventions. Through this thorough evaluation, the team agreed on the following significant health priorities for Novant Health Brunswick Medical Center:

1. Chronic Disease: with a focus on Hypertension and Diabetes
2. Mental Health & Substance Use
3. Social Determinant of Health: Food Insecurity

IV. Addressing needs

Novant Health Brunswick Medical Center is committed to working to address each of its prioritized areas of need through resource allocation and support of the following programs and actions:

Priority Need:	Program:	Action:	Intended Outcome:
Chronic disease: focus on hypertension & diabetes	Health Screenings Faith Health Network Diabetes Empowerment Education Program (DEEP)	Host screenings and provide related referrals, and assessment of resources via Community Care Cruiser Support community organizations and events aligned with this work Leverage relationships within Novant Faith Health Network to utilize faith communities as venues for education as well as a voice for the community Provide no cost diabetes education throughout community taught by peers within the community	Increased number of Brunswick county community members connected to a primary medical home and appropriate care Decrease emergency department use for those connected to health screening events and mobile health Improve health outcomes for those connected to Community Engagement team as it relates to A1c, BMI, and Blood Pressure Provide 10 DEEP Classes within Brunswick County
Mental health & Substance use	Resiliency Training and Screenings Mental Health First Aid Opioid Stewardship Task Force Brunswick County School Crisis Support Program	Provide information and train individuals from various sectors including the nonprofit, faith community and our own team members Support community organizations and events aligned with this work such as Brunswick Resiliency Task Force Alignment of health system regarding treatment of those with Opioid Use Disorder to include education on stigma reduction, monitoring metrics related to use of opioids, and development of pathways for	Awareness of Mental Health, impact of trauma and provision of tools/skills to build resiliency Awareness of ways to access resources and increased number of individuals connected to appropriate treatment and services within the community 50 Individuals trained in Mental Health First Aid Community based teams (Home Health, Community Paramedics, CHWs, and

	<p>Psychiatric Residency Program</p>	<p>treatment with community partners in partnership with Brunswick County Substance Use Disorder Commission</p> <p>Provision of telehealth crisis management services for children in Brunswick County Schools</p> <p>Establishment of psychiatric residency program in partnership with UNC School of Medicine</p>	<p>other outreach workers) trained on use of Narcan</p> <p>Increase in number of patients treated for opioid use disorder in the acute and ambulatory settings</p> <p>Reduction in admission to Brunswick Medical Center of school age children for acute psychiatric crisis</p> <p>Increased provider base for psychiatric care in our region</p>
Food insecurity	<p>Education</p> <p>Novant Health Food Pharmacy</p> <p>Social Responsibility</p>	<p>Support community organizations and events aligned with this work through capacity building and charitable contributions</p> <p>Further expansion of Novant Health Food Pharmacy throughout health system</p> <p>Secure sustainable funding for Novant Health Food Pharmacy through public and private sector partners as well as NHRMC Foundation</p> <p>Creation of continuing education opportunities for team members regarding definition and face of food insecurity in our health system and our community</p>	<p>Expansion of food insecurity screening and food box distribution to Brunswick Medical Center and 7 ambulatory care practices</p> <p>75% completion rate of Food Insecurity CEU</p> <p>Equitable funding towards community-based organizations supporting food insecurity and working to eradicate food deserts in our community</p>

NHBMC will focus resource allocation on these prioritized needs based on careful consideration the of estimated feasibility and effectiveness of possible interventions. While NHBMC will not prioritize the remaining significant health needs (listed above in Section III), it will support and collaborate with community partners as appropriate for the purpose of improving outcomes for identified needs that are better aligned with their scope of service.

In addition to the programs and services offered to the community through Novant Health Brunswick Medical Center, there are various existing community assets available throughout the Brunswick County community that have additional programs and resources tailored to meet all the identified health needs. The following is a list of valued community agencies that address those prioritized and non-prioritized needs:

Identified Significant Health Needs	Local Community Resources Addressing Needs
Access to healthcare Chronic disease Dental health	Brunswick Wellness Coalition Brunswick County Health Department Cape Fear Healthnet New Hope Clinic YMCA of Southeastern North Carolina East Carolina University School of Dental Medicine-Brunswick County
Mental health	Brunswick County Sheriff’s Office Christian Recovery Centers Coastal Horizons Carolina Dunes Behavioral Health Coastal Southeastern United Care
Pregnancy and infant wellness Family planning	Brunswick County Health Department Samara’s Village
Child obesity/Physical activity	Brunswick County Schools, School Health Advisory Committee Brunswick County Communities in Schools Brunswick County Cooperative Extension
Respite for caregivers Elder care options	Brunswick Senior Resources Cedar Grove Community Health Association Lower Cape Fear LifeCare

For all community resources, visit www.novanthealth.org/mycommunity

V. Impact Evaluation of 2019-2021 Community Health Needs Assessment

No written comments were received from the 2019 - 2021 CHNA and implementation strategy.

Based on the previously reported health data from the 2019-2021 Community Health Needs Assessment, the Novant Health Brunswick Medical Center Board of Directors did a collective review of community feedback and prioritization and determined the top health priorities for Novant Health Brunswick Medical Center as the following:

1. Drug misuse and substance use
2. Chronic disease management and prevention

The specific commitments, objectives, measurements, and successes for Novant Health Brunswick Medical Center addressing their 2019-2021 priorities are described in the table below.

Of note, in 2020 and 2021, the COVID-19 pandemic diverted our focused response on priority needs to meet new, unexpected, and urgent priorities in our community. Our COVID-19 response, including education, free mask distribution, and vaccines, addressed issues of access to care and chronic disease by targeting vulnerable communities. While intended outcomes identified in 2019 were not always able to be met, Novant Health provided access to critical and life-saving services to all our communities through dedicated COVID-19 response efforts.

Identified Priority	Program / Action	Intended Outcome	Actual Outcome
Chronic disease: Management and Prevention	Wellness Education and Screening: Working in collaboration with community partners, offer free health education and subject matter expertise regarding healthy behaviors, chronic disease management and access to care. Provide free community screenings including Body Mass Index, blood pressure and heart issues.	Increase awareness of chronic disease prevention management and strategies	Community Engagement participated in mask distribution in partnership with South Brunswick Interchurch council and St. Brendan's Catholic Church in 2020 and 2021. Distribution also included education and information-sharing on individuals at higher risk for COVID complications, to include those with diabetes and hypertension. Novant Health participated in WWAY Health Hacks, in partnership with Brunswick Wellness Coalition, focused on diabetes education in 2021.

			<p>Diabetes awareness seminar was conducted at Brunswick Forest Resident Association in Nov, 2021.</p> <p>2021 Diabetes Empowerment Education class series taught in Boiling Spring Lakes, in partnership with New Hope Clinic, for 6 Brunswick County Residents. Participants also received baseline A1c screening.</p>
Drug misuse and Substance Use	<p>Opioid intervention: Implement a post-overdose response team</p>	Increase individuals connected to substance use disorder services.	<p>Brunswick Medical Center social workers received training on the Anchor Initiative in 2021. This program is run by the Brunswick County Sheriff's office and provides support for treatment of those in recovery from substance use.</p> <p>Brunswick Medical Center social workers received training in 2021 from Coastal Horizons Quick Response Team which provides post overdose support at discharge. Referral process was put in place for this program.</p> <p>In 2020, a grant assisted with the establishment of the Novant Health Brunswick County School Crisis Support Program providing telehealth crisis management services for children in Brunswick County Schools, often with dual diagnosis of mental health and substance use disorder.</p>

VI. Appendix A – Steering Committee Members

Steering Committee Members for the Brunswick County CHA

Steering Committee for Brunswick County CHA	
Agency	
1	Town of St. James
2	Shriner and Mason's
3	Coastal Horizons
4	Christian Recovery Centers Inc.
5	Clergy Community-SUA Commission
6	Brunswick County Social Services
7	Cedar Grove Community Center
8	Citizen at large Southport Area
9	Brunswick Senior Resources
10	Senior Resources
11	Brunswick County
12	Coastal Horizons
13	Brunswick Smart Start
14	Town of Shallotte
15	*Brunswick County Health Services
16	New Hope Clinic
17	Cape Fear Council of Government
18	North Carolina Cooperative Extension
19	North Carolina Project Lead
20	Brunswick County Schools
21	Town of Leland
22	Brunswick Transit System, Inc.
23	Brunswick County Parks & Recreation
24	CommWell Health
25	4-H Expanded Food and Nutrition Education Program (EFNEP)
26	NAACP Brunswick County
27	Trillium, Neighborhood Connections Team
28	Village of Bald Head Island
29	Town of Navassa
30	North Brunswick Chamber of Commerce
31	NAACP Healthier Together Regional Rep
32	Brunswick County Schools

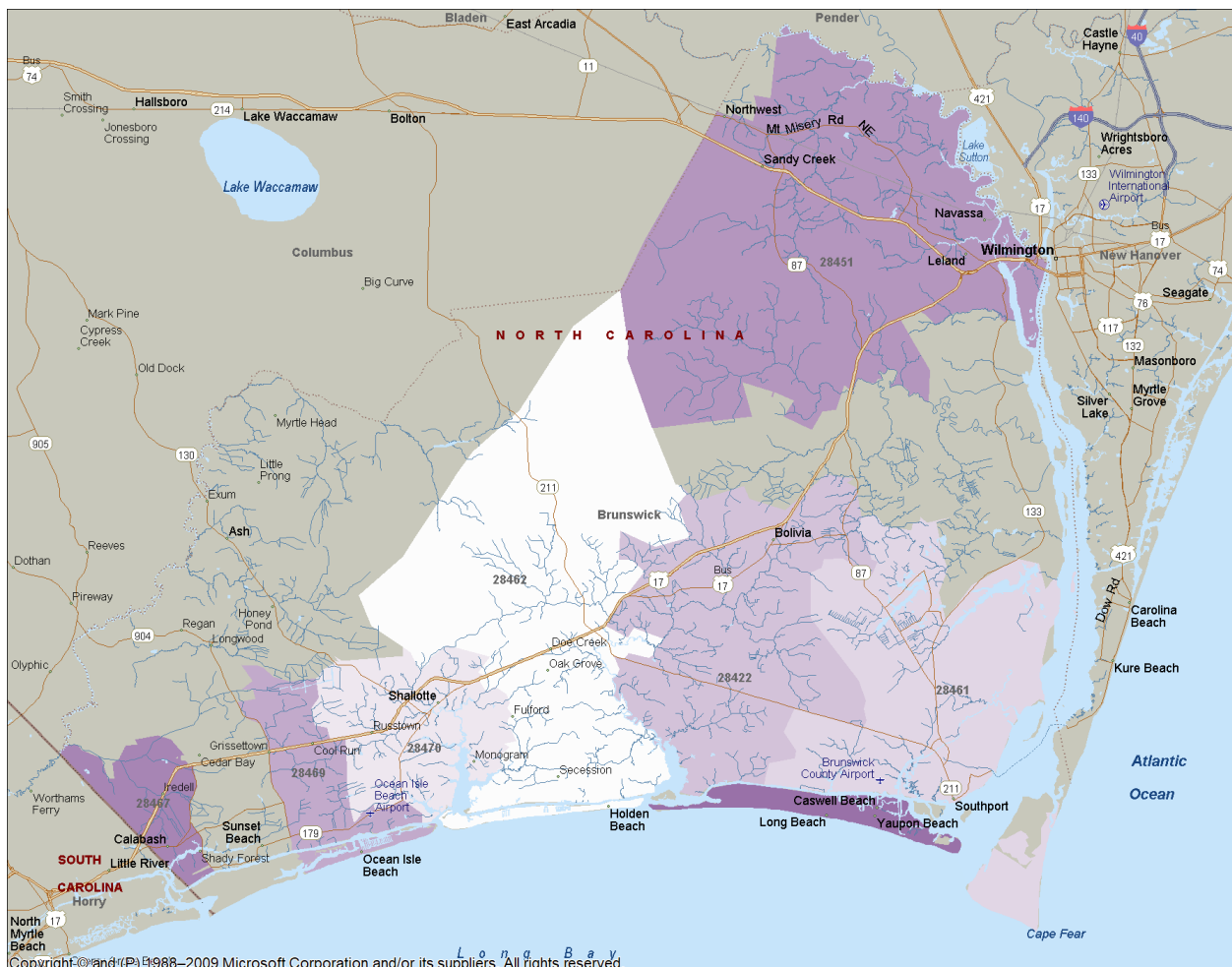
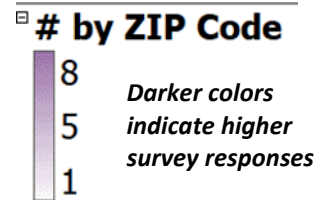
33	Brunswick Wellness Coalition
34	City of Southport
35	Town of Oak Island
36	Dosher Memorial Hospital
37	Town of Caswell Beach
38	Novant Health Brunswick Medical Center
39	Southport Oak Island Chamber of Commerce
40	Brunswick Community College
41	Cape Fear Collective
42	Brunswick County Cooperative Extension
43	Town of Shallotte
44	Cape Fear Collective
45	Brunswick Housing Opportunities
46	Brunswick Family Assistance
47	Brunswick County Chamber of Commerce
48	Brunswick Senior Resources
49	North Brunswick Chamber of Commerce
50	Southport Lions Club
51	Kiwanis- Brunswick County
52	Southport-Oak Island Kiwanis

- *Representative of a state, local, tribal, or regional governmental public health department (or equivalent department or agency)
- For a full list of agencies involved in the CHA process, including those representing underserved, low-income, and minority populations, please see the Brunswick County 2022 CHA report.

VII. Appendix B – Primary Research

The Primary Service Area (PSA) for Novant Health Brunswick Medical Center is defined by the zip codes that represent at least 75% of the hospital’s in-patient population as outlined below.

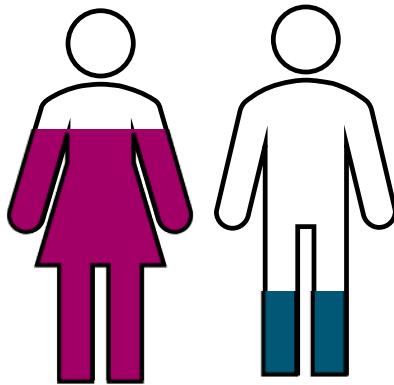
Zip Code	City	County
28462	Supply	BRUNSWICK
28470	Shalotte	BRUNSWICK
28461	Southport	BRUNSWICK
28422	Bolivia	BRUNSWICK
28469	Ocean Isle Beach	BRUNSWICK
28451	Leland	BRUNSWICK
28467	Calabash	BRUNSWICK
28465	Oak Island	BRUNSWICK



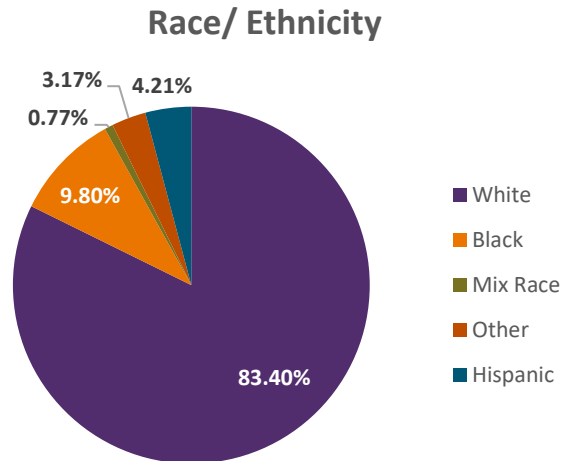
Brunswick County Population: Demographic

A statistically representative sample of the population was surveyed, originally planned to represent a 95% confidence interval and a 5% margin of error equating to 382 participants. The actual response rate was 208% above the target at 795 for all of Brunswick County.

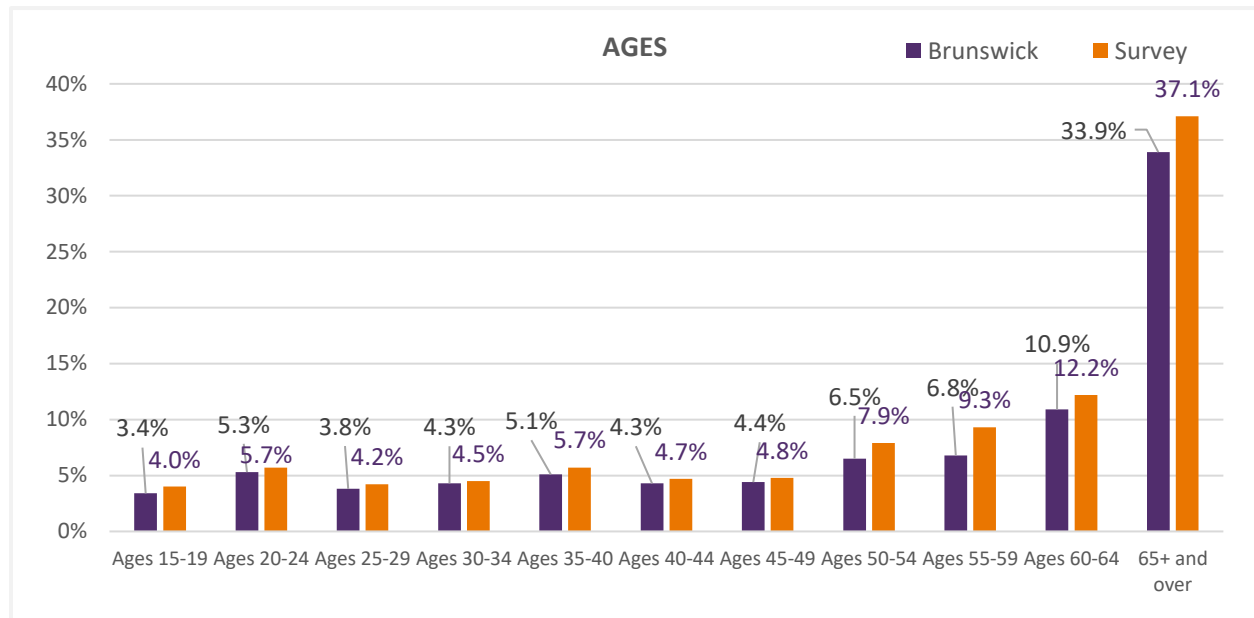
This refined the statistical sample to close at a 97% confidence level and a 3.47 margin of error.



Survey Respondents
Female – 76.6%
Male – 21.9%



Age Mix:



Primary Research:

Question #9: How do you rate the importance of the following HEALTH issues for Brunswick County?

1. Access to Healthcare – 87.4%
2. Health Insurance – 75.3%
3. Elder care options – 71.6%
4. Mental Health – 68.3%
5. Chronic Disease – 65.8%

Question #34: What types of health services are most important to you?

1. Dental Health – 62.9%
2. Routine Wellness Checks – 75.3%
3. Vision Care – 45.8%
4. Cancer Care – 41.2%
5. Heart Disease Care – 36.6%

Question #24 Where do you go to get healthcare services when you are sick?

RESPONSE	# RESPONSES TO CHOS #24	% OF RESPONSES TO CHOS #24
Doctor's Office	712	90.6%
Urgent Care	117	14.9%
Emergency Room	67	8.5%
Community Health Center/Free Clinic	24	3.1%
VA Clinic	20	2.5%
I do not seek care when I am sick	20	2.5%
Other (see below)	12	1.5%
Health Department	6	0.8%
TOTAL	786	
<i>Other: Naturopath, New Hope Clinic</i>		

Question #25 Which Hospital do you primarily use for care?

RESPONSE	# RESPONSES TO CHOS #25	% OF RESPONSES TO CHOS #25
Novant Health Brunswick Medical Center	356	46.4%
Novant New Hanover Medical Center	205	26.7%
Dosher Memorial Hospital	153	19.9%
McLeod Seacoast Hospital	55	7.2%
Other (see below)	55	7.2%
Grand Strand Medical Center	21	2.7%
TOTAL	768	
<i>Other: Cape Fear Memorial (21), Forsyth Medical Center (14), Duke Medical Center (10), Columbus Regional Healthcare (5), Novant Health Charlotte Medical Center (5)</i>		

Question #26 In the past year have you gone to the Emergency Room for non-urgent care?

RESPONSE	# RESPONSES TO CHOS #26	% OF RESPONSES TO CHOS #26
YES	76	9.7%
NO	701	89.4%
Unsure	7	0.9%
TOTAL	784	

Question #27 Where do you go when you need dental care?

RESPONSE	# RESPONSES TO CHOS #27	% OF RESPONSES TO CHOS #27
Private Dentist's Office	668	85.2%
I can't afford dental care	48	6.1%
East Carolina University Dental Clinic	29	3.7%
Other (see below)	28	3.6%
I don't seek dental care	23	2.9%
Community Health Center/Free Clinic	14	1.8%
TOTAL	784	
<i>Other: New Hope Clinic (21), Haven't been in years/fear pain (5), Haven't found a dentist I like yet (2)</i>		

Question #28 Which of the following tests/screenings do you include in your health care?

RESPONSE	# RESPONSES TO CHOS #28	% OF RESPONSES TO CHOS #28
Annual physical or well check	703	89.4%
Blood pressure check	695	88.4%
Cholesterol screening	647	82.3%
Dental cleaning/X-rays	640	81.4%
Vision screening	637	81.0%
A1c or fasting blood sugar	530	67.4%
Mammogram	486	61.8%
Colonoscopy	419	53.3%
Other (see below)	45	5.7%
None	26	3.3%
TOTAL	786	
<i>Other: Pap smear (21), COVID (10), Cancer (5), Thyroid (3), Bone density (2), Obstetrics (2), CT Scan (2)</i>		

Question #29 What health insurance do you have?

RESPONSE	# RESPONSES TO CHOS #29	% OF RESPONSES TO CHOS #29
Medicare or Medicare Supplement	414	52.6%
Private Health Insurance/Employer	307	39.0%
Private Health Insurance/Self	85	10.8%
I do not have health insurance	45	5.7%
Tricare/CHAMPUS	29	3.7%
Veterans' Administration benefits	26	3.3%
Medicaid	20	2.5%
Affordable Care Act	20	2.5%
Other (see below)	16	2.0%
TOTAL	787	
<i>Other: Spouse's insurance - 16</i>		

Question #30 In the past year, what challenges have you had in getting prescription medications?

RESPONSE	# RESPONSES TO CHOS #30	% OF RESPONSES TO CHOS #30
Did not have challenges	548	70.0%
Too expensive (total cost or co-pay)	129	16.5%
Insurance did not cover	105	13.4%
Other (see below)	39	5.0%
Pharmacy hours inconvenient	29	3.7%
Did not have health insurance	27	3.5%
TOTAL	782	
<i>Other: Doughnut hole (12), prescription medication provided by New Hope Clinic (10), Rising medication costs (8), Unable to communicate with doctor office/pharmacy (7), doctor's delay in acting (2).</i>		

Question #32 How would you rate your overall health?

RESPONSE	# RESPONSES TO CHOS #32	% OF RESPONSES TO CHOS #32
Excellent	97	12.3%
Very Good	320	40.7%
Good	298	37.9%
Fair	66	8.4%
Poor	6	0.8%
TOTAL	787	

Question #23 Is your medical care provided in a way that respects your culture?

RESPONSE	# RESPONSES TO CHOS #38	% OF RESPONSES TO CHOS #38
YES	750	96.6%
NO	24	3.1%
TOTAL	774	

Question #33 If you could improve your health, what would you do?

RESPONSE	# RESPONSES TO CHOS #33	% OF RESPONSES TO CHOS #33
Exercise more	600	78.3%
Eat more healthy food	453	59.1%
Manage my disease or condition	135	17.6%
Learn more about healthy living	110	14.4%
Have preventive screenings	105	13.7%
Access mental health services	75	9.8%
Stop or reduce using prescription medications	67	8.8%
Stop or reduce using alcohol	61	8.0%
Stop or reduce using tobacco	45	5.9%
Other (see below)	36	4.7%
I am not interested in improving my health	11	1.7%
Access substance use treatment	6	0.8%
Stop or reduce using illegal drugs	5	0.7%
TOTAL	766	
<i>Other: Lose weight (25), I would be younger (5), I am healthy (5), Nothing (1)</i>		

Question #35 Where do you get health information?

RESPONSE	# RESPONSES TO CHOS #33	% OF RESPONSES TO CHOS #33
Doctor/health professional	730	93.4%
Internet	480	61.4%
Friends or Family	235	30.1%
Newspaper/Magazine	151	19.3%
Television	121	15.5%
Health Department	109	13.9%
Social Media	94	12.0%
Hospital Newsletter	86	11.0%
Other (see below)	42	5.4%
Library	29	3.7%
Radio	22	2.8%
TOTAL	782	
<i>Other: AARP (20), Retired RN or MD (15), Insurance company (7)</i>		

Risk Factors – Primary Research:

Question #9: How do you rate the importance of the following HEALTH issues for Brunswick County?

- 6. Child/Adult Immunizations - 495 (62.3%)
- 11. Pregnancy & infant wellness – 439 (55.2%)
- 12. Teen Births – 438 (55.1%)
- 13. Infant mortality – 387 (48.7%)
- 14. Family planning – 381 (47.9%)
- 15. Child Obesity/Physical Activity – 381 (47.9%)
- 17. Low Birth-Weight babies – 338 (42.5%)

Question #34: What types of health services are most important to you?

17. Maternal/Infant services – 50 (6.4%)

Behavioral Health – Primary Research:

Question #9: How do you rate the importance of the following HEALTH issues for Brunswick County?

4. Mental Health – 543 (68.3%)

(Counseling/Support Groups)

Question #34: What types of health services are most important to you?

7. Mental Health/Depression – 274 (34.8%)

15. Suicide Prevention – 79 (10%)

16. Drug/Alcohol Misuse – 55 (7.0%)

18. Tobacco/Vaping Cessation – 36 (4.6%)

Question #37: Thinking about your mental health, which includes stress, depression, anxiety, and problems managing emotions, how many days during the past month was your mental health 'NOT GOOD'?

DAY RANGE	# RESPONSES TO CHOS #37	% OF RESPONSES TO CHOS #37
0-5 days	609	78.9%
6-10 days	80	10.4%
11-15 days	40	5.2%
16-20 days	23	2.9%
21 days or more	20	2.6%
TOTAL	772	

Question #38 Have you had a traumatic childhood event?

RESPONSE	# RESPONSES TO CHOS #38	% OF RESPONSES TO CHOS #38
YES	231	29.6%
NO	549	70.4%
TOTAL	780	

Question #39 If you answered YES to Question #38, has that negatively impacted your mental health?

RESPONSE	# RESPONSES TO CHOS #39	% OF RESPONSES TO CHOS #39
YES	139	60.2%
NO	92	29.8%
TOTAL	231	

Question #42 Where would you go if you needed help for your mental health and wellness?

RESPONSE	# RESPONSES TO CHOS #42	% OF RESPONSES TO CHOS #42
Primary Care Doctor	459	58.7%
Psychologist or specialist	242	31.0%
Private counselor or therapist	226	28.9%
Friend or Family	134	17.1%
Work (Employee Assistance Program	34	4.4%
Crisis Hotline	32	4.1%
Other (see below)	27	3.5%
Hospital	23	2.9%
Support Groups	22	2.8%
School Counselor	5	0.6%
	782	
Caretaker's Support Group, I don't know where to go		

Question #40 Have you used any of the following illicit drugs in the past year?

RESPONSE	# RESPONSES TO CHOS #40	% OF RESPONSES TO CHOS #40
None of the above	671	86.9%
Marijuana	63	8.2%
Other (see below)	17	2.2%
Cocaine or Crack	15	2.0%
Methamphetamines	6	0.8%
TOTAL	772	
<i>Other:</i> Prescription drugs but not prescribed to me, Glue, Inhalants		

Question #41 Have you taken medication not prescribed to you or in a way other than prescribed in the past year?

RESPONSE	# RESPONSES TO CHOS #41	% OF RESPONSES TO CHOS #41
YES	19	2.4%
NO	759	96.5%
Don't' Know/Not Sure	6	0.8%
Prefer Not to Answer	2	0.3%
TOTAL	786	

Question #44 Please tell us whether you ‘strongly agree’, ‘agree’, ‘disagree’ or ‘strongly disagree’ with the next few statements about substance use services.

STATEMENT	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	DON'T KNOW	TOTAL
In Brunswick County, substance use services are affordable	12	54	89	66	38	519	778
	1.5%	6.9%	11.4%	8.5%	4.9%	66.7%	
In Brunswick County, substance use services are accessible and easy to find	13	69	82	75	50	491	780
	1.7%	8.9%	10.5%	9.6%	6.4%	63.0%	
In Brunswick County, substance use services are high quality	12	37	110	46	36	537	778
	1.5%	4.8%	14.1%	5.9%	4.6%	69.0%	
TOTAL							

Question #43 In the past year, what prevented you from getting mental health care or substance use treatment?

RESPONSE	# RESPONSES TO CHOS #43	% OF RESPONSES TO CHOS #43
Does not apply/Didn't need it	468	63.2%
Diagnosed, but did not seek mental health or substance use care	94	11.3%
Cost was too high (private pay, co-pay or deductible)	59	8.0%
Not enough providers	58	7.8%
Didn't know where to go	55	7.4%
Other (see below)	54	7.3%
Health insurance didn't cover	35	4.7%
Guilt or Shame about mental health/substance use issue	33	4.5%
Work interferes with appointment times	28	3.8%
Don't believe treatment will help	25	3.4%
Provider doesn't accept my insurance	23	3.1%
Not ready to face the problem	23	3.1%
No transportation	11	1.5%
TOTAL	741	
<i>Other: Therapist left area (34), Work repercussions (20)</i>		

Question #31 Do you currently use any cigarettes, tobacco, nicotine products or chew tobacco?

RESPONSE	# RESPONSES TO CHOS #31	% OF RESPONSES TO CHOS #31
YES	60	7.7%
NO	724	92.4%
TOTAL	784	

Social Indicators – Primary Research:

The following environmental concerns were expressed by residents of Brunswick County in the Community Health Opinion Survey as the most urgent, challenging, and resource-intensive issues.

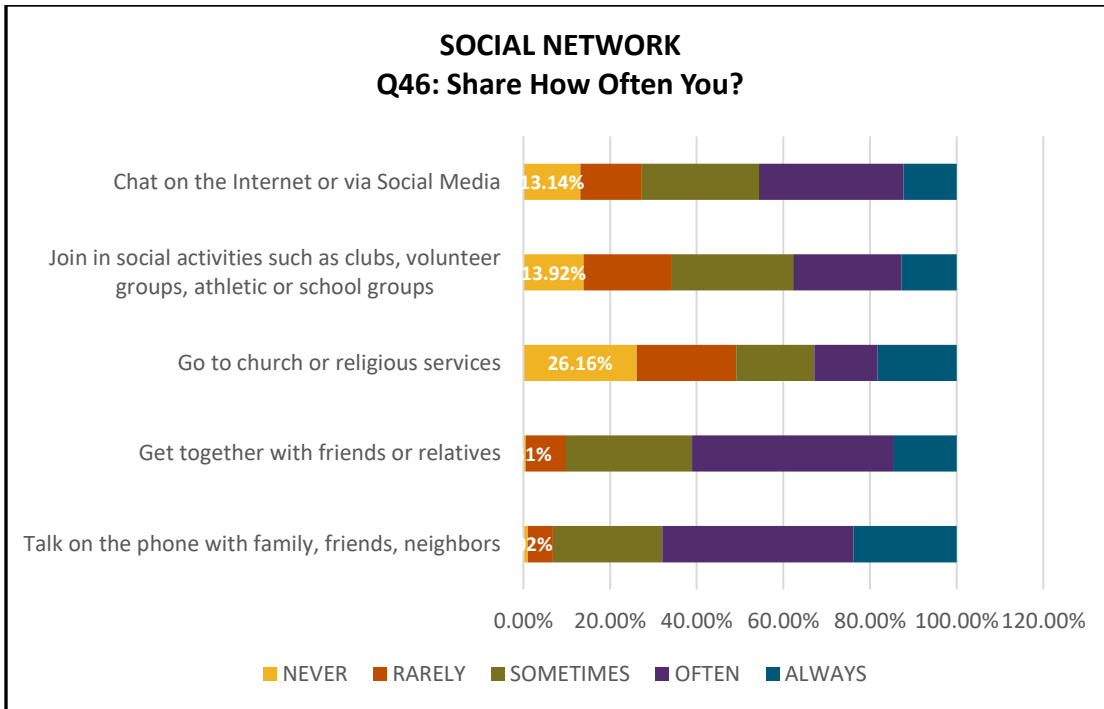
Question #45 Below is a list of Environmental Risks that may be found in Brunswick County. Please review each risk and select whether you feel that risk is the Most Urgent, Most Challenging, or Most Resource-Intense to Correct.

MOST URGENT	MOST CHALLENGING	MOST RESOURCE INTENSIVE TO CORRECT
(1) Safe drinking water – 79%	(1) Accidents – 49%	(1) Trail, playgrounds, and parks where you live –38%
(2) Water pollution - 68%	(2) Pesticides – 48%	(2) Indoor air pollution-37%
(3) Over-Development -58%	(3) Indoor air pollution-45%	(3) Coastal climate change- 25%
(4) Coastal climate change-45%	(4) Outdoor air pollution-43%	(4) Clean air – 25%
(5) Housing – 44%	(5) Waste disposal – 41%	(5) Waste disposal – 24%
(6) Violence -43%	(6) Personal safety-40%	(6) Outdoor air pollution -24%
(7) Clean air – 42%	(7) Violence – 37%	(7) Pesticides – 23%
(8) Personal safety – 41%	(8) Trails, playground, parks where you live – 36%	(8) Housing – 22%
(9) Clean air – 41%	(9) Housing – 34%	(9) Violence – 18%
(10) Waste disposal – 35%	(10) Clean air – 33%	(10) Personal safety – 17%

5. Social Network – this data is solely from Primary Research: The Community Health Opinion Survey

Question 45: Share with us how often you?

Share how often you:	NEVER	RARELY	SOMETIMES	OFTEN	ALWAYS
Talk on the phone with family, friends, neighbors	1.02%	5.75%	25.32%	44.12%	23.79%
Get together with friends or relatives	0.51%	9.35%	29.07%	46.35%	14.72%
Go to church or religious services	26.16%	22.94%	18.04%	14.56%	18.30%
Join in social activities such as clubs, volunteer groups, athletic or school groups	13.92%	20.36%	27.96%	25.00%	12.76%
Chat on the Internet or via Social Media	13.14%	14.18%	27.06%	33.38%	12.24%



Transportation Availability – Primary Research:

Question #8: How do you rate the importance of the following community issues for Brunswick County?

#9 Transportation – 380 respondents (48.0%)

Question #18: What form of transportation do you use most often?

FORM OF TRANSPORTATION	#	%
Personally owned/family vehicle	760	96.3%
Family member/friend’s vehicle	17	2.2%
Uber/LYFT/Concierge driver services	9	1.1%
Public transportation	3	0.4%
TOTAL	789	100.0%

Question #19: In the past year, has lack of transportation kept you from going to medical appointments, other appointments, or work?

LACK OF TRANSPORTATION KEPT YOU?	#	%
Yes	34	4.3%
<i>Q43: In the past year, what prevented you from getting mental health or substance use treatment?</i>	11	1.1%
No	752	95.7%
TOTAL	786	100.0%

Question #34 What types of health services are most important to you? (Select the top 5 most important to you?)

N=786	
Q #34: TYPE OF HEALTH SERVICES MOST IMPORTANT	
<ol style="list-style-type: none"> 1. Dental Care – 498 (63.4%) 2. Routine Wellness – 464 (59.0%) 3. Vision Care – 356 (45.3%) 4. Cancer Care – 320 (41.3%) 5. High Blood Pressure Management – 284 (36.1%) 6. Heart Disease Care – 280 (36.0%) 7. Mental Health/Depression – 274 (34.8%) 8. Alzheimer’s/Dementia Care – 211 (26.8%) 9. Diabetes Care – 209 (26.6%) 10. Disease outbreak prevention – 206 (26.2%) 11. Weight loss support – 181 (23.0%) 12. Emergency preparedness – 167 (21.2%) 13. Colorectal/ Cancer screening – 126 (16.0%) 14. Telehealth – 84 (10.7%) 15. Suicide prevention – 79 (10%) 16. Drug/Alcohol misuse – 55 (7.0%) 17. Maternal/Infant services – 50 (6.4%) 18. Tobacco/Vaping cessation – 36 (4.6%) 19. Other – 34* (4.3%) 20. Sexually Transmitted Disease Care – 21 (2.7%) 21. HIV/AIDS Care & Medications – 15 (1.9%) 	<p>* Other: Natural Health (2), In-Home Care/ Assistance, Pulmonary care, Osteoporosis, Geriatric/Caregiver support options, Kidney disease care, Autism options like ABA, (Applied Behavioral Analysis), Spine Health, Access to Abortion, Internist, COPD (Chronic Obstructive Pulmonary Disease), Parkinson’s care, Mobility, Hearing.</p>

Question #9 How do you rate the importance of the following HEALTH ISSUES for Brunswick County?
(Select Below)

N=795
HEALTH – Q #9
1. Access to Healthcare – 695 (87.4%)
2. Health Insurance – 599 (75.3%)
3. Elder care options – 569 (71.6%)
4. Mental Health – 543 (68.3%) (Counseling/Support Groups)
5. Chronic Disease – 523 (65.8%)
6. Child/Adult Immunizations – 495 (62.3%)
7. Cancer – 493 (62.0%)
8. Health Resource Information – 472 (59.4%)
9. Respite for Caregivers – 450 (56.6%)
10. Dental health – 441 (55.5%)
11. Pregnancy & infant wellness – 439 (55.2%)
12. Teen Births – 438 (55.1%)
13. Infant mortality – 387 (48.7%)
14. Family planning – 381 (47.9%)
15. Child obesity/Physical Activity – 381 (47.9%)
16. Asthma/Lung disease – 340 (42.8%)
17. Low Birth-Weight babies – 338 (42.5%)

N=792
COMMUNITY - Q #8
1. Child maltreatment – 589 (74.4%)
2. Domestic/Sexual Violence – 555 (70.0%)
3. Violent Crime – 507 (64.0%)
4. Educational Opportunities – 494 (62.4%)
5. Services for Disabled – 485 (61.2%)
6. Discrimination/Racism – 471 (59.5%)
7. Poverty – 470 (59.3%)
8. Homelessness – 395 (49.9%)
9. Transportation – 380 (48.0%)
10. High paying jobs – 341 (43.1%)
11. Culturally appropriate – 317 (40.0%)
12. Positive youth services – 1 (.13%)
13. Family focused – 1 (.13%)

Data Collection and Analysis - Primary Data

The Community Health Opinion Survey resulted in 795 residents responding to a 46-question survey instrument. Data collection occurred from late June through mid-September of 2022. The survey samples targeted 382 total residents with a confidence interval of 95% and 5-point margin of error. Due to enthusiastic response and persistent outreach, the actual confidence interval concluded with 795 responses at a 97% confidence interval and a 3.5-point margin of error. Survey distribution occurred at the following sites:

1. Brunswick Wellness Coalition	11. Christian Recovery Centers
2. Brunswick Resiliency Taskforce	12. Hope Harbor Homes
3. Cape Fear Health Net	13. New Hope Clinic
4. Cedar Grove Community Center	14. Brunswick Baptist Association
5. Senior Resources (all their Senior center locations)	15. Communities In Schools
6. Town of Leland	16. Town of Shallotte
7. Brunswick Transit	17. Smart Start
8. Brunswick County WIC & Traffic Court	18. Brunswick Family Assistance
9. Town of St. James	19. Brunswick County Schools
10. Coastal Horizons	20. Brunswick County Department of Social Services (DSS)

In addition, on-site survey collection occurred at:

1. Shallotte Farmer's Market (7/9)
2. Oak Island Farmer's Market (7/11)

VIII. Appendix C – Qualitative Research

Qualitative Data:

In two focus groups (one at a substance use provider and the other at an African American association), the following input was received related to clinical care.

Primary Care: A few individuals reported utilizing the emergency room for non-urgent primary care. The group discussed the lack of available primary care physicians in the area and expressed the need for specialty care physicians.

Access to the medical center could be improved to get the best care possible and not sit in the Emergency Department all night long. They agreed it was important for healthcare providers to be representative of our population and experiences. Someone who is relatable to us and understands our health challenges.

Dental Care: A few participants expressed that Dental care is difficult to locate and access affordable dental care.

Risk Factors – Qualitative Data:

In two focus groups (one at a substance use provider and the other at an African American association), the following input was received related to obstetrics and child care.

Maternal Reproductive Care: The group discussed the lack of available reproductive care physicians in the area and expressed the need for specialty care physicians. They wished that healthcare providers could be representative of our population and experiences.

Behavioral Health – Qualitative Data:

In two focus groups (one at a substance use provider and the other at an African American association), the following input was received related to behavioral health services.

The group discussed the need for mental health professionals, and the scarcity of counselors, available appointment times let alone culturally representative staff.

Social Indicators – Qualitative Data: Numerous comments were made about the pressing need for retirees to have more social outlets as they have largely moved absent from their family. The range of activities ran from volunteer opportunities to recreational outlets, and education for the sake of learning, non-degree oriented.

Transportation Availability – Qualitative Data: Comments were made in the key informant interviews about issues with transportation, particularly as Brunswick County becomes over-developed.

Accessibility of Food – Qualitative Data: Extensive comments were made during survey collection, much of which occurred at food markets and pantries. The comments ranged from inconvenient locations and/or hours (primarily weekends) to the desire to learn more about food preparation. In key informant interviews, this suggestion was strongly made by retirees, especially those living alone that had never historically prepared meals.

Access to Healthcare – Qualitative Data: The most frequent reason provided by adults responding to the Community Health Opinion Survey that are uninsured is the affordability of health insurance.