



Novant Health Brunswick Medical Center

Community Health Needs Assessment

Brunswick County, North Carolina

2016-2018

Approved by the Novant Health Brunswick Medical Center Board of Trustees on July 26, 2016

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I. Introduction

Novant Health Brunswick Medical Center, in partnership with Brunswick County Health Services conducted a community health needs assessment in 2015 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 Brunswick Medical Center is an integral part of the Novant Health system (collectively known as "Novant Health"). Novant Health is a non-profit integrated health care system of 14 medical centers and a medical group with over 500 clinic locations. Other facilities and programs include outpatient surgery and diagnostic centers, charitable foundations, rehabilitation programs, and community health outreach programs. Novant Health and its affiliates serve their communities with programs including health education, home health care, prenatal clinics, community clinics and immunization services. Novant Health's over 25,000 employees and physician partners care for patients and communities in North Carolina, Virginia, South Carolina and Georgia.

Mission

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

Our employees and physician partners strive every day to bring our mission, vision and values to life. We demonstrate this commitment to our patients in many different ways. 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 good corporate citizen, working with community agencies and organizations to make our communities better places to live and work.

Novant Health Brunswick Medical Center (NHBMC), was opened in 1977 as Brunswick Community Hospital, an acute care facility in the heart of Brunswick County. In 2006, Novant Health was selected by Brunswick County Hospital Authority to provide healthcare services to counties in eastern North Carolina. In 2011, our new facility opened its doors to the community. NHBMC is a 74-bed facility that provides maternity care, emergency services, surgery, outpatient diagnostic testing and other community healthcare programs.

b. Our Community

Primary and Secondary Service Areas

The Primary Service Area for Novant Health Brunswick Medical Center is defined by the zip codes that represent 75% to 85% of the hospital’s in-patient population as outlined below:

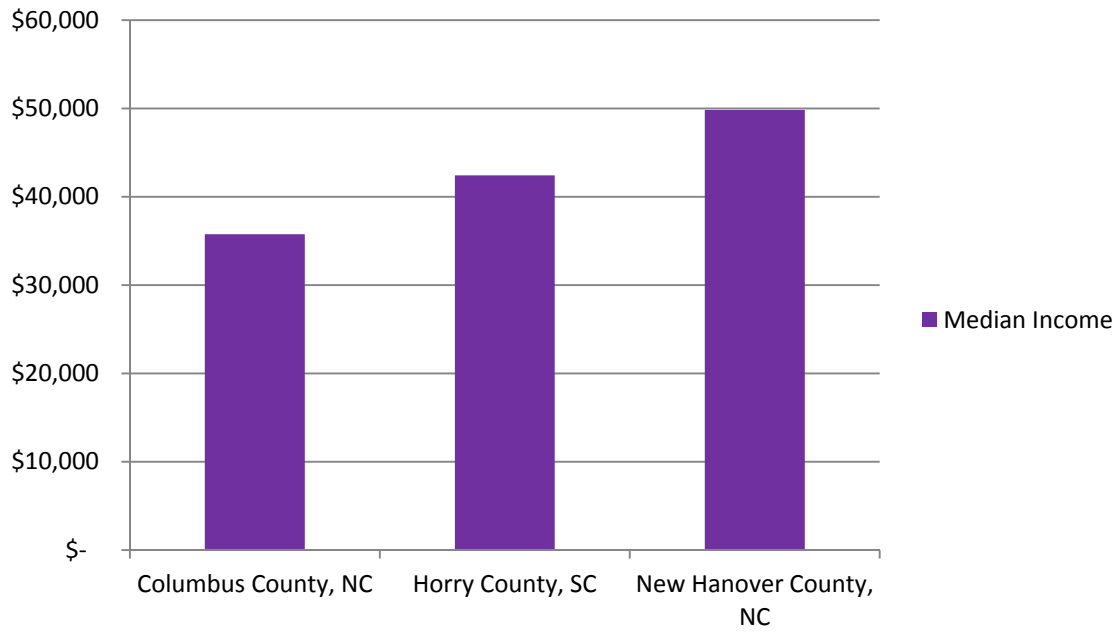
Zip Code	City	County
28420	Ash	Brunswick
28422	Bolivia	Brunswick
28451	Leland	Brunswick
28452	Longwood	Brunswick
28459	Shalotte	Brunswick
28461	Southport	Brunswick
28462	Supply	Brunswick
28465	Oak Island	Brunswick
28467	Calabash	Brunswick
28468	Sunset Beach	Brunswick
28469	Ocean Isle beach	Brunswick
28470	Shalotte	Brunswick
28479	Winnabow	Brunswick

Brunswick County, NHBMC’s primary service area and defined community, includes the county seat of Bolivia. Based on 2014 estimates¹, Brunswick County has a population of 118,836 residents. Estimates indicate that Brunswick County’s population grew 10.6% since the 2010 US Census when there were an estimated 107,431 county residents. The County covers an 846.97 square mile area, with an average of 126.8 persons per square mile.

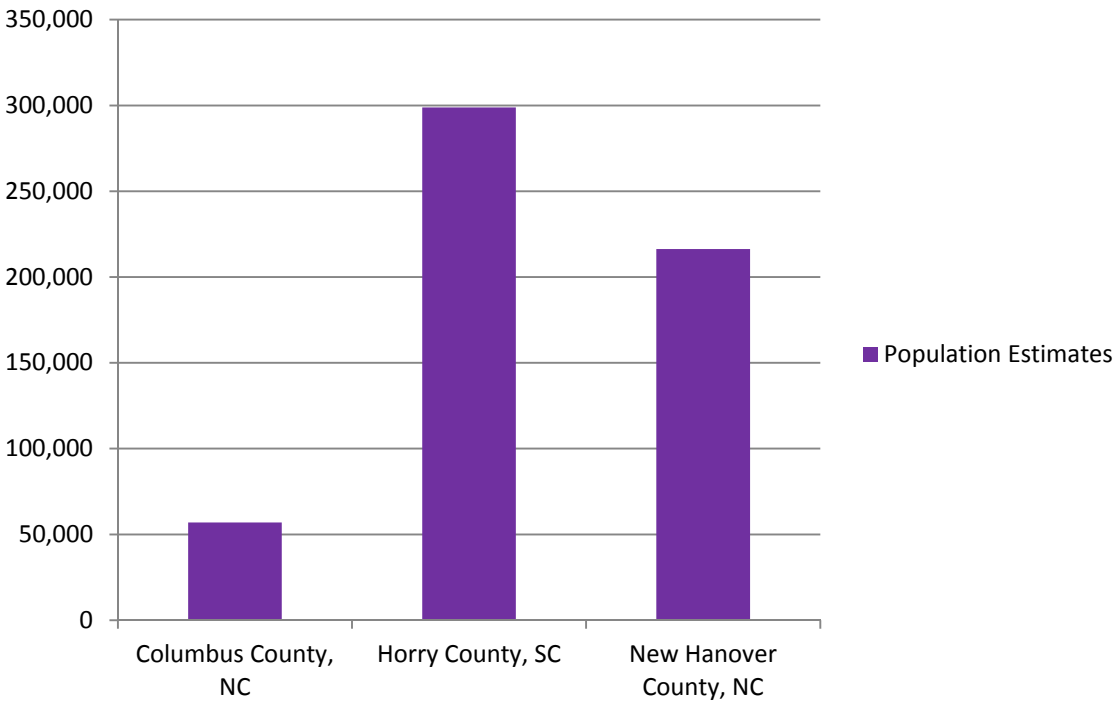
The Primary Service Area includes the Cities of Ash, Bolivia, Leland, Longwood, Shalotte, Southport Supply, Oak Island, Calabash, Sunset Beach, Ocean Isle Beach and Winnabow, which are all located in Brunswick County. The Secondary Service Area for Novant Health Brunswick Medical Center covers a three county radius, including: Columbus and New Hanover Counties, North Carolina, and Horry County, South Carolina. According to the 2014 U.S. Census estimates, the aforementioned counties include the following demographic profiles:

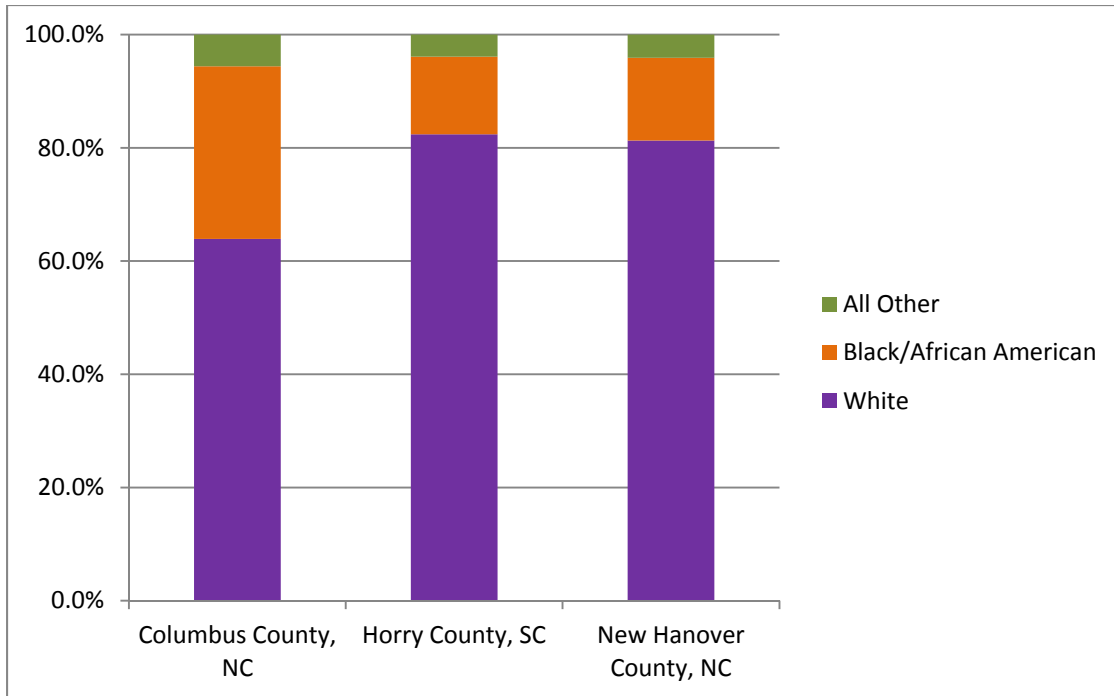
¹ Us Census Bureau. State and County QuickFacts. <http://quickfacts.census.gov/qfd/states/37/37019.html>

Median Income



Population Estimates





Population

Brunswick County is more rural in nature, with only 43%² of the population living in rural areas. The county is home to 45 miles of south-facing beaches, which has opened the door to immense population growth since 2010. Demographic data for Brunswick County is outlined below:

Forsyth County Population By Race & Ethnicity (2014)

	Brunswick County	North Carolina
Population Estimate	118,836	9,943,964
Persons Under 5 Years, percent 2014	4.5%	6.1%
Persons Under 18 Years, percent 2014	17.2%	23.0%
Person 65 Years & Over, percent 2014	27.0%	14.7%
Female Persons, percent 2014	51.4%	51.3%
White Alone, percent 2014	85.4%	71.5%
Black/African-American Alone, percent 2014	11.2%	22.1%
American Indian & Alaska Native Alone, percent 2014	0.9%	1.6%
Asian Alone, percent 2014	0.7%	2.7%
Native Hawaiian & Other Pacific Islander Alone, percent 2014	0.1%	0.1%
Two or More Races, percent 2014	1.7%	2.1%
Hispanic or Latino, percent 2014	4.8%	9.0%

Source: U.S. Census Bureau (2014).

²NC Economic Data and Site Information, 2015, <http://accessnc.commerce.state.nc.us/docs/countyProfile/NC/37019.pdf>

Children and adolescents make up just over one quarter (21.7%) of the population in Brunswick County, while seniors make up 27.0% of the population. Non-white minorities currently make up 19.4% of the racial demographic in Brunswick County.

Brunswick County residents earn a median income that is similar to the North Carolina state average. According to the U.S. Census 2014 American Community Survey, about one quarter (25.1%) of Brunswick County residents aged 25+ have attained a bachelor’s degree or higher³. A key indicator to evaluate economic condition of Brunswick County is the poverty rate. The poverty rate for Brunswick County residents aged 25+ based on educational attainment indicates that the higher educational attainment, the lower the rate of poverty for those educational groups. US Census data also indicates that the number of persons and children living in poverty in Brunswick County is similar to North Carolina state averages (16% and 17%; and 28% and 25%, respectively).

Median Household Income		Population Educational Attainment (25+ yrs old)		Poverty Rate based on Educational Attainment (25+ yrs old)	
Brunswick County	\$46,438	HS diploma/GED or higher	86.3%	< HS diploma/GED	27.4%
				HS diploma/GED	14.6%
North Carolina	\$46,596	Bachelor’s degree or higher	25.1%	Some college or associate’s degree	12.6%
				Bachelor’s degree or higher	4.0%

II. Assessment

The following are excerpts and findings from the 2015 Brunswick County Community Health Assessment. To access the full report, please visit <http://www.brunswickcountync.gov/health/>

a) Collaborative community partners

Local Health Departments in North Carolina are required to conduct a comprehensive community health needs assessment to maintain local health department accreditation. The 2015 Brunswick County Community Health Assessment (CHA) is a collaborative effort of Brunswick County Health Services (BCHS), Novant Health Brunswick Medical Center, Doshier Memorial Hospital, and numerous community agencies and organizations. As part of this assessment process, special attention was paid to the needs of the underserved. The process emphasized collaboration among community partners to improve the overall health of the community.

The assessment process was initiated by BCHS, community not-for-profits, and other city/county

³ Us Census Bureau. State and County QuickFacts <http://quickfacts.census.gov/qfd/states/37/37019.html>

agencies and community members. Novant Health Brunswick Medical Center and Doshier Memorial Hospital were jointly involved as collaborative partners in the process. To ensure input from public health professionals, leaders of medically underserved communities, and persons with broad knowledge of the community, invitations were distributed to a large number of individuals and community groups to form the CHA Advisory Committee to oversee the process. Additional working groups were formed from this team:

- The Advisory Committee met prior to the primary data collection phase (June 2015) and again to review the analyses and begin the process of developing priorities (December 2015)
- The CHA Work Group met monthly from June through January, and as needed

The CHA was strengthened by the collaborative nature and engagement of the Advisory Committee and Work Group. The efforts of the CHA team and other community agencies and individuals were instrumental in ensuring diversity during the CHA process

(See Appendix A for a complete list of agencies that were represented on the advisory and data groups.

Please see the Brunswick County Community Health Assessment Report at

<http://www.brunswickcountync.gov/health/> for a listing of individual participant names).

b) *Solicitation*

We solicited input from persons who represent the broad interest of Brunswick County, NC including Hispanics, persons living in poverty and those without a high school degree. Through stratified convenience sampling methodology that was employed for the Community Health Opinion Survey, this ensured broad input from Brunswick's diverse community was sought after, including the underserved.

c) *Data collection and analysis*

Primary Data

The Community Health Opinion Survey

In an effort to maximize resources and minimize duplication of efforts and impact on the community, BCHS used the same survey instrument that was used by Doshier Memorial Hospital (Doshier) for their 2015 Community Health Needs. A sample of the Brunswick County population was identified using a stratified convenience sampling approach. The Doshier survey data was heavily weighted by Doshier's primary service area (Southport and surrounding areas), so the CHA's survey focused on other areas of Brunswick County in an attempt to improve representativeness.

BCHS staff and collaborators strived to solicit input from all factions of the community, including the most vulnerable populations. To fulfill this endeavor, invitations to complete the survey were distributed widely throughout the community in a variety of fashions, which included print, online, television/media outlets, email lists of community members, homeowner associations, employers, government agencies, the public school system, the community college and health care providers. Doshier's survey was open from December 2014 through February 2015 and the BCHS survey was open from June 2015 through November 2015.

Focus Groups and Listening Groups

For additional primary data for the 2015 CHA, BCHS employed small focus group meetings to supplement survey data and improve the diversity of community members providing input. Doshier Memorial Hospital hosted two focus groups and BCHS hosted five listening groups at various locations throughout the community. Focus group participants were primarily African American of varied ages. An assessment was made of group responses to all the questions addressed in the meeting. The focus group's qualitative and exploratory data was not used for statistical validity. The qualitative analysis of the data was prepared by staff of BCHS.

Secondary Data

Along with the outlined primary data, secondary data was collected from other sources and reviewed. Health data was gathered and analyzed from the following sources:

- North Carolina State Center for Health Statistics
- The US Census Bureau
- 2015 County Health Rankings
- Data from Brunswick County agencies, organizations and businesses

III. Identification & Prioritization of Health Needs

a) Identified Significant Health Needs

From participant responses, several social, behavioral, and clinical health needs were identified based on highest rank in responses after analyzing and interpreting Brunswick County's primary and secondary data. Overall findings included the following:

- Results from the Community Health Opinion Survey suggest that Brunswick County residents are concerned about chronic disease, drug and alcohol abuse, and obesity.
- The top seven leading causes of death among Brunswick County residents in 2014 include cancer, heart disease, chronic lower respiratory disease, cerebrovascular disease, unintentional injury, diabetes and Alzheimer's disease.
- Smoking during pregnancy continues to be problematic in Brunswick County with the percentage of pregnant women who smoked during pregnancy being 15.1%, which is considerably higher than the NC State average.
- Brunswick County had the highest percentage of current adult smokers among peer counties; estimates from 2012 suggest that the current percentage of adult smokers in Brunswick County is higher than 20%
- Regarding access to care/family health responses, when sick, barriers cited related to the factor that most affects the quality of health care in the Brunswick County community included economic factors such as low income and no insurance as the most frequent response (67.8%).
- The top social issues for community residents impacting their ability to pay for specific needs included lack of food, shelter, health insurance, transportation, medicine and utilities. The most frequent response was health insurance (71.3%) followed by medicine (57.2%).

b) Prioritization

Upon completion of the primary and secondary analyses, a series of community meetings were held to review the analysis and discuss priority areas. In addition, the data books were distributed to community partners for review and comment. The identified health needs were ranked according to years of potential life lost and magnitude of these issues.

The weighted scores were used to identify the top priorities with the following results:

- 1) Smoking while pregnant
- 2) Chronic diseases, including diabetes, cancer and hypertension
- 3) Substance Abuse/Mental health broadly to include drugs, alcohol, smoking, access to mental health services.

Recommended Prioritized Health Outcomes

Based on these prioritized health needs, health and wellness priority areas were identified through an analysis of health indicators identified through the CHA as part of a combined weighted overlay analysis based on 2010 Census data, built environment amenities, and proximity to facilities that support healthy lifestyles. Below is a summary of those recommendations:

- *Smoking While Pregnant:* develop an approach to increase social cohesion and provide health education, increase access to healthcare providers, increase access to active transportation facilities
- *Chronic Diseases. Including diabetes, cancer and hypertension:* increase access to healthcare providers, increase access to dental facilities, increase social cohesion and provide health education, increase access to full-service grocery stores, increase access to active transportation facilities, increase elderly transit access, and increase access to physical activity facilities
- *Substance Abuse/Mental Health broadly to include drugs, alcohol, smoking, access to mental health services:* increase social cohesion and provide health education, increase access to physical activity facilities, and increase access to healthcare providers

Facility prioritization

In addition to the community rankings, Novant Health Brunswick Medical Center reviewed the top five diagnosis codes for inpatient and outpatient hospital emergency room visits year-to-date January to July 2015.

Novant Health Brunswick Medical Center Emergency Department
Top 5 Diagnoses YTD Jan-July 2015

Inpatient		Outpatient	
Diagnosis	Volume	Diagnosis	Volume
Pneumonia, organism NOS	91	Acute urinary tract infection NOS	310
Urinary tract infection NOS	49	Urinary tract infection NOS	295
Chest pain NEC	17	Chest pain NEC	280

Chest pain, NOS	14	Bronchitis	257
Flu w resp manifest NEC	5	Chest pain NOS	228
		Lumbago	228

A review of the hospital emergency room visits indicated that many of the top inpatient diagnosis codes are correlated with the chronic diseases identified in the CHA. Upon analysis of the outpatient diagnosis codes, it was apparent that many of the patients seen had symptoms that could be related to a number of chronic conditions, including (but not limited to) heart disease, chronic lower respiratory disease, and chronic issues related to aging.

Upon a comprehensive review of the community’s recommended prioritized outcomes 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, 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 three top significant health priorities for Novant Health Brunswick Medical Center:

1. Chronic Diseases, including Diabetes
2. Infant mortality, including smoking while pregnant
3. Mental Health

IV. Addressing needs

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

Chronic Diseases, including diabetes:

- Diabetes (A1C) community screenings
- Diabetes education
- BMI screenings
- Community health education, chronic disease prevention and wellness

Infant Mortality, including smoking while pregnant:

- Community pledge for smoking cessation while pregnant
- Community education

Mental Health

- Mental health social and environmental improvement

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

Identified Significant Health Need	Local Community Resources Addressing Needs
<ul style="list-style-type: none"> - <i>Access to Care</i> - <i>Chronic disease</i> - <i>Drug and alcohol abuse</i> - <i>Quality of care</i> 	<p>Brunswick County Health Services:</p> <ul style="list-style-type: none"> • General Health Clinic • Women, Infant and Children (WIC) • Care Coordination for Children (CC4C) • Child Screening Clinic • Pediatric Primary Care • Pregnancy Care Management • Maternity Clinic • Postpartum & Newborn Home Visits • Women’s Preventative Health (Family Planning) • Breast and Cervical Cancer Control Program (BCCCP) • Environmental Health • Health Education – Health Promotion • Diabetes Education • Laboratory Services • Mobile Health Unit Outreach services • Vital Records • Communicable Disease – confidential testing clinic • Tuberculosis Clinic • Brunswick Adult Medical Clinic • Cape Fear Clinic • Cape Fear HealthNet • The Cape Fear Walk-In Crisis Clinic • CommWell Health of Shallotte & Supply • Good Shepherd Clinic • The Harbor • Little River Medical Center • MedNorth Health Center • New Hope Clinic • Trillium Health Resources (formerly Coastal Care) • Vocational Rehabilitation <p>Senior Services</p> <ul style="list-style-type: none"> • AssistedCare • BrightStar Care • Coastal Companion Care • Elderhaus • Liberty Home Health • Well Care Home Health
<p>Family related resources addressing:</p>	<ul style="list-style-type: none"> • Bridge Builders

<ul style="list-style-type: none"> - Access to care - Behavioral health - Homelessness and housing - Smoking during pregnancy 	<ul style="list-style-type: none"> • Cape Fear Psychological Association • Carolina Counseling Center • Children’s Developmental Services Agency • Clinic for Special Children • Community Alternative Program for Children • Cooperative Extension Parenting Educator • East Coast Migrant Head Start • ECAC Parent Center • First in Families • Goodwill • Smart Start of Brunswick County • Teen Family Resource Center • Sharing our Bounty
<ul style="list-style-type: none"> - Poverty 	<ul style="list-style-type: none"> • Bread for Life Ministries • Brigade • Brunswick Senior Resources, Inc. • CIS – Wire Program • Community Boys & Girls Club • Habitat for Humanity ReStore • Hope Chest Thrift Store • Houston Moore Afterschool • Kids Making It • Matthew’s Ministry • Nourish NC • Pleasant Grove Missionary • Supply Elementary • Wilmington Family YMCA • Wings • World of Life Outreach • WRAAP • Ambassadors for Christ • Bethany Presbyterian Church • Brunswick Family Assistance Center • Brunswick Island Baptist Church • Camp United Methodist • Cape Fear Christian Church • Catholic Charities • Countywide CDC • Dixon Chapel UMC • First Fruit Ministries

	<ul style="list-style-type: none"> • First in Families • Full Circle Ministry • Helping Hands/St. Stanislaus Church • Mother Hubbard’s Cupboard • Inspiration House of Praise • Love of Christ Church • Myrtle Grove • Ocean View United Methodist • Pleasant Grove Missionary Baptist • Salvation & Deliverance • Salvation Army • Seaside United Methodist • Shoreline Baptist Church • Son-rise Independent Baptist Church • Southport Interfaith Pantry • St. Jude’s Metropolitan Community Church • St. Brendan’s Catholic Church • St. Mary • The Lord’s Church • The Rock Church • Towncreek Vision • Trinity Mission Baptist • Trinity Tabernacle • Upper Room Praise & Worship • Victory Independent Baptist Church • Wrightsboro United Methodist Church • Faith Building Missions • First Fruit Ministries • Good Shepherd Center • Martha’s Kitchen • Salvation Army • St. Peter the Fisherman Church • Food Bank of Central and Eastern NC
<p>- <i>Drug and alcohol abuse</i></p>	<ul style="list-style-type: none"> • Coastal Horizons Center, Inc. • Delta Behavioral Health • Learning Perspectives • NC Mentor • Trillium Health Resources • Physician Alliance for Mental Health • The Harbor

	<ul style="list-style-type: none"> • Wilmington Health Access for Teens
<p>Social Issues addressing:</p> <ul style="list-style-type: none"> - <i>Affordability of insurance, healthcare and utilities</i> - <i>Homelessness and housing</i> - <i>Poverty</i> - <i>Transportation</i> 	<ul style="list-style-type: none"> • Catholic Social Ministries • Family Support Network of Southeastern NCF • St. Mary’s Social Ministries • Wilmington Baptist Association • Helping Hand Counseling Center • Amez Housing • Cape Fear Housing • Volunteers of America at Willow Pool • WARM (Wilmington Area Rebuilding Ministry) • Coastal Horizons Shelter • Domestic Violence Shelter & Services Inc • First Fruit Ministries Shelter • Good Shepherd Center Shelter • Hope Harbor Shelter • Mercy House Shelter • Salvation Army Wilmington • Brunswick County Medicaid Transportation Services • Brunswick Transit System • WAVE – Public Transit

V. Impact Evaluation of 2013-2015 Community Health Needs Assessment

Based on the previously reported health data from the 2013-2015 Community Health Needs Assessment, the Novant Health Brunswick Board of Trustees did a collective review of community feedback and prioritization, and determined the top health priorities for Novant Health Brunswick Medical Center as the following: **Diabetes, Obesity and Smoking During Pregnancy.**

To address these priorities, Novant Health Brunswick Medical Center committed to providing community education, screenings and support groups to address these needs, as well as youth-focused physical activity and nutrition programs. From 2013-2015, Novant Health Brunswick Medical Center was successful in implementing selected outreach programs for each of the defined priority areas while meeting the goals established for each program. The major program goal that was set for each priority area was to increase the number of community members reached through screenings and health education. This goal was met by each community outreach program. Specific objectives and measures achieved are described below:

- 1) Priority Area: Diabetes— Over 500 community members were reached through A1C screenings to measure one’s risk for diabetes. In addition, NHBMC created new diabetes education classes that

addressed topics around diabetes prevention, healthy lifestyle and diabetes management. Screenings and educational classes were made available to community members at community centers, Churches, schools, and at local community events as requested.

- 2) Priority Area: Childhood Obesity – NHBMC committed to adding a new program centered on childhood obesity. Five new programs were offered at schools throughout the community. These programs addressed health education specific to nutrition and weight management.
- 3) Priority Area: Maternal & Infant Health (Smoking During Pregnancy) – To address the prevalence of mothers who smoke while pregnant in Brunswick County, NHBMC provided resources for providers to make referrals to expectant mothers through OBGYN practices. In addition, additional smoking cessation courses were offered to the community-at-large to help provide additional resources to expectant mothers who smoke.

Appendix A: Advisory Committee Agency Representatives and CHA Work Group Agency Representatives

CHA Primary Data Working Group
Agency
Novant Health*
Brunswick County Health and Human Services
New Hanover Co. Health Dept.*
Coastal Horizons
Brunswick County School System
Community Care of Lower Cape Fear
Southport Lions Club
Robeson Co. Health Dept.
Coastal Horizons Center, Inc.*
Brunswick Transit
Brunswick Beacon
Various community members
NC Cooperative Extension*
Center for Healthy Communities, UNC Wilmington
Brunswick Housing*
New Hope Clinic*
Dosher Memorial Hospital

***Also represented on the CHA Work Group**

CHA Work Group
Agency
Novant Health Brunswick Medical Center
New Hanover Co. Health Dept
Coastal Horizons Center, Inc.
NC Cooperative Extension
Brunswick Housing
New Hope Clinic