Novant Health Forsyth Medical Center

Community Health Needs Assessment
Forsyth County, North Carolina
2019-2021

Approved by the Novant Health Triad Region Board of Trustees on October 15, 2019

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I. Introduction

Novant Health Forsyth Medical Center, in partnership with the Forsyth County Department of Public Health, Forsyth County community partners and Wake Forest Baptist Health, conducted a community health needs assessment in 2017 to identify the most pressing health needs in our community. Novant Health Forsyth 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) Organizational Overview

Novant Health Forsyth Medical Center is an integral part of the Novant Health system (collectively known as "Novant Health". Novant Health (NH) is a non-profit integrated health care system of 15 medical centers and a medical group with over 575 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 28,000 employees and 2,500 physician partners care for patients and communities in North Carolina, South Carolina, and Virginia.

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 socially responsible organization, working with community agencies and organizations to make our communities better places to live and work.

Novant Health Forsyth Medical Center (NHFMC), a 921-bed hospital, offers a full continuum of emergency, medical, surgical, rehabilitative and behavioral health services. Centers of excellence include Novant Health Rehabilitation Center, Novant Health Maya Angelou Women's Health & Wellness Center, Novant Health Heart & Vascular Institute, Novant Health Derrick L. Davis Cancer Center, Novant Health Stroke & Neurosciences Center, Novant Health Orthopedic Center and Novant Health Forsyth Medical Center Behavioral Health.

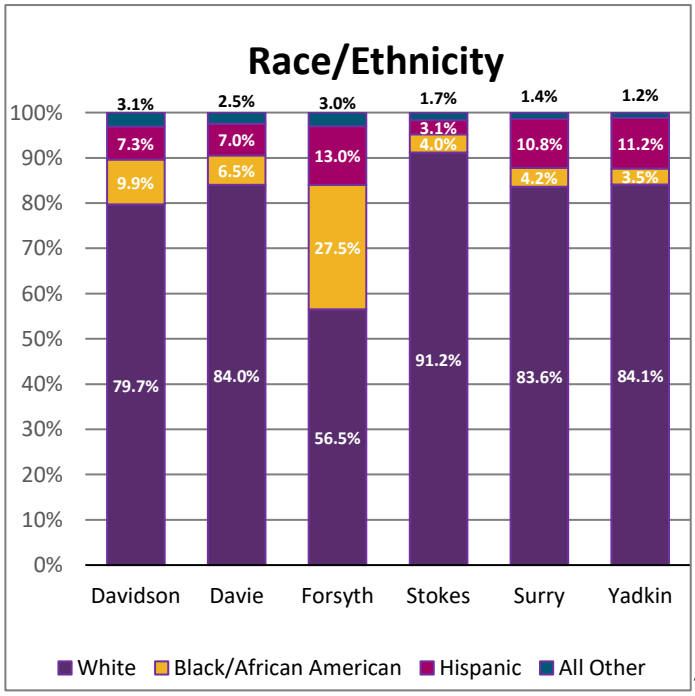
b) Our Defined Community

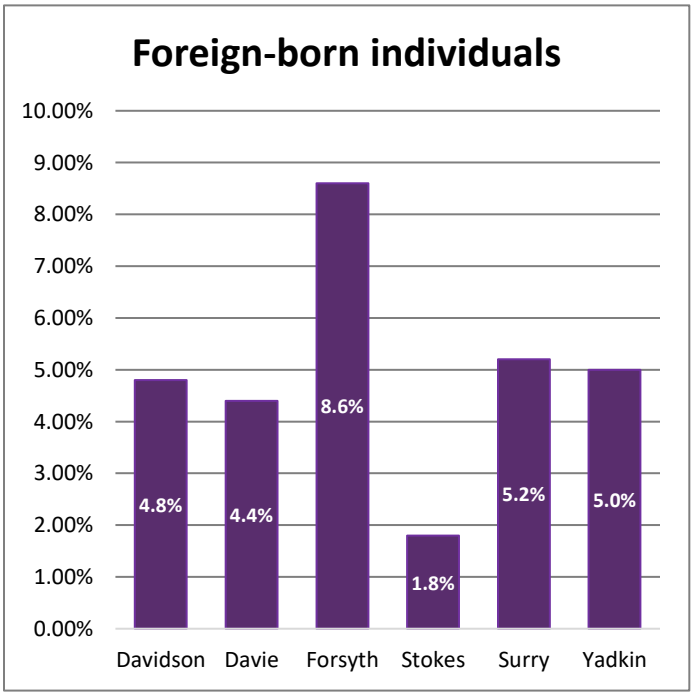
Primary Service Area

The Primary Service Area for Novant Health Forsyth Medical Center is defined by the zip codes that represent more than 75% of the hospital's in-patient population as outlined below:

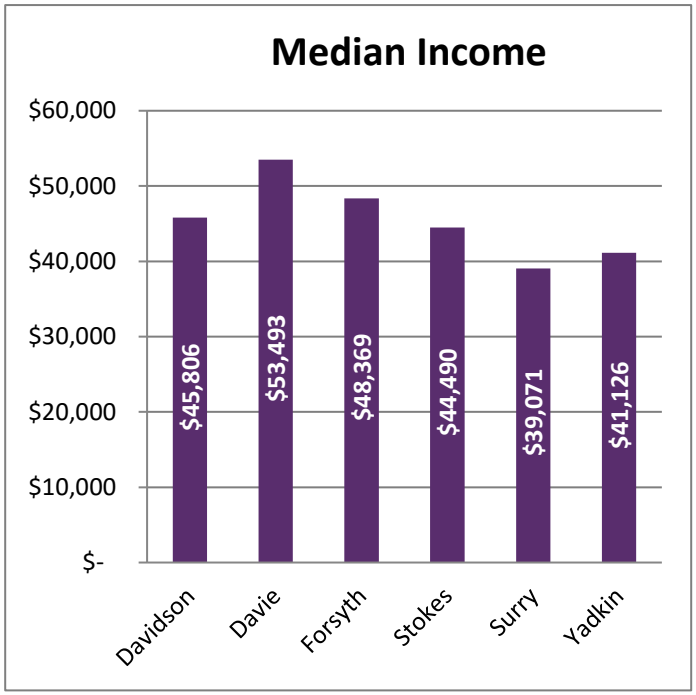
Zip Code	City	County	Zip Code	City	County
27006	Advance	Davie	27055	Yadkinville	Davie
27012	Clemmons	Forsyth	27101	Winston Salem	Forsyth
27018	East Bend	Yadkin	27103	Winston Salem	Forsyth
27021	King	Stokes	27104	Winston Salem	Forsyth
27023	Lewisville	Forsyth	27105	Winston Salem	Forsyth
27028	Mocksville	Davie	27106	Winston Salem	Forsyth
27030	Mount Airy	Surry	27107	Winston Salem	Forsyth
27040	Pfafftown	Forsyth	27127	Winston Salem	Forsyth
27045	Rural Hall	Forsyth	27284	Kernersville	Forsyth
27052	Walnut Cove	Forsyth	27295	Lexington	Davidson

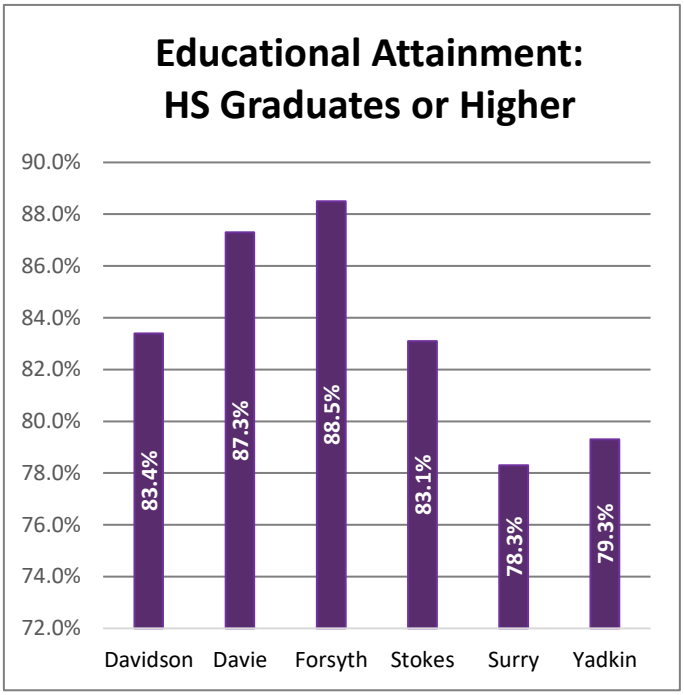
Forsyth County is the largest county in Novant Health Forsyth Medical Center's Primary Service Area. Though there are 6 counties in the Novant Health Forsyth Medical Center Primary Service Area, including Davidson, Davie, Forsyth, Stokes, Surry and Yadkin, 78% of the patients in the Primary Service Area reside in Forsyth County, while 62% of the patients in the Primary and Secondary Service Areas reside in Forsyth County. A comparison was conducted to ensure that the community assessment did not exclude medically underserved, low-income, or minority populations who live in the geographic areas from which the hospital draws its patients. A comparison of county data from each geographic area from which the hospital draws its patients was conducted. Based on comparison of race/ethnicity, median income, educational attainment, persons in poverty and foreign-born individuals, Forsyth County represents the highest population of potentially underserved, low-income and minority individuals from the Primary Service Area.

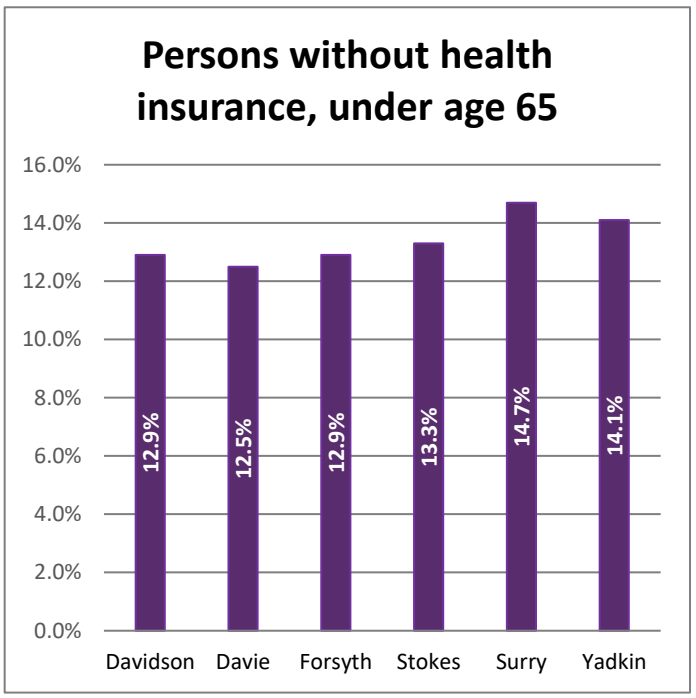


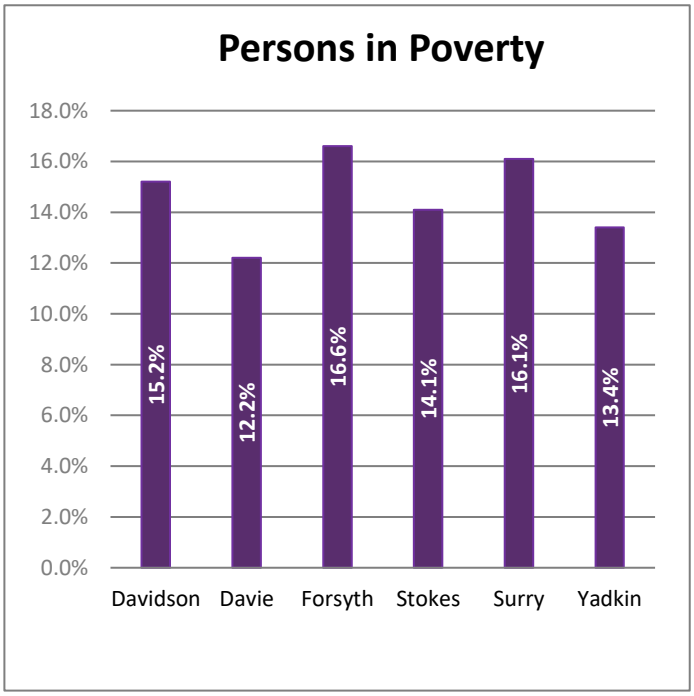


Source for all graphs: U.S. Census Bureau (2018)





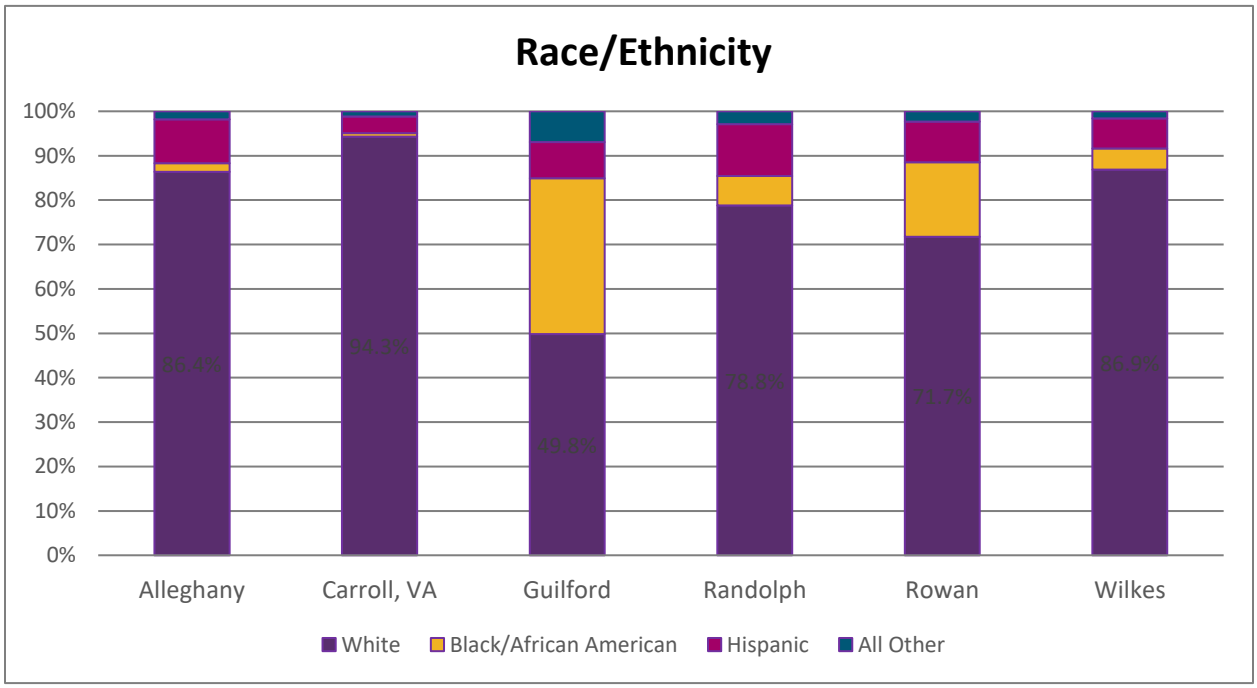


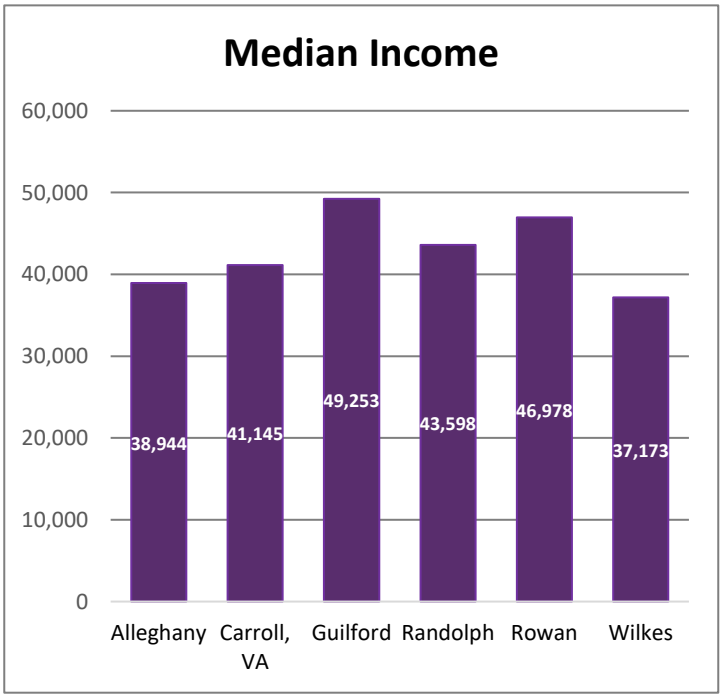


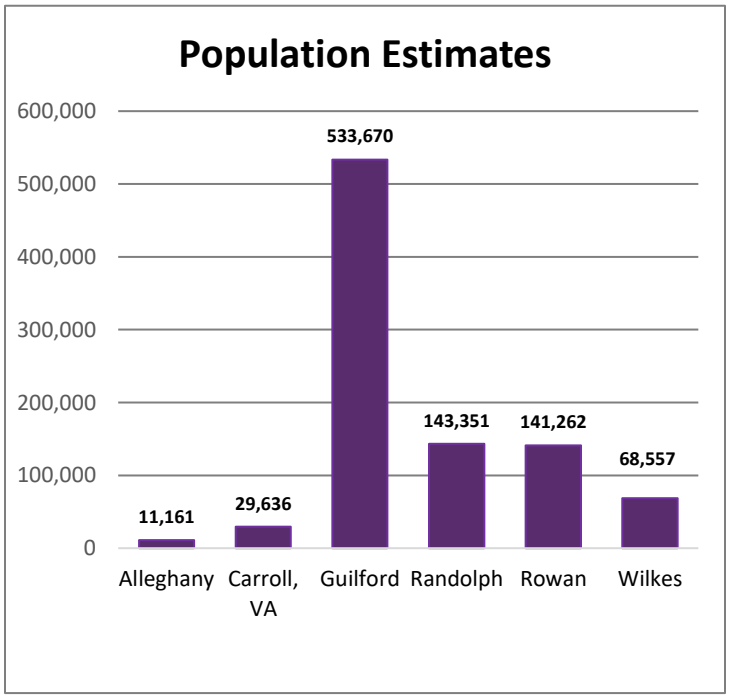
Source for all graphs: U.S. Census Bureau (2018)

Secondary Service Area

The Secondary Service Area for Novant Health Forsyth Medical Center covers a six-county radius, including: Alleghany, Carroll (VA), Guilford, Randolph, Rowan and Wilkes. According to the 2018 U.S. Census estimates, the aforementioned counties include the following demographic profiles:







Source for all graphs: U.S. Census Bureau (2018)

Forsyth County Population: Demographics

As outlined in the charts above, Forsyth County represents the highest population of potentially underserved, low-income and minority individuals from the Primary Service Area. As the majority of patients also reside in Forsyth County, this county will be the sole focus of demographic, health and social indicators.

Forsyth County is mostly urban in nature, with only 7.4%[1] of the population living in rural areas. The county consists of a large urban center surrounded by smaller, more rural communities. Based on 2018 estimates, Forsyth County remained the fourth largest county in the State of North Carolina with 379,099 residents[2]. From 2020 to 2030, the population of Forsyth County is projected to grow by 4.0% which is down from 7.0% for the 2010-2020 period.

Adolescents (individuals 18 and younger) make up an estimated 22.9% of the population in Forsyth County, while seniors (individuals 65 and older) make up 16.0% of the population[3]. Median age continues to increase, and we can see a shift in the population from adolescents to seniors as our population continues to age. This trend may put a strain on healthcare services in Forsyth County because health care for older persons is different from that provided to other age groups in several respects: greater resource demands, the intertwining of professional health services with social services, the frequent occurrence of important ethical conundrums, and a higher prevalence of physical and mental disabilities.[4] Non-white minorities currently make up almost half (43.5) of the racial demographic in Forsyth County.

[1]NC Economic Data and Site Information, February 2019, https://accessnc.nccommerce.com/DemoGraphicsReports/pdfs/countyProfile/NC/37067.pdf
[2] U.S. Census Bureau, 2018 American Community Survey 1-Year Estimates https://www.census.gov/quickfacts/fact/table/forsythcountynorthcarolina/POP060210
[3]U.S. Census Bureau (2018). State & County QuickFacts. https://www.census.gov/quickfacts/fact/table/forsythcountynorthcarolina,US/PST045218
[4] National Center for Biotechnology Information (NCBI). The Health of Aging Populations. https://www.ncbi.nlm.nih.gov/books/NBK98373/

Demographic data for Forsyth County is outlined below:

Forsyth County Population by Race & Ethnicity (2018)

	Forsyth County	North Carolina
Population Estimate	379,099	10,383,620
Persons Under 5 Years	5.9%	5.9%
Persons Under 18 Years	22.9%	22.2%
Person 65 Years & Over	16.0%	16.3%
Female Persons	52.6%	51.4%
White Alone,	56.5. %	62.8%
Black/African-American Alone	27.5%	22.2%
American Indian & Alaska Native Alone	0.9%	1.6%
Asian Alone	2.6%	3.2%
Native Hawaiian & Other Pacific Islander Alone	0.1%	0.1%
Two or More Races	2.3%	2.3%
Hispanic or Latino	13.0%	9.6%

Source: U.S. Census Bureau (2018)

Forsyth County Population: Health Indicators

In the 2018 County Health Rankings[1], Forsyth County ranks 39 out of 100 counties for health outcomes. Areas where Forsyth County performs particularly poorly are quality of life and health behavior. Key findings are listed below:

Quality of Life (Ranked 64 out of 100)	Forsyth County	Top U.S. Performers	North Carolina
Age-adjusted % of adults reporting fair or **poor health**	19%	12%	18%
Average number of **physically unhealthy days** reported in past 30 days (age-adjusted)	3.7	3.0	3.6
Average number of **mentally unhealthy** days reported in past 30 days (age-adjusted)	4.2	3.1	3.9
Percentage of live births with a **low birthweight** (<2500 grams)	10%	6%	9%
Health Outcomes & Behaviors (Ranked 62 out of 100)	**Forsyth County**	**Top U.S. Performers**	**North Carolina**
HIV Prevalence	465	49	355
Adult obesity	32%	26%	30%
Alcohol-impaired driving deaths	37%	13%	31%
Sexually transmitted infections	827.0	145.1	647.4
Limited access to healthy foods	14%	2%	7%
Drug overdose deaths	19	10	16

Source: County Health Rankings & Roadmaps http://www.countyhealthrankings.org/app/north-carolina/2018/rankings/forsyth/county/outcomes/overall/snapshot

Forsyth County's leading cause of death in 2017 was diseases of the heart followed closely by cancer. Heart disease, cancer, and chronic lower respiratory disease have been the three leading causes of death for the last 7 years in Forsyth County:

Leading Causes of Death in Forsyth County in 2017			
Rank	**Cause of Death**	**Number**	**%**
1	Diseases of heart	719	19.9
2	Cancer	716	19.8
3	Chronic lower respiratory diseases	221	6.1
4	Cerebrovascular diseases	219	6.1
5	All other unintentional injuries	196	5.4
6	Alzheimer's disease	189	5.2
7	Diabetes mellitus	106	2.9
8	Nephritis, nephrotic syndrome and nephrosis	81	2.2
9	Influenza and pneumonia	72	2.0
10	Septicemia	55	1.5
	All other causes (Residual)	1,043	28.9
	Total Deaths – All Causes	3,617	100.0

Source: NC State Center for Health Statistics

Forsyth County Population: Social Indicators

Forsyth County residents earn a median income that is slightly lower than the North Carolina state average. According to the U.S. Census 2017 American Community Survey, roughly one-third (33.3%) of Forsyth County residents have attained a bachelor's degree or higher[3]. A key indicator to evaluate economic condition of Forsyth County is the poverty rate. The poverty rate for Forsyth County residents continues to be higher than the North Carolina state average by 3.0%, and the poverty rate for children (ages 0-17) in Forsyth County, is 5.8% higher than the NC State average.

Median Household Income		Population Educational Attainment (≥ *25 yrs. old*)		Poverty Rate	
Forsyth County	$48,369	< HS diploma/GED	11.5%	All ages (Forsyth County)	19.1%
		HS diploma/GED	25.3%	All ages (North Carolina)	16.1%
North Carolina	$50,320	Some college or associate's degree	29.4%	Children (0-17) (Forsyth County)	28.7%
		Bachelor's degree	20.7%	Children (0-17) (North Carolina)	22.9%
		≥ Graduate degree	12.6%		

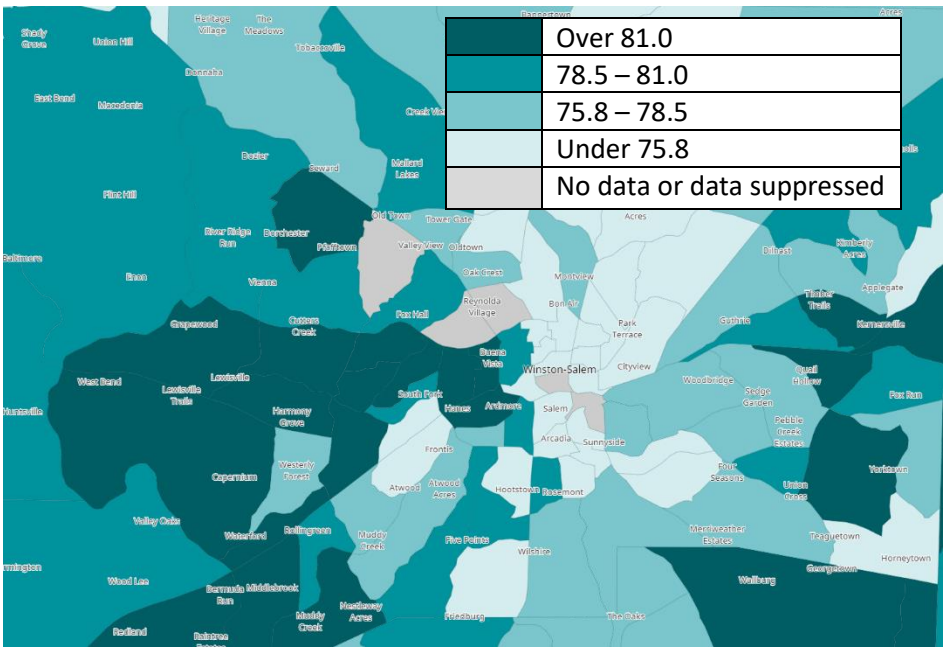
Source: U.S. Census Bureau (2018) **Source: ACS (2013-2017)** **Source: ACS (2013-2017)**

[3] U.S. Census Bureau, Small Area Income and Poverty Estimate Program. December 2017. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

The Forsyth County unemployment rate snapshot from February 2019 shows a rate just above the NC overall rate[4]. According to RWJF's County Health Rankings and Roadmaps, 14% of Forsyth County residents struggle with access to healthy foods, double the state percentage.[5] Additionally, more than half of renters in Forsyth County spend more than 30% of their household income on rent. With more than 55,000 people (or 38.3% of the population) renting, this figure represents more than 25,000 individuals. Forsyth County residents also have a higher than average percentage of households without access to a vehicle.

Unemployment Rate[4]		Limited Access to Healthy Foods[5]		Renters spending more than 30% Of Household Income on Rent[6]		Percent of Households without a Vehicle[6]	
Forsyth County	4.4%	Forsyth County	14%	Forsyth County	50.8%	Forsyth County	7.7%
North Carolina	3.9%	North Carolina	7%	North Carolina	48.7%	North Carolina	6.1%

Life expectancy varies widely in Forsyth County, from over 81.0 in the western section of Winston-Salem and western and eastern county peripheries to under 75.8 in east Winston Salem census tracts. As seen in the map below, life expectancy is higher in the more rural areas of Forsyth County.



Source: Community Commons www.communitycommons.org

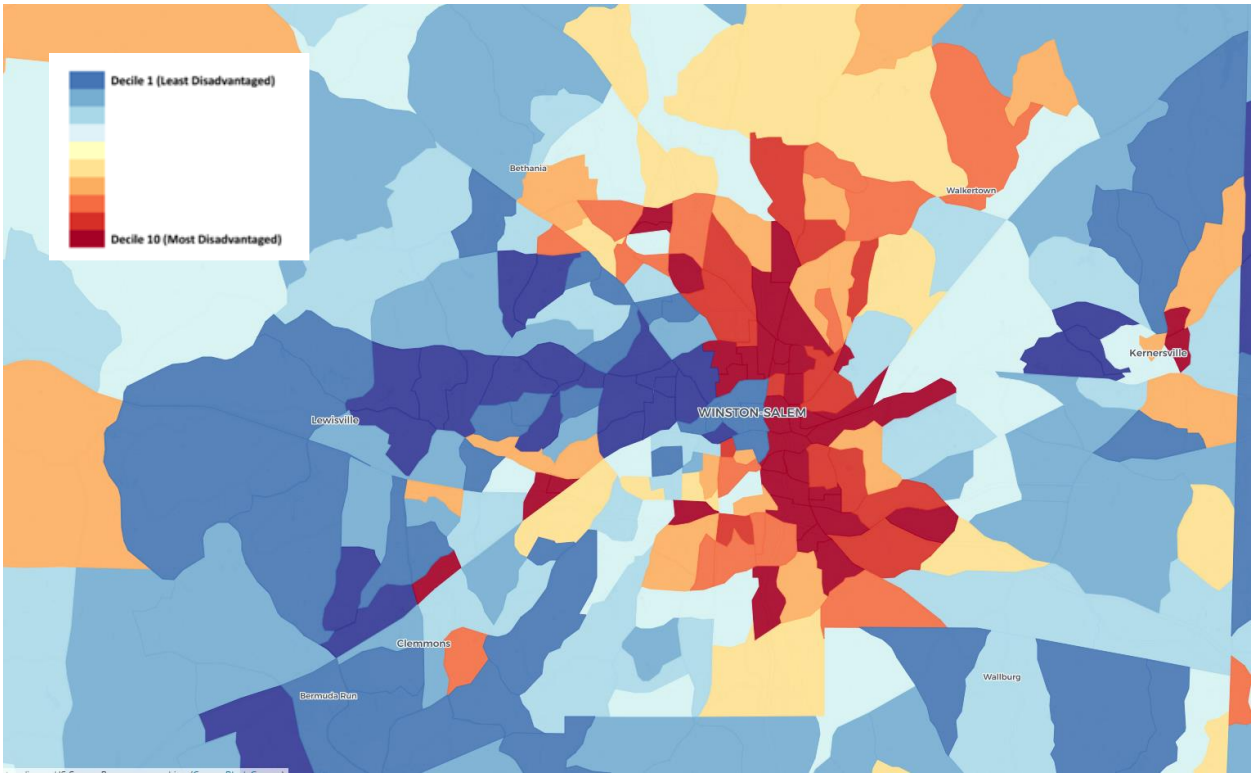
Forsyth County residents display a wide range along the Area Deprivation Index (ADI). The ADI is a factor-based index which uses 17 US Census poverty, education, housing and employment indicators,

[4] NC Bureau of Labor Statistics https://www.bls.gov/eag/eag.nc.htm
[5] County Health Rankings and Roadmaps http://www.countyhealthrankings.org/app/north-carolina/2018/rankings/forsyth/county/outcomes/overall/snapshot
[6] US Census Bureau ACS 2013-2017 http://factfinder.census.gov

including those above, to characterize census-based regions and has been correlated with a number of health outcomes including all-cause, cardiovascular, cancer and childhood mortality, and cervical cancer prevalence[7].

The map on the following page shows ADI scores from within NC that were ranked from lowest to highest, then divided into deciles (1-10). The least advantaged decile is represented by dark blue; the most disadvantaged in dark red.

It's important to note the lower life expectancy census tracts overlap with the highest deprivation areas. These same deprivation areas are widely mirrored when looking at individual social factors, whether limited access to food, unemployment, limited transportation, or less than ideal housing circumstances. When segmented by race, African American residents of Forsyth County skew to the more disadvantaged side; white residents skew to less disadvantaged.



University of Wisconsin School of Medicine and Public Health. Area Deprivation Index. 5/1/2018. Available at: *https://www.neighborhoodatlas.medicine.wisc.edu*

II. Assessment process

The following are excerpts and findings from the **2017 Forsyth County Community Health Assessment**. To access the full report, please visit http://www.onecIthealth.org/content/sites/onecharlotte/2017_CHA_Report.pdf

[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4251560/

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. As part of the Patient Protection and Affordable Care Act of 2011, not-for-profit hospitals are also now required to conduct a Community Health Needs Assessment (CHNA) once every three years.

A Community Health Assessment (CHA) advisory group guided the 2017 CHA process. Members of the advisory group represented leadership and practitioners from other local agencies, hospitals, law enforcement, faith-based organizations, universities, the local school system, non-profit service organizations, other health providers, and neighborhood associations. The advisory group recommended the formation of 2017 CHA data teams to identify, gather and review Forsyth County's population health data. As part of this assessment process, special attention was paid to the needs of the underserved.

The 2017 Forsyth County Community Health Assessment Process

The 2017 CHA was conducted between August 2016 and December 2017. Between August and November 2016, community members were invited to the Forsyth County Department of Public Health (FCDPH) to discuss and plan the 2017 CHA process.

The 2017 CHA process consisted of eight (8) phases:

1. Establish Work Groups
2. Collect and review secondary data
3. Create survey for primary data collection & Collect primary data
4. Analyze and interpret primary county data
5. Determine health priorities
6. Create the CHA Report
7. Disseminate the CHA Report
8. Develop the Forsyth County community health action plans

The continuous health assessment of Forsyth County's population health was facilitated through the use of passive and active surveillance instruments. These instruments include the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT), the North Carolina Electronic Disease Surveillance System (NCEDSS), the Forsyth County Community Health Opinion Survey, and the Winston Salem/Forsyth County Schools Youth Risk Behavior Survey (WSFCS YRBS):

- The Advisory Group met regularly to advise each phase of the CHA process and made recommendations for data collection
- The CHA Primary Data Group consisted of the Community Health Opinion survey administrators, YRBS facilitators and focus group facilitators and note takers
- The CHA Secondary Data Group met monthly to review the secondary data.
- The Data Team met monthly to review both primary and secondary data and identified social, clinical, and behavioral health outcomes, and then prioritized the top health issues

(See Appendix A for a complete list of agencies that were represented on the advisory and data groups). Please see the FCDPH 2017 CHA Report at http://www.oneclthealth.org/content/sites/onecharlotte/2017_CHA_Report.pdf for a listing of individual participant names).

a) Solicitation

Input was solicited from persons who represent the broad interest of Forsyth County, NC including Hispanics, persons living in poverty and those without a high school degree. A two-stage cluster sampling methodology was employed for the Community Health Opinion Survey. Three vulnerable population surveys were developed and conducted at the request of the participating agencies. Forsyth Technical Community College's Minority Male Success Initiative, The Salvation Army Center of Hope, and the Bethesda Center for the Homeless requested that specific questions be asked for the populations that they serve which are underserved compared to the 2010 Census and the 2013-2017 American Community Survey. Demographic information from survey respondents indicated that the sample population from the Community Health Opinion Survey differs only slightly from the Forsyth County population.

c) Data collection & analysis

Primary Data

The Community Health Opinion Survey

With guidance from the CHA Advisory Group, the Community Health Opinion (CHO) Survey was developed for Forsyth County residents. Input for the survey was solicited from a variety of leaders in city and county government, community-based organizations, foundations, churches, colleges/universities, coalitions and other social service agencies. The leaders included experts in public health, minority populations, health disparities and social services.

This CHO Survey was meant to provide additional information on oral health, chronic diseases (excluding oral health and mental health), sexual health, and maternal and infant health. Using convenience sampling, the 2017 CHO Survey was administered in Spanish and English from January 31st, 2017 to May 31st, 2017. To increase access, links to both versions of the 2017 CHO Survey were posted to the Forsyth County Department of Public Health's Facebook page and, QR coded cards were handed out at supermarkets and strip malls throughout the county by volunteers who offered an incentive for participants to take the survey at that time. Four hundred and twenty-seven (427) residents responded to the survey. The response rate for survey questions ranged from 87% to 94%.

Among survey respondents, 56% identified as black, 23% as white and 3.1% as Hispanic. Most of the respondents were between ages of 45 and 64 years (57.8%). About 8% of the respondents were age 24 years or younger. 73.4% of respondents were male. Females, white residents and seniors were under

sampled. Black, non-Hispanic and Hispanic/Latino populations were oversampled because both of these populations were identified as disproportionately at risk for at least one of the major health issues that required additional information.

Work Groups

Members of the data team were assigned to work groups. A work group was established for chronic diseases with a focus on physical activity, oral health among population ages 0-5 years, sexual health, and maternal & infant health particularly as it relates to maternal stress. Each was tasked with identifying previously tested survey questions that would help to fill identified health information gaps. Healthy People 2020 was used to guide semi-structured work group discussions. A work group was also formed to assist with the vulnerable populations' questions.

Based on the results of the CHO Survey and the results from the Work Groups the following health issues were identified.

- Chronic Diseases with a focus on physical activity that can improve outcomes for cancer, heart disease, stroke, and chronic lower respiratory diseases.
- Oral Health with a focus on what is known or unknown about access to and the need for oral health care for populations age 5 years and younger.
- Sexually Health with a focus on chlamydia prevention.
- Maternal & Infant Health with a focus on maternal health because it influences healthy birth outcomes.
- Quality of Life in Forsyth County with a focus on how residents feel about living in Forsyth County.

A community collaborative of Novant Health, Wake Forest Baptist Health and Forsyth Futures in support of the Forsyth Department of Public Health CHA process was formed to better understand root causes of infant mortality and chronic disease, particularly focusing on health outcomes disparities among racial minority populations. The following were the findings of the group:

- Lack of Trust – Due to lack of cultural competency of clinical staff, poor treatment or misdiagnosis from clinical staff and stress influenced by political environment.
- Lack of Resources – Due to lack of time, money and overwhelmed by cost of care, insurance, healthy foods, and by feeling of stress/anxiety.
- Lack of Awareness – Due to limited understanding of how to access care, limited health literacy, hesitancy to take medication and learning how/where to access available resources is challenging.

Secondary Data

Based on the advisory group's recommendation, the data team reviewed secondary data to identify the major health issues. The secondary data reviewed were from agency reports, databases or websites including The State Center for Health Statistics, The North Carolina Electronic Disease Surveillance System (NCEDSS), The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NCDETECT), The 2015 Winston-Salem/Forsyth County High School Youth Risk Behavior Survey, The US Bureau of Census, The North Carolina Uniform Crime Reporting (UCR) Program, and the North Carolina Coalition to End Homelessness (NCCEH).

The 2017 CHA data team's data identification and analysis of secondary data focused on the major health issues that community partners sought to resolve since the 2014 CHA. The health data sets examined were grouped into the following major areas:

Drug Overdose

- Between 2012 and 2016, the number of drug overdose cases seen in the Forsyth County Emergency Departments (ED) increased about 46% from 1,107 (2013) to 1,621 (2016).
- From 2012 to 2016, the majority of the drug overdose ED cases (800 or more) were from zip codes 27284 (Kernersville), 27107 (Winston-Salem), and 27105 (Winston Salem).
- From 2012 to 2016, the majority of the ED drug overdose patients were between ages 31-40 years.

Mental Health

- About 28% of high school students experienced hopelessness or sadness continuously for two weeks or more in the 12 months prior to the survey.
- There was an increase in the percentage of high school students who reported that they made a suicide plan from 12.2% (2013) to 13.2% (2015).
- The percentage of high school students who attempted suicide during the 12 months prior to the survey increased from 18.1% (2013) to 22.2% (2015).
- In 2015, Black, non-Hispanic high school students were more likely than White, non-Hispanic or Hispanic/Latino high school students to report that they had attempted suicide in the 12 months prior to the survey.

Chronic Diseases including Oral Health

- Although their rates have decreased, cancer, heart disease, chronic lower respiratory disease and stroke remain the major causes of death in Forsyth County.
- Between 2008-2012 and 2012-2016, there was about a 19% increase in deaths due to unintentional injuries (includes drug overdose related deaths), and about a 17% increase in deaths due to kidney diseases.
- Forsyth County's death rates due to cancer (all sites), heart disease, cerebrovascular disease (stroke), diabetes, and kidney disease were slightly lower than State of NC's for 2012-2016.
- Forsyth County's death rates for heart disease, cancer (all sites), chronic lower respiratory disease (CLRD), cerebrovascular disease (stroke), unintentional injuries, pneumonia and influenza, and septicemia were greater than all peer counties' for 2012-2016.

Communicable Diseases

- Between 2012 and 2016, the number of infectious disease cases in Forsyth County exceeded 4,000 annually. Sexually transmitted infections (STI), particularly chlamydia, accounted for more than 90% of each year's total case count. Chlamydia cases for populations ≤ 24 years represented between 67% and 88% of all chlamydia cases during the period. Females accounted for between 71% and 74% of the ≤ 24 years positive cases.
- Forsyth County's 2016 chlamydia and gonorrhea rates were about 23% and 45% higher, respectively, than State of NC's.
- Forsyth County's 2016 early syphilis (primary, secondary and early latent) and HIV (all stages) rates were also higher than State of NC's by about 25% and 62%, respectively.
- Forsyth County's 2016 chlamydia and HIV (all stages) rates were lower than Durham, Guilford and Mecklenburg Counties' but higher than Wake County's.
- Forsyth County's 2016 gonorrhea rate was lower than Durham and Guilford Counties' but higher than Mecklenburg and Wake Counties'.

Maternal & Infant Health

- From 2008-2012 to 2012-2016, Forsyth County's teen (age15-17) pregnancy rate per 1,000 population declined almost 40% from 29.5 (2008-2012) to 17.8 (2012-2016).
- Forsyth County's 2012-2016 age 15-17 pregnancy rate per 1,000 population exceeded that of State of NC's. Also, it was the 2nd highest rate of the five (5) urban counties.
- Between 2008-2012 and 2012-2016, Forsyth County's overall live birth rate per 1,000 population declined almost 9% from 13.6 per 1,000 population to 12.4 per 1,000 population.
- Although, the Hispanic live birth rate per 1,000 population declined about 24% from 2008-2012 (27.4) to 2012-2016 (20.9), it remained at almost two times the Total, non-Hispanic live birth rate per 1,000 population during each period.
- Hispanic babies were born disproportionately to mothers who have a lower formal education level than Black, non-Hispanic or White, non-Hispanic mothers.
- From 2011 to 2016, between 71% and 92% of infant deaths were due to extreme immaturity, prematurity and congenital abnormalities.

Health Disparities/Quality of Life

- The life expectancy of someone born in Forsyth County between 2013 and 2015 was estimated to be about 78 years. This 78-year life expectancy remained relatively unchanged from 2011-2013 to 2013-2015.
- Forsyth County's life expectancy for populations born between 2013 and 2015 was lower than those for Durham, Guilford, Mecklenburg, and Wake Counties' but higher than State of NC's.
- Based on Forsyth County's 2016 chronic disease rates, a Black, non-Hispanic person was:
    - 1.4 times more likely to die from cancer than a White, non-Hispanic person
    - 1.6 times more likely to die from diabetes mellitus than a White, non-Hispanic person
    - 1.4 times more likely to die from heart disease than a White, non-Hispanic person

    - 2.2 times more likely to die from kidney disease than a White, non-Hispanic person.
    - 1.4 times more likely to die from cerebrovascular disease (stroke) than a White, non-Hispanic person.
- In 2016, a Black, non-Hispanic child was 1.8 times more likely to die within the first year of its life than a White, non-Hispanic child.

III. Identifying & Prioritizing Health Needs

a) Identified Significant Health Needs

Through various data collection measures, and after analyzing and interpreting Forsyth County's primary and secondary data these issues have been identified as social, clinical, behavioral and health outcomes. The identified health outcomes included the following:

- Drug Overdose
- Mental Health
- Chronic Diseases including Oral Health
- Communicable Diseases & Sexual Health
- Maternal & Infant Health
- Health Disparities/Quality of Life
- Lack of Trust
    - Lack of cultural competency of clinical staff
    - Poor Treatment or misdiagnosis from clinical staff
    - Stress influenced by political environment
- Lack of Resources
    - Lack of time
    - Lack of Money
    - Overwhelmed by cost of care, insurance, and /or health foods
    - Overwhelmed by feeling of stress/anxiety
- Lack of Awareness
    - Limited understanding of how to access care
    - Limited health literacy
    - Learning how/where to access available resources is challenging
    - Hesitancy to take medication

b) Analysis and Prioritization

In 2017, a combination of online surveys and paper surveys were conducted to ask constituents to rank the top health issues impacting the community. The calculated scores were used to rank the focus areas, and the weighted rankings from the community opinion surveys and the priority focus exercise were combined.

The findings of the health assessment were shared with Forsyth County residents and they were given the opportunity to rank the health issues that they believe the County should address first, second, third

and fourth. Priority setting events were held at the W.R. Anderson, Jr. Recreation Center in zip code 27127, and at the Head Start Gymnasium in zip code 27105. A priority setting email survey was also sent to people who live and/or work in Forsyth County. Five hundred and forty six (546) persons completed the Health Issue Priority Survey. Fifty nine percent (59%) of the respondents were Black, non-Hispanic, 35% were White, non-Hispanic, and 6% were Hispanic/Latino. Seventy one percent (71%) of the total number of respondents were females:

1. Chronic Diseases with a Focus on Physical Activity
2. Oral health (age 0-5 years)
3. Sexual Health
4. Maternal and Infant Health

Recommended Prioritized Health Outcomes

From the prioritization activity, four broad health outcomes were recommended for prioritization. In the coming months, recommendations will be made to address each of the priority areas below:

- Chronic Diseases with a Focus on Physical Activity
- Oral health (age 0-5 years)
- Sexual Health
- Maternal and Infant Health

Facility prioritization

In addition to the community rankings, Novant Health Forsyth Medical Center reviewed the top five diagnosis codes for inpatient and outpatient hospital emergency room visits year-to-date January to July 2019.

Novant Health Forsyth Medical Center Emergency Department

Top 5 Diagnoses July – December 2018

Inpatient		Outpatient	
Diagnosis	**Volume**	**Diagnosis**	**Volume**
Sepsis, unspecified organism	573	Chest pain, unspecified	1,044
Hypertensive heart & chronic kidney dis w heart fail and stg 1-4/unspecified chronic kidney disease	232	Other chest pain	1,011
Chronic obstructive pulmonary disease w (acute) exacerbation	170	Headache	628
Pneumonia, unspecified organism	158	Urinary tract infection, site not specified	580
Hypertensive heart disease with heart failure	154	Syncope and collapse	470

A review of the hospital emergency room visits indicated that many of the top inpatient diagnosis codes are correlated with chronic issues affecting the aging population. 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, obesity, diabetes, chronic stress, and chronic issues related to aging.

Upon a comprehensive review of the community's recommended prioritized outcomes and NHFMC's ED top 5 diagnosis codes, the Novant Health Forsyth Medical Center leadership team and Novant Health Triad 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 four top significant health priorities for Novant Health Forsyth Medical Center:

1. Chronic Disease
2. Mental Health
3. Maternal and Infant Health
4. Lack of Trust, Resources and Awareness: Specifically focused on limited access to care and healthy foods, poor health literacy, limited cultural competency among providers, and chronic stress.

IV. Addressing needs

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

IDENTIFIED PRIORITY:	PROGRAM:	ACTION:	INTENDED OUTCOME:
1. Chronic Disease	Remarkable You screenings (A1C, Cholesterol, BMI, Blood Pressure) and educational programs	Early detection of chronic disease and connection to a system of care in high priority areas	Improved health
2. Mental Health	Community education and screening	Early detection of mental health diagnosis and connection to resources	Improved health
3. Lack of Trust, Resources and Awareness:	Neighborhood Engagement	Targeted outreach in priority areas to better understand available resources and capacity for SDoH providers	Increased trust in healthcare system
4. Maternal and infant health	Support for new moms and children birth to five	Targeted wrap around services including lactation support, home visits, and other various services.	Improved health

In addition to the programs and services offered to the community through Novant Health Forsyth Medical Center, there are several existing community assets available throughout the Forsyth County community that have additional programs and resources tailored to meet all of the identified health needs.

The following is a list of community agencies that address those prioritized and non-prioritized needs:

Identified Community Health Needs	Local Community Resources Addressing Need
• Drug Overdose • Mental Health	Addiction Recovery Care Association Advanced Placement Alcoholics Anonymous Alpha Acres Center Point Catholic Social Services Daymark Recovery Services The Children's Home Family Services Foundation Strong Insight Human Services LifeSkills Counseling Center Mental Health Association Next Step Ministries Old Vineyard Behavioral Health Services OSA Assessment & Counseling Services Recovery Center of the Triad, LLC Safe on Seven Top Priority Care Services WFBH Psychiatry and Behavioral Health Medicine YWCA Hawley House
• Chronic Diseases including Oral Health • Maternal & Infant Health • Communicable Diseases & Sexual	Baby Love Bethany Baptist Church Medical Clinic Birthright CC4C Cleveland Avenue Dental Health Center Community Care Center Downtown Health Plaza Dental Clinic Forsyth Tech Dental Education Clinic Forsyth County Department of Public Health Health Check Positive Wellness Alliance Smart Start Smile Starters Shalom Clinic Today's Woman Health and Wellness Center United Health Centers

	Winston-Salem Rescue Mission, Inc: Medical and Forsyth County Parks and Recreation YMCA of Northwest North Carolina Gateway YWCA AIDS Care Services

• Lack of trust
  ○ Lack of cultural competency of clinical staff
  ○ Poor Treatment or misdiagnosis
  ○ Stress influenced by political environment
• Lack of resources
  ○ Lack of time
  ○ Lack of money
  ○ Overwhelmed by cost of care, insurance, and/or healthy foods
  ○ Overwhelmed by feelings of stress/anxiety
• Lack of awareness
  ○ Limited understanding of how to access care
  ○ Limited health literacy
  ○ Learning how/where to access available resources is challenging
  ○ Hesitancy to take medication
• Health Disparities/Quality of Life
	Ardmore United Methodist Transportation Ministry
	Cancer Services
	Crisis Control Ministry
	Experiment in Self Reliance
	Healthcare Access
	Advocacy for the Poor, Inc.
	Legal Aid
	Shepherd's Center of Kernersville
	Shepherd's Center of Winston Salem
	Bethesda Center for the Homeless
	Family Services, Inc.
	Samaritan Ministries
	Winston Salem Rescue Mission Shelter
	Crisis Control Ministries
	Sunnyside ministries
	Experiment in Self-Reliance
	Second Harvest Food Bank
	Goodwill Inc.
	Winston Salem Urban League
	Hispanic League

For a full list of community resources, visit www.novanthealth.org/mycommunity

V. Impact Evaluation of 2016-2018 Community Health Needs Assessment

Based on the previously reported health data from the 2016-2018 Community Health Needs Assessment, the Novant Health Triad Board of Trustees did a collective review of community feedback, prioritization and determined the top health priorities for Novant Health Forsyth Medical Center as the following: **Diabetes, Obesity, Other Chronic Disease, Maternal & Infant Health, Physical Activity & Nutrition, and Mental Health.**

No written comments were received from the most recently conducted CHNA and implementation strategy.

To address these priorities, Novant Health Forsyth 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 2016-2018, Novant Health Forsyth 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. Efforts toward specific objectives and measures achieved are described below. As NHKMC and NHCMC are both affiliate hospitals of NHFMC, combined efforts in the shared priority areas of diabetes and obesity are included.

Priority Area	Program	Intended Outcome	Actual Outcome
Diabetes	Community A-1C Screenings: Remarkable You community screening initiative in high African American populations	Early detection of undiagnosed prediabetic and diabetic participants will increase	9,450 community members were reached through 326 Remarkable You + Biometric screenings that included cholesterol, glucose and A1C exams to measure one's risk for diabetes. Of those, 2,750 (29%) were African American. Screenings were conducted on site at NHFMC as well as in local public schools, YMCA/YWCAs, homeless shelters, corporations, faith communities, and senior centers.
Diabetes	Community health education: Lecture series on diabetes prevention	Knowledge level of participants will increase, and participants will learn new skills to change unhealthy behaviors	Educational classes and support groups were made available to 1,612 community members, providing tips on diabetes management and prevention. Among attendees, 63% stated they had learned new information or reinforced information about diabetes they previously did not know and 78% stated they had learned new skills regarding diabetes that they would begin applying in their life. Additionally, $77,000 was contributed to JDRF to support their work in diabetes education, awareness and prevention.
Maternal and Infant Health	Prepared childbirth classes: Lectures on healthy pregnancy, reducing risk factors and infant care	Knowledge level of participants will increase, and participants will learn new skills and decrease risk factors	Through 469 maternity education tours, childbirth preparation sessions, early parenting and infant CPR educational classes, 9,277 mothers and their family members received education in the area of maternal and infant health. Another 1,009 new and expectant mothers received education and support through 26 breastfeeding education classes and 55 breastfeeding support group sessions offered at NHFMC. Of the 1,472 individuals surveyed, 96% stated they had learned new information or reinforced information about maternal health and 99% stated they had learned new skills regarding maternal health that they would begin applying in their life.

			Additionally, $41,000 was contributed to March of Dimes Foundation and local non-profit partner, HeartStrings, for maternal and infant health education and pregnancy and infant loss support groups.
Maternal and Infant Health	Forsyth Connect Initiative: Home visiting initiative for new moms during postpartum period	Improve parenting skills and positive health outcomes to help decrease risk of infant mortality	In 2017 and 2018, 3,882 free home visits were provided to new moms in Forsyth County. Of those visited, approximately 56% of infants were Medicaid patients and 2% were self-pay. Instructions were provided on safe home, infant care, health care, and parenting support. From those visits 2,578 referrals were made to community agencies or community care providers – the vast majority to women's health providers to address material concerns around depression, anxiety, and blood pressure issues.
Mental Health	Community programming/ Community Education: Mental health Community grant(s) initiative or partnership	Community collaboration will further impact residents in need of mental health services through navigation and addressing social determinants impacting mental health outcomes	NH teams collaborated with community partners to provide mental health education to 209 individuals, and free substance use disorder stigma elimination training to 40 community mental health professionals. Another 1,984 community members participated in a free group family intervention class for individuals struggling with substance use disorder. Additionally, NH purchased a search and referral platform called Novant Health My Community, powered by Aunt Bertha, to navigate vulnerable individuals to community resources addressing social determinants and impacting mental health outcomes. This platform is provided for free to community organizations and community members. Additionally, $55,000 was contributed to local non-profit partners Samaritan Ministries, Insight Human Services and Community Care Center to fund positions for community-based mental health screeners and substance use counselors serving high-risk populations. Another $15,300 was contributed to the University of North Carolina and Hands On Northwest North Carolina to create calm down kits for local children and provide scholarships for a local Acting Out summer program.
Obesity	Community Body Mass Index (BMI) screenings: Remarkable You Community Screening	Early detection of undiagnosed obese participants will increase, and participants will learn new skills to	12,299 community members were reached through 465 Remarkable You and body mass index screenings and 266 RY Clinics to provide an assessment of overweightness and obesity. Among those screened, 94% stated they were previously aware of their risk factors. 99% of individuals indicated they were more aware of their risk factors

		change unhealthy behaviors	as a result of the screening. All individuals with abnormal screening results were offered one-on-one education regarding skills to change unhealthy behaviors.
Obesity	Community nutrition education: Lectures on healthy eating and weight management	Knowledge level of participants will increase, and participants will learn new skills to change unhealthy behaviors	6,762 interactions occurred with community members to provide health education specific to nutrition and weight management. Among more than 3,000 surveyed participants, 91% stated they had learned new information or reinforced information about diabetes they previously did not know and 98% stated they had learned new skills regarding diabetes that they would begin applying in their life. Health education and screenings were conducted on campus as well as in local public schools, YMCA/YWCAs, homeless shelters, corporations, faith communities, and senior centers.
Obesity	Community Weight Loss Series: The Weigh for You	Overweight and obese participants will decrease weight and other risk factors and change unhealthy behaviors related to obesity	Staff conducted 1685 interactions with 188 participants enrolled in "The Weigh for You", a 10-week comprehensive weight loss program. Among enrollees 69 (75%) reported decreased weight. A total of 382.4 pounders were lost, with an average weight loss of 5.5 pounds or 2.64% from participants' collective beginning weight. 70% stated they had learned new information or reinforced information about diabetes they previously did not know and 100% stated they had learned new skills regarding diabetes that they would begin applying in their life.
Other Chronic Diseases	Community Cancer screenings: Novant Health mobile mammography unit and community cancer screenings in racial minority populations	Participants will change beliefs about importance of annual screening for early detection and increase adherence for follow up appointments.	Free cancer screenings were provided to 981 uninsured community women through 32 mobile mammograms, 3 PAP screens and 7 clinical breast exams. Among the more than 500 participants whose race was identified, 73% were Hispanic/Latino, 10% were African American, 13% were Caucasian, and 3% were unknown.
Other Chronic Diseases	Community cancer education: Lectures on healthy lifestyles and cancer prevention	Knowledge level of participants will increase, and participants will learn new skills to change unhealthy behaviors	6,103 educational interactions occurred with individuals who received free cancer education. Education was offered through lectures and support groups for individuals in remission or treatment for breast, lung, prostate, gynecological, GI and blood cancer. Lectures were also offered on cancer prevention and smoking cessation. Of 49 participating individuals surveyed, 100% stated they

			had learned new information or reinforced information about maternal health they previously did not know and 100% stated they had learned new skills regarding maternal health that they would begin applying in their life.
Other Chronic Diseases	Cardiac clinics: Heart and vascular screenings for community-at-large	Detection of undiagnosed heart disease risk factors among participants will increase	17,266 community members were provided heart and vascular screenings through 46 Women's Heart Center Risk Assessments, 430 Vascular Screenings, and 731 Remarkable You screenings. Among 2,489 individuals surveyed, 99% stated they were previously aware of their risk factors. 99% of individuals also indicated they were more aware of their risk factors as a result of the screening.
Other chronic Diseases	Cardiac clinics: Heart and vascular screenings for African American women through HOSEA partnership with Winston Salem State University	Detection of undiagnosed heart disease risk factors among participants will increase and participants will learn new skills to change unhealthy behaviors	473 African American women were screened through the HOSEA partnership. Among screened participants without diagnosed heart disease, 19% had elevated blood pressures (≥ 120/80 mmHg), 55% had pre-diabetic A1C levels (≥5.7%), and 79 had elevated cholesterol levels (≥200 mg/dL).
Other Chronic Diseases	Community education: Lectures on healthy lifestyles and chronic disease prevention	Knowledge level of participants will increase, and participants will learn new skills to change unhealthy behaviors	3,300 interactions occurred with individuals who received free chronic disease prevention education. Topics included Heart Health, Know Your Numbers, CPR, Blood Pressure and Asthma/COPD. Among more than 1,200 surveyed participants, 79% stated they had learned new information or reinforced information about chronic disease they previously did not know and 89% stated they had learned new skills regarding chronic disease that they would begin applying in their life.
Other Chronic Diseases	Self-help services: One-on-one health coaching and group support groups	Participants will increase adherence to behavioral changes for lifestyle management of chronic disease risk factors and change attitudes and beliefs	Of the 17,266 community members receiving heart and vascular screenings, all individuals with abnormal screening results were offered one-on-one education regarding skills to change unhealthy behaviors. In addition to the 43 individuals receiving personalized coaching through the Weigh For You Program, 2,154 community members received one-on-one health coaching or support group interaction. Among the 185 participants surveyed, 100% stated they had learned new information or reinforced information about chronic disease they previously did not know and 100% stated they had learned new skills regarding chronic disease that they would begin applying in their life.

VI. Appendix

Appendix A: Primary working group – represented agencies

CHA Primary Data Working Group
Agency
The Bethesda Center**
City of Winston Salem
Downtown Health Plaza
Forsyth County Parks and Recreation
Forsyth Technical Community College
MapForsyth
Salem College
The Salvation Army**
School Health Alliance**
Smart Start**
UNC, School of the Arts
United Health Centers**
Wake Forest University
Winston Salem State University**
Family Services**
Novant Health Forsyth Medical Center
Novant Health System
Imprints Cares
Forsyth County Department of Public Health*
Today's Woman**
Wake Forest University Baptist Medical Center
Exchange SCAN**
North Carolina Baby Love Plus**
Neighbors for Better Neighborhood**
Outreach Alliance for Babies**
Heartstrings**
Care Coordination for Children**
Healthy Coalitions
Nurse Family Partnership**
Pregnancy Care Management
Prevent Ongoing Spread of STIs**
Centers for Disease Control and Prevention (CDC) Public Health Associate Program Dental Clinic (PHAP)*
HIS/Epidemiology and Surveillance*

- *Representative of a state, local, tribal, or regional governmental public health department (or equivalent department or agency)

- ** Members of medically underserved, low-income, and minority populations in the community served by the hospital facility, or individuals or organizations serving or representing the interests of such populations

Appendix B: Secondary Data Sources

CHA Secondary Data Sources - Agency
The State Center for Health Statistics
The North Carolina Electronic Disease Surveillance System (NCEDSS)
The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NCDETECT)
The 2015 Winston-Salem/Forsyth County High School Youth Risk Behavior Survey
The US Bureau of Census
The North Carolina Uniform Crime Reporting (UCR) Program
North Carolina Coalition to End Homelessness (NCCEH)