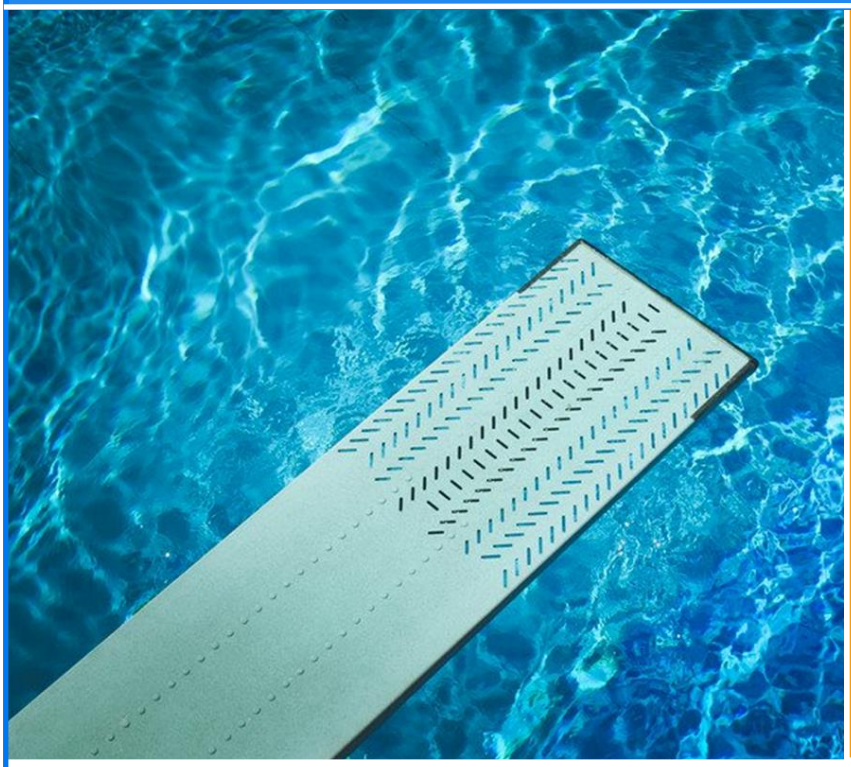
2019

COMMUNITY HEALTH ASSESSMENT

GUILFORD COUNTY



A DEEPER DIVE

Advancing Health Priorities in Guilford County

Guilford County Department of Health & Human Services

UNC Greensboro Department of Public Health Education

Cone Health

Wake Forest Baptist Health High Point Medical Center

United Way of Greater Greensboro

Guilford Community Care Network
Assuring Access to Healthcare for All

UNC Greensboro Department of Nutrition

ADS Alcohol & Drug Services

fellowship HALL Drug + Alcohol Recovery Center

United Way of Greater High Point

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Members of the Guilford Assessment Team and other community partners also provided input into this Community Health Assessment and the reference materials herein.

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The **Guilford Assessment Team** includes representatives the following agencies (See Appendix B for complete list of members):

- Alcohol & Drug Services of Guilford, Inc. (ADS)
- Cone Health
- Fellowship Hall
- Guilford Community Care Network
- Guilford County Department of Health and Human Services, Public Health Division
- The University of North Carolina at Greensboro, Department of Public Health Education and Department of Nutrition
- United Way of Greater Greensboro
- United Way of Greater High Point
- Wake Forest Baptist Health - High Point Medical Center

These representatives formed the core team which, through financial support and in-kind contributions of time and expertise, developed and implemented the Key Informant Surveys, conducted the Assessment Workshops, developed the Piedmont Health Counts website, analyzed available data and produced this assessment. Additional support was provided by student interns, Kristian Curry and Peace Okpala, from The University of North Carolina at Greensboro MPH program and Angela Kammen from the Public Health program at Elon University.

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Executive Summary

I. Vision Statement

The 2019 Community Health Assessment (CHA) vision is to conduct a "deeper dive" to develop greater understanding of the health focus areas of Maternal and Child Health, Healthy Living and Active Living, Behavioral Health, and Social Determinants of Health. CHA goals are to identify key actionable issues, potential points of leverage and services or program gaps to inform efforts to eliminate health disparities and improve population health.

II. Leadership

The 2019 CHA leadership is bi-sectoral. The Guilford County Department of Health and Human Services Public Health Division and local hospitals (Cone Health, Wake Forest Baptist Health-High Point Medical Center and Fellowship Hall) are accountable to the NC Local Health Department Accreditation Board and the Internal Revenue Service, respectively, for successful completion of the CHA every three years.

III. Partnerships

The CHA Team included the following partner types:

Partners	Number of Partners
Public Health Agency	1
Hospital/Health Care System(s)	3
Behavioral Health Care Provider(s)	1
Educational Institution – colleges, universities	1
Community Organization(s) – advocacy, charitable	3

IV. Theoretical Framework/Model

Social-Ecological Model

V. Collaborative Process Summary

Primary data on the four focus areas were collected through a series of online Key Informant Surveys and workshops attended by persons known as subject matter experts or otherwise knowledgeable regarding the focus areas. The survey included questions about key challenges to making improvements in the priority focus areas, as well as disparities and population subgroups impacted, gaps and needs in existing services and programs, existing programs and policies that are perceived to be effective and ideas for needed programs and policies. At a series of half-day workshops, participants engaged in facilitated discussion to consider both quantitative data and data from the Key Informant Surveys to identify key issues and recommendations for improvements.

VI. Key Findings

Maternal and Child Health (MCH)

Poor birth outcomes are a significant problem, with rates of low birthweight, preterm birth and infant mortality substantially higher than national benchmarks, NC and peer counties, with African-American women experiencing consistently poorer birth outcomes than Whites. Much of the racial disparity in infant mortality can be explained by the disproportionate number of very low birthweight births among African-American women. The biggest challenges to improving pregnancy outcomes identified by MCH Key Informants were reductions in inequalities in the social determinants of health, issues of toxic stress and improvements in preconceptional health.

Healthy Eating/Active Living (HEAL)

The county has 26 "food desert" census tracts with limited access to healthy food outlets and limited resources to purchase healthy foods, as well as high rates of obesity and persons not engaging in leisure time physical activity. The crucial issues are access to healthy food, the cost of healthy food and lack of access to healthy food outlets. The most important challenge to increasing physical activity noted by Key Informants was safety issues of crime and

traffic, followed by cost of exercise facilities and lack of sidewalks. Improvement approaches include targeting areas with fewer resources, support for a living wage, equity-oriented policies and transformation of policies that previously led to inequality of access to resources.

Social Determinants of Health

Life expectancy in Guilford County varies by up to 20 years depending on the census tract in which one lives. Low life expectancy, low educational attainment, high poverty areas of the county are also areas with higher concentrations of African-Americans and other racial/ethnic minorities, creating areas of concentrated disadvantage that have negative impacts on population health. African-Americans living in areas of concentrated disadvantages are living with the legacy of segregation, housing discrimination and governmental policies that have perpetuated segregation and social inequality for decades. Improvement will require focused development across systems.

Behavioral Health

County suicide rates show an increasing trend, while mortality rates from unintentional drug poisoning are higher than in peer counties. Emergency Department visits due to opioids showed a small improvement in 2018. The most crucial behavioral health issues identified were access to mental health services and the important role of the social determinants of health. Critical challenges to improving the problem of opioid misuse are access to dependency treatment services, cost and knowledge of available treatment services and limited availability of medication-assisted treatment.

VII. Guilford County Priority Health Issues

- Maternal and Child Health
- Healthy Eating and Active Living
- Behavioral Health (Mental Health and Opioid Misuse and Overdose) and
- Social Determinants of Health (including Healthy Housing)

VIII. Next Steps

Upon completion and dissemination of the 2019 CHA report, the CHA leadership partners will convene action-planning processes to develop improvement plans to address priority health issues.

1 Background & Introduction

Why Do We Do This Assessment?

Many individuals and organizations in Guilford County want to improve the quality of life in our community. To do so, we must objectively consider our needs, assets, strengths, resources and challenges, and we must do this together. The Guilford County Community Health Assessment analyzes existing data on health outcomes and conditions, and the factors that drive these statistics: our behaviors and decisions, access to high quality medical care, social and economic issues, and the environments in which we live, work, worship, play and grow.

The findings in this document lead us to action.
Action plans to improve the following priorities will be posted on our website, www.piedmonthealthcounts.org in 2019 and 2020, and we will work together to put these plans into practice:

- **Healthy Eating/Active Living,**
- **Social Determinants of Health,**
- **Behavioral Health and**
- **Maternal and Child Health.**

The Importance of Community Health Assessment

Community health assessment:

- Provides valuable information on the health needs and assets within Guilford County.
- Identifies priority health issues.
- Informs the development of action plans that address community health concerns.

The Public Health Division of the Guilford County Department of Health and Human Services and local hospitals (Cone Health, Wake Forest Baptist Health-High Point Medical Center and Fellowship Hall) are accountable to the NC Local Health Department Accreditation Board and the Internal Revenue Service, respectively, for successful completion of the Community Health Assessment/Community Health Needs Assessment (CHA/CHNA) and strategic plans to address the priority areas identified herein. The next assessment will be completed in 2021-2022.

A Collaborative Effort

The Guilford Assessment Team (GAT) includes representation from agencies that include: education and academia, local government, business, health care, public health, philanthropy and human services (see *Acknowledgements* section for a detailed listing). Such wide representation assures that Guilford County residents of all backgrounds and interests are thoughtfully considered and included in this assessment. The GAT formed a core nucleus that provided the planning, data collection and analysis for the assessment and created this document.

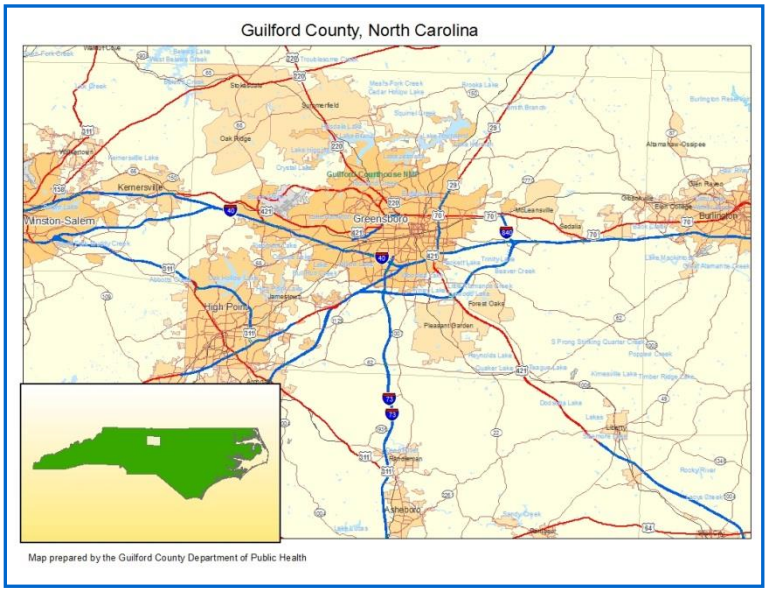
What We Have Accomplished So Far

The GAT collected data from numerous sources, surveyed Key Informants on our top health priorities, held four deep dive workshops, compiled community input on priorities to create this document. To keep local health data current and monitor progress on priorities until the next assessment, we will continue to utilize the Piedmont Health Counts website. For more information and updates on our progress, go to: www.piedmonthealthcounts.org.

2 Description of Guilford County

Geography

Guilford County is the third most populous county in North Carolina. It is in the north central area of the state and is a part of the Piedmont Triad. The Piedmont Triad is primarily made up of three cities - Winston Salem, Greensboro and High Point, the latter two of which are located in Guilford County. This area has historically served as one of the major manufacturing and transportation hubs of the Southeast. Greensboro is centrally located in Guilford County, Winston Salem is in Forsyth County and High Point is spread across Guilford, Forsyth, Davidson and Randolph counties. The Piedmont Triad has now grown to include three Metropolitan Statistical Areas (MSAs) - Greensboro-High Point, Winston-Salem and Burlington - and two Micropolitan Areas, Thomasville-Lexington and Mount Airy.



History

Guilford County is named after Francis North, the first Earl of Guilford and British Prime Minister from 1770 to 1782. Guilford County has been the site of significant historical events, home to industrial development, most notably textiles and furniture, in addition to having a rich history in academia. The Piedmont area and Guilford County specifically are noted to be a stop on the historic Underground Railroad, with ties to Quakers who settled in the area. Greensboro is also home to a notable event in the civil rights era, the Woolworth lunch sit-in, when students protested segregation through sit-ins at the Woolworth store in downtown Greensboro. The former Woolworth store location is now the site of the International Civil Rights Center and Museum.

Economy

Centered on textile manufacturing, the establishment of Greensboro's economy began in the early 1800s when Henry Humphrey built the first steam powered cotton mill in Greensboro. This innovation laid the groundwork for Moses and Caesar Cone, who built one of the first Southern textile finishing plants: Southern Finishing & Warehouse Company in 1893 as well as the denim manufacturing plant, Proximity Cotton Mills, in 1895. This legacy continues with manufacturing among the industry leaders for employment in Guilford County and the presence of the VF Corporation, the largest denim jeans producer in the nation.

Education

Academia also has a long history in Guilford County. The Welsh Quakers settled the western part of Guilford County, establishing a boarding school in 1837, which grew into Guilford College, the first Southern coeducational academic institution. The following year, the Methodist Church founded Greensboro College. Numerous other colleges and universities were established here including the University of North Carolina at Greensboro, and North Carolina Agricultural & Technical University which is the largest publicly funded historically black college/university in the state. The diverse education opportunities offered by the county both for primary and secondary learning are the inheritance of the work done to support and grow education.

Demographic Characteristics of Guilford County Residents

Comparison counties included peer counties (Durham, Forsyth, Mecklenburg, and Wake).

Population Trends

- The estimated 2017 population for Guilford County was 526,953, as compared to 488,406 in 2010.
- From 2010 to 2017, the state, Forsyth and Guilford counties experienced low population growth (below 9%), while Durham, Mecklenburg and Wake counties experienced a higher population growth greater than 15%.

Residence	2010	2017 Estimates	Percentage Change
North Carolina	9,535,483	10,273,419	8%
Durham	267,587	311,640	16%
Forsyth	350,670	376,320	7%
Guilford	488,406	526,953	8%
Mecklenburg	919,628	1,076,837	17%
Wake	900,993	1,072,203	19%

Source: American Community Survey, U.S. Census Bureau, 2010 and 2017 estimates.

Guilford County Municipalities Comparison

This table provides a comparison of the population change for the select Guilford County cities and towns between 2010 and 2017.

- The town of Whitsett experienced the largest population percentage increase at 65%, followed by Jamestown at 13%.
- The town of Sedalia saw a 13% population decline.

Guilford County Municipalities	2010	2017 Estimates	Percentage Growth
Gibsonville	6,410	6,845	6.8%
Greensboro	269,666	288,186	6.9%
High Point (part)	104,371	109,845	5.2%
Jamestown	3,382	3,836	13.4%
Oak Ridge	6,185	6,728	8.8%
Pleasant Garden	4,489	4,762	6.1%
Sedalia	623	548	-13.7%
Stokesdale	5,047	5,331	5.6%
Summerfield	10,232	10,957	7.1%
Whitsett	590	973	64.8%

Source: American Community Survey, U.S. Census Bureau.

Median Age and Gender Distribution of North Carolina, Guilford and Peer Counties

Residence	Median Age	Male		Female	
		Number	Percentage	Number	Percentage
North Carolina	38.8	5,003,155	48.7%	5,270,264	51.3%
Durham	35.5	148,964	47.8%	162,676	52.2%
Forsyth	38.4	179,128	47.6%	197,192	52.4%
Guilford	37.6	249,776	47.4%	277,177	52.6%
Mecklenburg	35.1	517,959	48.1%	558,878	51.9%
Wake	35.7	522,163	48.7%	550,040	51.3%

Source: American Community Survey, U.S. Census Bureau, 2017 estimates.

- Durham, Mecklenburg and Wake counties have the youngest median ages, with estimated median age of 35.5, 35.1 and 35.7 respectively compared to the whole state of North Carolina with a median age of 38.8. Guilford County remains below the state median estimate at 37.6.
- The gender distribution remains similar in North Carolina, Guilford County and surrounding counties, with slightly more females than males.

Race and Ethnicity

Racial Distribution of North Carolina and CHA Counties

Residence	White		Black/African American		American Indian/ Alaska Native		Asian		Native Hawaiian/ Other Pacific Islander		Some Other Race	
	#	%	#	%	#	%	#	%	#	%	#	%
North Carolina	7,066,745	68.8	2,206,579	21.5	119,909	1.2	295,672	2.9	8,385	0.1	309,141	3.0
Durham	163,126	51.6	112,143	36.9	606	0.2	14,634	5.1	230	0.1	11,001	3.4
Forsyth	252,635	67.1	98,124	26.1	1,329	0.4	9,695	2.6	429	0.1	5,759	1.5
Guilford	294,026	55.8	181,326	34.4	2,831	0.5	27,306	5.2	218	0.0	9,329	1.8
Mecklenburg	577,573	53.6	337,103	31.3	4,440	0.4	61,859	5.7	440	0.0	62,738	5.8
Wake	700,220	65.3	213,025	19.9	3,877	0.4	76,162	7.1	425	0.0	49,916	4.7

Source: American Community Survey, U.S. Census Bureau, 2017 estimates.

- For the North Carolina population, Whites made up 68.8%. Regionally, there was variability across counties, with highest percentages of Whites in Forsyth (67.1%) and Wake (65.3%); and with the lowest percentage in Durham (51.6%).
- Durham is the county with the highest population identified as Black/African American (36.9%); Wake had the lowest percentage at 19.9%.
- Wake, Mecklenburg, Guilford and Durham are the counties with the highest population who identified as Asian, above the North Carolina percentage of 2.9% at 7.1%, 5.7%, 5.2 % and 5.1% respectively.

- Based on the Census Bureau population estimates, 9% of North Carolina population identified as Hispanic.
- There was some Hispanic variability across CHNA counties, with percentages highest in Durham County (13.7%), Mecklenburg (13.3%) and Forsyth (13%); and lowest in Guilford (8.1%).

Hispanic Population

Residence	Number	Percentage
North Carolina	962,466	9.4%
Durham	42,545	13.7%
Forsyth	48,828	13.0%
Guilford	42,456	8.1%
Mecklenburg	143,400	13.3%
Wake	109,867	10.2%

Source: American Community Survey, U.S. Census Bureau, 2017 estimates.

Households and families

- North Carolina and Guilford have the same average household size of 2.5 persons.
- There were an estimated 203,199 total households in Guilford County according to 2017 estimates.

Residence	Total Number of Households	Average Household Size
North Carolina	3,955,069	2.5
Guilford	203,199	2.5

Source: American Community Survey, U.S. Census Bureau, 2017 estimates.

Types of Households

- Guilford County had a slightly lower proportion of family households at 62.5%.
- Of the family households in Guilford County, the majority were married couples (41.4%), followed by householders living alone (33.1%); and male householders with no wife represent (4.5%).

	All Family Households		Nonfamily Households	
Residence	**Number**	**%**	**Number**	**%**
North Carolina	2,499,174	66.7	1,245,981	33.3%
Guilford	126,983	62.5	76,216	37.5%

Source: American Community Survey, U.S. Census Bureau, 2017 estimates.

Households with Children under Age 18

Residence	Total		Married Couple		Male Householder, no wife present		Female householder, no husband present	
	#	%	#	%	#	%	#	%
North Carolina	1,248,342	33.3%	732,199	19.6%	85,199	2.3%	292,504	7.8%
Guilford	57,239	28.2%	88,766	43.7%	9,166	4.5%	29,051	14.3%

Source: American Community Survey, U.S. Census Bureau, 2017 estimate.

3 Assessment Methodology

Data Collection

Assessing health needs involved collection and assessment of a wide range of data on measures of health and health-related factors including morbidity and mortality, health behaviors, clinical care, social and economic factors and environmental factors. Primary data were collected through Key Informants Surveys.

Secondary Data

Mortality, Birth and Reportable Disease Data

Secondary data for mortality and morbidity were obtained from the County Health Data Book published by the North Carolina State Center for Health Statistics. Data reported for leading causes of death and birth outcomes are compiled from birth certificates and death certificates collected by individual counties and reported to the State Center for Health Statistics (SCHS). Reportable communicable disease data are collected from county health departments, hospitals and testing labs through the NC Electronic Disease Surveillance System (NCEDSS) and compiled for the County Health Databook by the SCHS. Data limitations: mortality, birth and reportable disease data in North Carolina are generally complete and reliable due to statutory reporting requirements and uniform collection and reporting methods.

American Community Survey

Data on social and economic determinants of health were drawn from the American Community Survey, a nationwide, continuous telephone survey administered by the US Bureau of the Census. Data limitations: because the American Community Survey employs population sampling methods, it is subject to sampling variability and therefore represents estimates rather than counts. In previous assessments, data on health risk factors were drawn from the Behavioral Risk Factor Surveillance System (BRFSS), a survey sponsored by the Centers for Disease Control and Prevention (CDC). Due to declining numbers of landline telephones in households, BRFSS estimates are no longer available at the county level. Some BRFSS risk factor data were taken from the County Health Rankings, which uses CDC-developed statistical data modeling methods to generate county-level estimates.

Primary Data Collection

Key Informant Surveys

Primary data on the focus areas of Maternal and Child Health, Healthy Eating and Active Living, Behavioral Health, and Social Determinants of Health, were collected through a series of online key-informant SurveyMonkey surveys and in-person workshops attended by Key Informants.

Key Informants were identified through several methods, including mailing lists from existing relevant coalitions and organizations and snowball sampling of persons known as subject matter experts or otherwise knowledgeable regarding the focus areas. Persons receiving invitations to complete a Key Informant Survey were asked to identify additional persons whose views should be included in the assessment.

In early March 2019, over 500 Key Informants across the four focus areas received invitations to complete a SurveyMonkey survey in their area of interest. The online survey included questions about crucial issues and challenges to making improvements in the priority focus areas, disparities and population subgroups impacted by the issues, gaps and needs in existing programs and services, existing programs and policies that are perceived to be effective, and ideas for programs and policies that are promising for making needed improvements. The survey included questions with both multiple-choice and open-ended response options to provide rich qualitative data.

Key Informant Assessment Workshops

A series of four Assessment Workshops were held in April and early May of 2019, with invitations going to all persons who were previously invited to complete Key Informant Surveys. At these half-day workshops, participants engaged in facilitated discussion to consider both quantitative secondary data and qualitative data from the Key Informant Surveys to identify key issues and recommendations for improvements. Members of the assessment team took notes during the workshop, and summaries of discussion themes are presented in Chapters 5, 6, 7 and 8. Workshop participants also responded by text to questions using the "Poll Everywhere" software; these responses generated "word clouds" that are reproduced in these chapters. During the workshops, participants could see others' responses populate on screen as they answered the questions anonymously. Larger font size indicates that a larger number of identical responses. Participants also worked in groups and took notes on promising approaches to issues of concern; these are presented (along with survey responses) in tables of upstream, midstream and downstream approaches.

Table 1: Respondents and Participants to Key Informant Surveys and Assessment Workshops	Number Invited to Respond to Survey	Number of Survey Respondents	Number of Attendees
Maternal & Child Health	**157 (15 additions)**	**53**	**30**
Pregnancy and Childbirth	101	34	
Early Childhood Health & Well-Being	41	19	
Healthy Eating and Active Living	**213 (16 additions)**	**65**	**15**
Healthy Eating	170	44	
Active Living	27	21	
Social Determinants of Health	**90 (14 additions)**	**34**	**19**
Healthy Housing	29	10	
Education & Economic Health	47	24	
Behavioral Health	**119 (21 additions)**	**56**	**25**
Mental Health	43	31	
Opioid Misuse & Overdose	55	25	
Total Numbers	**579**	**208**	**89**

Choosing Priorities

The purpose and context of Community Health Assessments have changed over the years since Guilford County published its first assessment in 1997. Earlier assessments presented encyclopedic data about a wide range of health conditions and behaviors, and involved a community process to determine top priorities for action. In more recent years, due to the prevalence of data available on the internet, the need for an encyclopedic fact book about local health has waned, while the need for informed data analysis and synthesis has increased. With this in mind, the assessment team decided early in this process to maintain the health priorities that were identified in the 2016 assessment: maternal and child health; social determinants of health; behavioral health; and healthy eating/active living. According to our quantitative data, these areas remain topics of urgent concern; there is clearly more work to be done, and many groups in Guilford County are working to improve these issues.

Instead of using the assessment process to identify new priorities, this assessment takes a deeper dive into these areas of concern. Readers will find in-depth discussion of the quantitative data, as well as Key Informant Survey data and workshop discussion data within chapters 5, 6, 7 and 8. Tables on "Promising Approaches" in these chapters provide summaries of key conditions our community would like to improve, midstream interventions (changes in behaviors, environments and infrastructure) and upstream interventions (changes in policy and social equity) related to each of the priority areas. These tables represent a snapshot of current thinking among practitioners and people affected by these issues in Guilford County. It is the hope of the assessment team that this "deeper dive" approach will benefit existing efforts to address these issues, and point the way towards areas of focus within these priorities.

Limitations

While this assessment has pulled together a large quantity of qualitative and quantitative data from a wealth of sources, we recognize the inherent limitations in any project ambitious enough to attempt to categorize the health status of a large population. The assessment team used the most recent quantitative data available, but it must be noted that very important indicators are simply not available for analysis. Data relating to health behaviors such as smoking, eating and physical activity have proven difficult to collect and as such are no longer available at the county level. Other data that would benefit our communities, especially data related to behavioral health, Adverse Childhood Experiences (ACEs), early childhood development and experiences of discrimination, are either non-existent, old, or collected at geographic levels (such as the NC Piedmont) that render it difficult to analyze for our purposes.

The assessment team made attempts at broad inclusion with open invitations in our key information surveys and assessment workshops, but there are inherent limitations in participation that should be noted. Some respondents may not have found it convenient to answer an electronic survey; for others that was easier than other formats. Likewise, issues of scheduling may have impacted some community members who would have otherwise participated in assessment workshops. We acknowledge that the analysis and findings offered in this assessment are based on the viewpoints of those able and willing to participate.

While the assessment team recognizes the benefits of structuring the primary data collection around existing priority areas, we also acknowledge this as a limitation of this study. The deeper dive approach allows for multi-layered analysis of critical concerns, but limits our capacity to investigate important emerging areas of concern, such as gun violence or the effects of climate change on public health. The assessment team is aware of these limitations and remains attuned to methods to remedy these limitations through additional opportunities for data collection and analysis.

4 Data on the Health and Well-being of Guilford County Residents

Mortality

Leading Causes of Death and Years of Potential Life Lost

Leading causes of death and Years of Potential Life Lost (YPLL) are measures that help us understand how specific causes of death impact Guilford County's health. Of the 4,598 deaths in Guilford County in 2017, over half were due to chronic diseases such as cancer, heart disease, stroke and others. Most deaths from chronic degenerative conditions are age-related, occurring later in life as people get older. While the leading cause of death in the United States in 2017 was heart disease, cancer has been the leading cause of death in Guilford County since 2008, followed by heart disease. The leading cancer causes of deaths in 2017 were lung, colon, breast, pancreatic and prostate cancer.

Selected Leading Causes of Death for 2017 and Five Year Average Years of Potential Life Lost (YPLL), 2013-2017

Causes of Death	Deaths in 2017	YPLL 2013-2017
Cancer (all types)	914	14,695
Diseases of the Heart	831	11,131
Alzheimer's Disease	262	3,085
Stroke	258	1,822
Non-Motor Vehicle Injuries	220	4,842
Chronic Lower Respiratory Disease	198	2,736
Nephritis, Kidney disease	132	2,093
Diabetes	152	1,554
Pneumonia and Influenza	129	1,331
Chronic Liver Disease and Cirrhosis	78	1,442
Motor Vehicle-related Injuries	71	2,108
Suicide	63	2,125
Essential (Primary) Hypertension	63	1,749
Homicide	51	1,749
Total Deaths	**4,598**	**70,401**

Source: North Carolina State Center for Health Statistics, County Health Data Book. Guilford County Death Certificate File.

YPLL estimates the number of years lost because of premature deaths prior to the age of life expectancy, which in Guilford County is about 78.4 years. YPLL shows the impact of mortality that adversely impact younger age groups, such as intentional and unintentional injury. Cancer and heart disease mortality dominate the years of potential life lost, but deaths that occur earlier in life, such as: injury deaths, homicide, suicide and motor vehicle deaths, have a disproportionate impact on Years of Potential Life Lost.

Mortality Disparities

Mortality disparities are seen by race, sex and age. African-American residents have higher age-adjusted mortality rates than Whites for many chronic disease conditions, as well as homicides. Whites have higher rates of mortality due to suicide, chronic lower respiratory disease and non-motor vehicle injuries. Men have higher mortality rates from chronic conditions, suicide, homicide and injuries. Women have higher mortality rates due to Alzheimer's disease and dementia. In 2017, the leading causes of death among children ages 1-19 were motor vehicle crashes, suicide and homicide. Among young adults ages 20-39, the leading causes of death were non-motor vehicle injuries, homicide, motor vehicle injuries and suicide. Chronic diseases such as cancer, heart disease, chronic lower respiratory disease and Alzheimer's disease were the leading causes of death for those over 60 years of age.

Age-Adjusted Mortality Rates by Race and Sex, 2013-2017

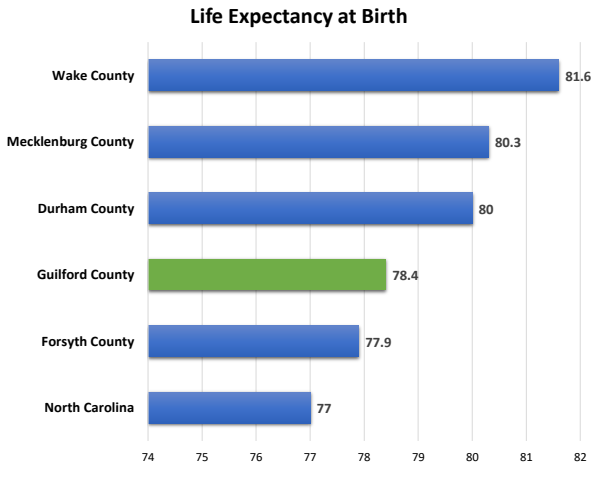
Cause of Death	North Carolina	Guilford County	White	Black	Males	Females
Coronary Heart Disease	159.8	138.2	130.6	167.9	179.5	107.9
Total Cancer	164.0	156.7	150.8	179.2	194.3	130.6
Lung Cancer (Includes Trachea, Bronchus & Lung)	45.9	42.2	42.8	42.1	55.7	32.2
Prostate Cancer (Males Only)	19.7	22.1	17.8	40.6	22.1	NA
Breast Cancer (Females Only)	20.9	20.2	16.8	28.2	NA	20.2
Colorectal Cancer	13.7	12.3	12.1	167.9	14.4	10.6
Stroke	43.2	43.0	38.6	55.5	44.3	41.0
Chronic Lower Respiratory Disease	45.5	35.4	40.8	23.0	38.8	33.6
Diabetes	23.3	22.0	17.5	36.4	28.0	17.2
Suicide	13.3	11.0	16.3	4.5	17.4	5.4
Homicide	6.4	7.6	2.4	15.4	12.8	2.9
Unintentional Motor Vehicle Injuries	14.2	10.6	10.2	11.8	17.4	4.7
All Other Unintentional Injuries	34.6	35.1	45.4	22.9	46.0	25.8

Source: North Carolina State Center for Health Statistics, North Carolina DHHS. 2019 County Health Data Book.

Life Expectancy

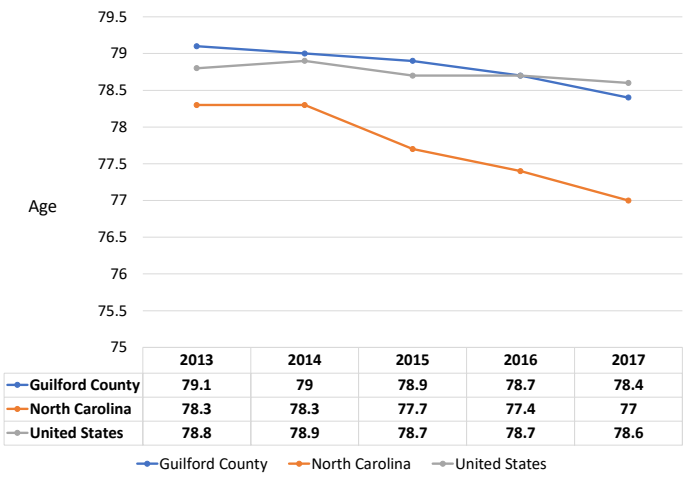
Life expectancy is a measure of overall population health, summarizing death patterns across all age groups. Life expectancy at birth in Guilford County is 78.4 years, higher than North Carolina as a whole, at 77.0 years, but lower than some peer counties. Life expectancy has declined in Guilford County over the last several years, a decline that is seen statewide and at the national level as well. In Guilford County, the average life expectancy obscures a wide range of variation and disparities within the county. Census tracts with high percentages of African-American residents, high rates of poverty and low rates of educational attainment tend to have lower life expectancy. Life expectancy varies by up to 20 years depending on where residents live in the county.

Life Expectancy at Birth, North Carolina (2017), Guilford and Peer Counties (2015-2017)



Source: County Health Databook, NC State Center for Health Statistics.

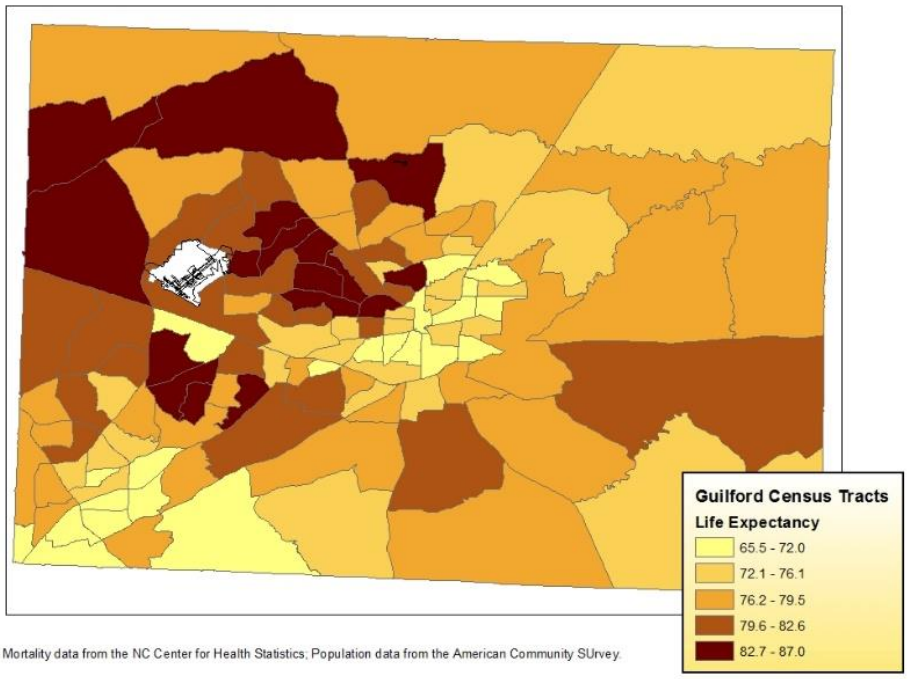
Trends in Life Expectancy, 2013-2017



	2013	2014	2015	2016	2017
Guilford County	79.1	79	78.9	78.7	78.4
North Carolina	78.3	78.3	77.7	77.4	77
United States	78.8	78.9	78.7	78.7	78.6

Source: County Health Databook, NC State Center for Health Statistics.

Life Expectancy at Birth by Census Tract, Guilford County, 2012-2016



Source: Mortality data from the NC Center for Health Statistics; Population data from the American Community SUrvey.

Morbidity

Child Health

Children are impacted by many physical and mental health conditions even though mortality rates for children are low. One important source of child health data is reports from school nurses serving public elementary, middle and high schools in Guilford County. The following chart presents data on leading identified health conditions, which are conditions that require some degree of action at school, including medications, developing individual health care plans or other health related accommodations. The leading health issues resulting in either a Nursing Care Plan (NCP), an Individualized Health Plan (IHP) or an Emergency Action Plan (EAP), are asthma, severe allergies, ADD/ADHD, autistic disorders, emotional and behavioral concerns, seizure disorders, migraine headaches, cardiac conditions and Type I diabetes.

Number of Students with Identified Health Conditions, Guilford County Schools, Academic Year 2017-2018

Condition	Elementary	Middle School	High School	Number of Related Plans of Care (NCP, IHP, EAP)
Asthma	2,689	1,325	1,293	5,230
Allergies (severe)	1,593	720	707	2,937
ADD/ADHD	883	568	610	1,107
Autistic disorders	503	174	250	675
Emotional/behavioral	142	90	183	149
Seizure Disorder/ Epilepsy	163	95	135	377
Migraine headaches	90	115	166	301
Cardiac conditions	57	35	58	118
Diabetes Type I	52	67	108	227

Source: School Nurse End of Year Report, 2017-2019;
Note: NCP = Nursing Care Plan; IHP = Individualized Health Plan; EAP = Emergency Action Plan.

Disability

Guilford County had the highest percentage of the civilian non-institutionalized population with a disability among peer counties, at 11%, but less than that of North Carolina (13.7%). In Guilford County, it was estimated that 3.4% of those under the age of 18 had a disability, as compared to 8.8% of those ages 18 to 64 and 33.3% of those age 65 and over.

Disability Status, Civilian Noninstitutionalized Population, 2013-2017

Residence	Total		Under 18		18-64		65+	
	Number	%	Number	%	Number	%	Number	%
North Carolina	1,344,677	13.7%	100,939	4.4%	704,954	11.6%	538,784	36.6%
Durham	30,452	10.3%	2,190	3.4%	16,967	8.6%	11,295	33.6%
Forsyth	38,317	10.5%	2,573	3.0%	19,131	8.5%	16,613	31.1%
Guilford	55,399	11.0%	4,002	3.4%	28,703	8.8%	23,694	33.3%
Mecklenburg	89,143	8.7%	6,825	2.7%	49,035	7.3%	33,283	31.7%
Wake	85,684	8.4%	8,965	3.6%	44,021	6.7%	32,698	31.1%

Source: American Community Survey, 2013-2017.

Chronic Disease

Chronic diseases are health conditions that develop over a long period of time and are characterized by progressive impairment, degeneration or loss of function. They often have multiple causal factors and are not typically amenable to straightforward medical cures and are thus considered chronic. As the mortality data show: cancer, heart disease and stroke are the most common causes of death. Risk factors for chronic diseases include obesity, tobacco use, physical inactivity, diet and nutrition. The Centers for Disease Control and Prevention recommend behavioral changes to reduce these risk factors, including healthy eating, increasing physical activity, reducing sun exposure, as well as avoiding smoking and exposure to secondhand smoke.

Age-Adjusted Cancer Incidence Rates per 100,000 Population, North Carolina and Select Counties, 2013-2017

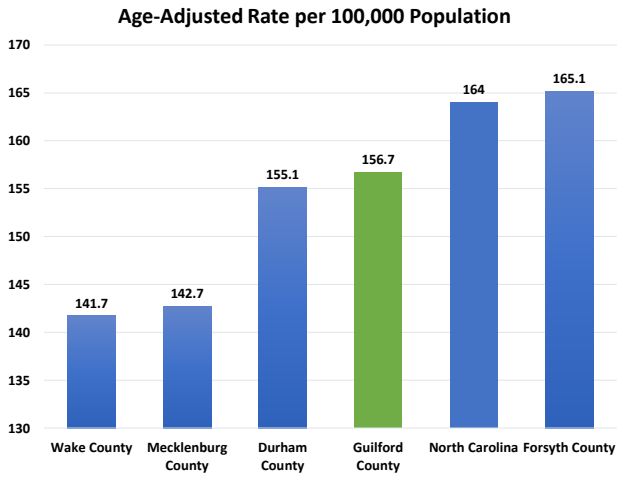
County	Colon/Rectum		Lung/Bronchus		Breast		Prostate		All Cancers	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
North Carolina	21,005	36.0	39,804	66.0	50,083	160.2	32,507	111.9	277,545	470.0
Durham	473	32.2	744	51.3	1,438	174.1	772	111.3	6,843	456.1
Forsyth	762	35.9	1,469	67.2	1,981	171.3	1,204	117.7	10,424	486.1
Guilford	991	34.0	1,898	65.1	2,952	186.0	1,769	125.9	14,269	488.6
Mecklenburg	1,622	33.8	2,367	52.6	4,757	174.0	3,067	136.9	22,021	454.4
Wake	1,491	31.5	2,279	50.7	4,640	169.9	2,829	122.2	22,457	462.8

Source: NC Central Cancer Registry, NC State Center for Health Statistics, County Health Databook.

Cancer Incidence and Mortality

Incidence rates refer to the number of new cases of cancer for every 100,000 persons in the population. The five-year age-adjusted cancer incidence rates for all cancers and breast cancer in Guilford County exceed North Carolina and peer county rates. While cancer incidence is higher in Guilford County than the state, cancer mortality rates in the county are lower than state rates, but higher than in peer counties Wake and Mecklenburg. Lung cancer continues to be the leading cause of cancer mortality in Guilford County, followed by breast cancer, prostate cancer and colorectal cancer.

Cancer Mortality Rates by County, 2013-2017



Source: County Health Databook, NC State Center for Health Statistics.

Deaths from Cancer by Type, All Residents, Guilford County, NC, 2017

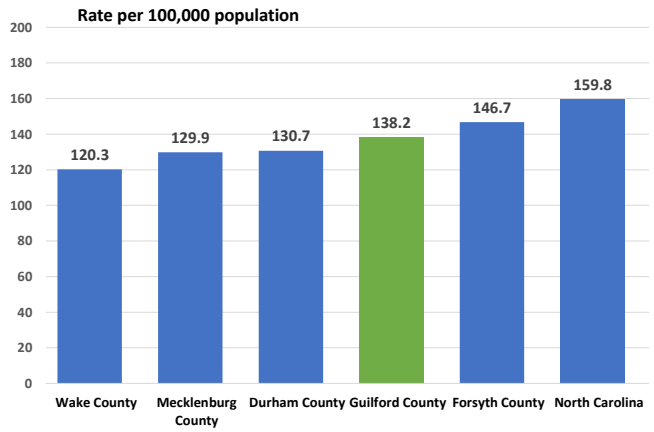
Cancer Cause of Death	Deaths	Rate per 100,000
1. Lung	229	43.5
2. Colon	89	16.9
3. Breast	73	26.3
4. Pancreatic	63	12.0
5. Prostate	57	22.8
6. Liver	31	5.9
7. Leukemia	30	5.7
8. Stomach	25	4.7
9. Non-Hodgkin's Lymphoma	23	4.4
10. Brain	22	4.2
11. Ovary	22	7.9
12. Lip	21	4.0
13. Bladder	20	3.8
14. Skin	10	1.9
15. Larynx	9	1.7
16. Cervical	8	2.9
Other Cancer Deaths	182	NA
Total Cancer Deaths	914	173.5

Source: NC Mortality File, Center for Health Statistics; NC Demographers Office.
Note: Rates for Breast and Prostate cancer are based on the population of females and males in Guilford County, respectively.

Heart Disease Mortality

Heart disease is a category of conditions that affect the heart, including coronary artery disease, which can cause angina or heart attack due to plaque buildup on the walls of the arteries, also known as atherosclerosis. Guilford County, with an age-adjusted five-year heart disease mortality rate of 138.2 per 100,000 population, has met and exceeded the Healthy North Carolina 2020 objective of reducing the cardiovascular disease mortality rate to the target of 161.5, and is lower than the state and national rates. Despite improvements, heart disease runs a close second to cancer as a leading cause of death, and exceeds cancer as a cause of hospitalizations and a driver of hospital costs.

Heart Disease Mortality Rates by County, 2013-2017



Source: County Health Databook, NC State Center for Health Statistics.

Disparities in Chronic Disease Mortality

Age-Adjusted Mortality Rates per 100,000, by Race/Ethnicity, 2013-2017

Chronic Disease Death Rate per 100,000 Population	North Carolina	Guilford County	White, Non-Hispanic	African American, Non-Hispanic	Males	Females
Total Cancer Death Rate	164.0	156.7	150.8	179.2	194.3	130.6
Heart Disease Death Rate	159.8	138.2	130.6	167.9	179.5	107.9
Lung Cancer Death Rate	45.9	42.2	42.8	42.1	55.7	32.2
Prostate Cancer Death Rate (Males Only)	23.3	22.0	17.8	40.6	22.1	NA
Breast Cancer Death Rate (Females Only)	19.7	22.1	16.8	28.2	NA	20.2
Colorectal Cancer Death Rate	13.7	12.3	12.1	14.2	14.4	10.6
Pancreatic Cancer Death Rate	11.0	12.2	10.3	17.8	13.6	11.2
Stroke Death Rate	43.2	43.0	38.6	55.5	44.3	41.0
Chronic Lower Respiratory Disease Rate	45.5	35.4	40.8	23.0	38.8	33.6
Alzheimer's Disease Death Rate	33.7	37.9	37.7	41.7	29.1	42.6
Diabetes Death Rate	23.3	22.0	17.5	36.4	28.0	17.2

Source: County Health Databook, 2016; NC State Center for Health Statistics.

Racial disparities in death rates persist for cancer, heart disease and other chronic conditions as the mortality data below highlight. African-American residents tend to have higher age-adjusted death rates for heart disease, strokes, diabetes and all cancers except lung cancer than do Whites. There were especially large disparities in mortality due to diabetes and prostate cancer. African-Americans in Guilford County have almost twice the death rates as Whites for these conditions. Whites had higher rates of chronic lower respiratory disease death rates. Men in Guilford County have higher mortality rates due to cancer, diabetes and heart disease. Women in the county have higher mortality rates than men due to Alzheimer's Disease.

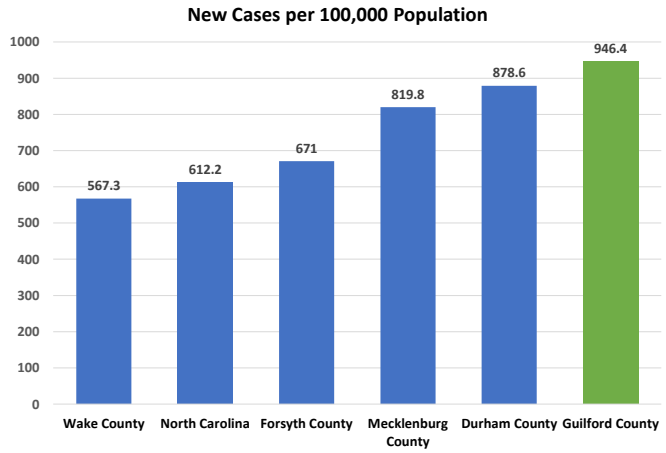
Communicable Disease

The most commonly-occurring reportable communicable diseases in Guilford County are consistently sexually transmitted infections (STIs), presenting significant issues for the health of Guilford County residents. Guilford County rates of new cases of chlamydia, gonorrhea, syphilis and HIV disease are consistently higher than the state. Large racial disparities exist for STIs, with African Americans experiencing rates substantially higher than among Whites. STI cases are also concentrated among teens and young adults. STIs are generally associated with significantly increased risk of morbidity and mortality, including increased risk of cervical cancer, pelvic inflammatory disease, involuntary infertility and premature death.

Sexually Transmitted Infections

Chlamydia, the most common bacterial STI in Guilford County (4,841 cases in 2017) and the nation, is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease and chronic pelvic pain. Two-thirds of chlamydia cases were diagnosed in females; these diagnoses occur largely because of screening, and women are more likely to have screening tests than men.

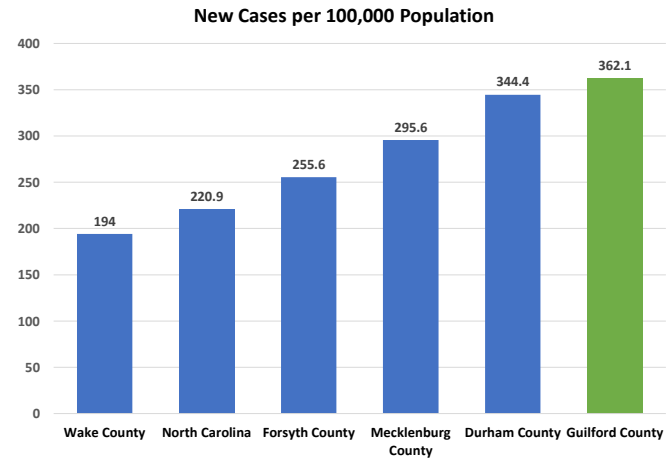
Newly Diagnosed Chlamydia Cases by County, 2017



Source: 2017 North Carolina HIV/STD/Hepatitis Surveillance Report, NCDHHS, Division of Public Health.

Gonorrhea is the second most common STI in Guilford County, with 1826 cases in 2018. Guilford County's gonorrhea 2015-2017 average infection rate exceeds North Carolina's rate as well as peer comparison counties, with a rate of 264.9 per 100,000 population.

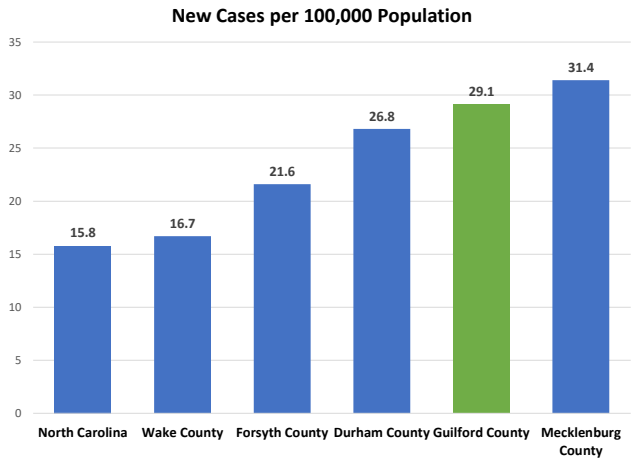
Newly Diagnosed Gonorrhea Cases by County, 2017



Source: 2017 North Carolina HIV/STD/Hepatitis Surveillance Report NCDHHS, Division of Public Health.

Human Immunodeficiency Virus (**HIV)** is a virus that attacks and weakens the body's immune system by slowly reducing a person's T cells, or CD4 cells, the cells that help the immune system fight off infections. As a result, opportunistic infections take advantage of this, causing illness. Guilford County's 2015-2017 average HIV infection rate was higher than the state rate and comparison counties during this period with the exception of Mecklenburg County.

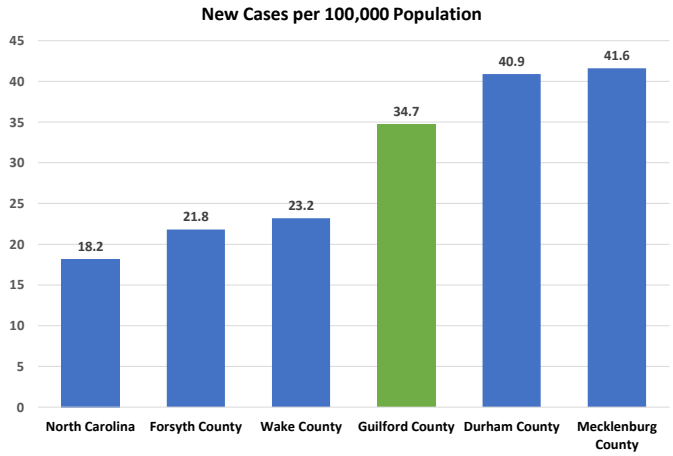
Newly Diagnosed HIV Infection Cases among Adults and Adolescents by County, 2015-2017 Average Rate



Source: 2017 North Carolina HIV/STD/Hepatitis Surveillance Report, NCDHHS, Division of Public Health.

Syphilis is a sexually transmitted infection that can cause serious health problems if not treated. Syphilis is divided into stages—primary, secondary, and latent—with different signs and symptoms associated with each stage. Guilford County's three-year average early syphilis rates from 2015-2017 were nearly twice the rate for the state but better than other some other urban comparison counties.

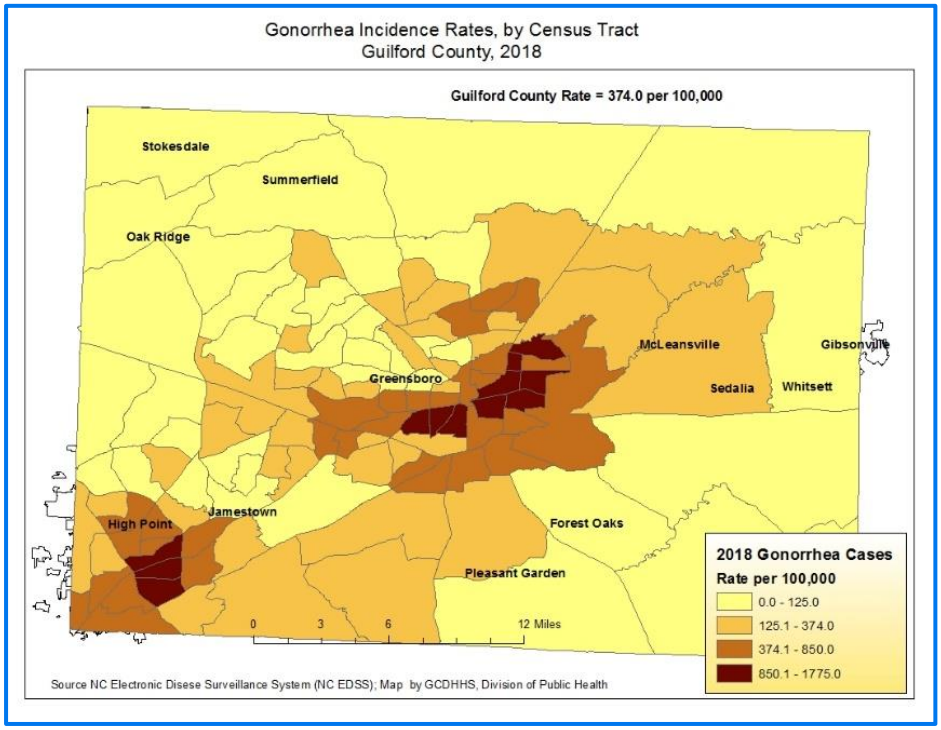
Newly Diagnosed Early Syphilis (Primary, Secondary and Early Latent) Cases by County, 2015-2017 Average Rate

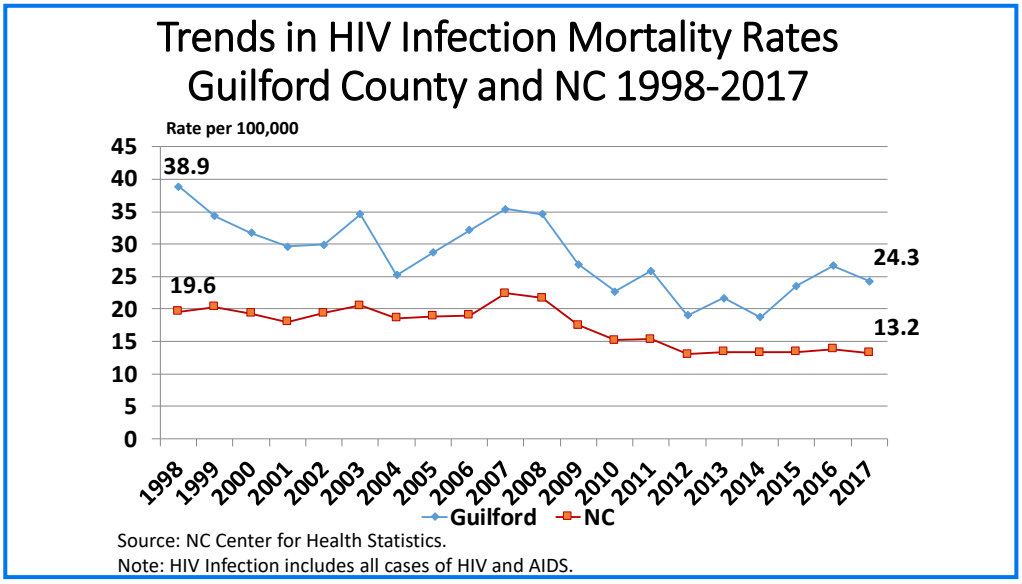


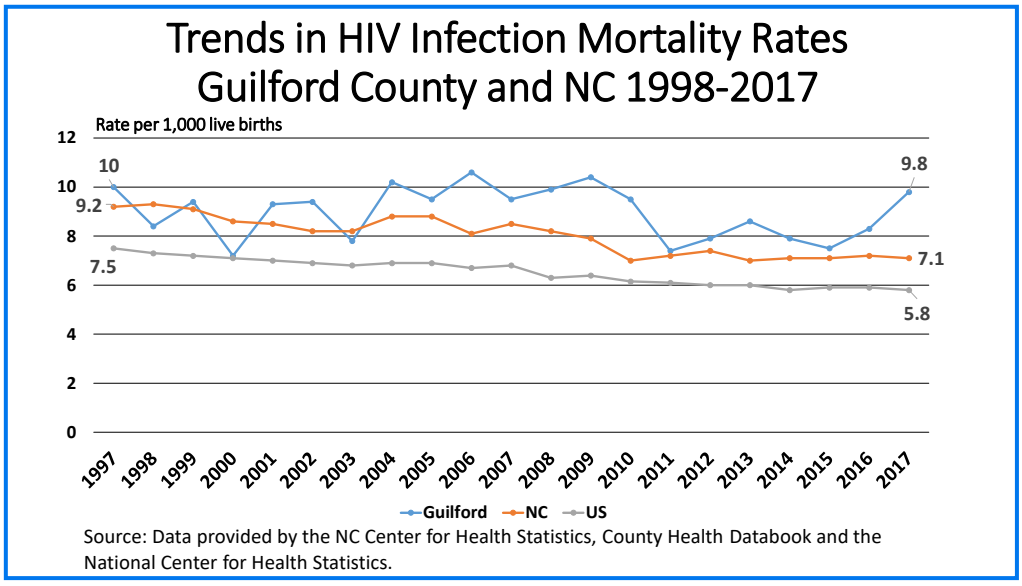
Source: 2017 North Carolina HIV/STD/Hepatitis Surveillance Report NCDHHS, Division of Public Health.

Demographic Characteristics and Disparities in Sexually Transmitted Infections

Demographic profiles of STI cases in Guilford County tend to be similar across type of STI. New cases tend to be young persons in the 20-29 and 30-39 year age groups. For both HIV infection and syphilis, about 4 out of 5 new cases are men. Women make up a higher percentage of Gonorrhea cases and comprise two-thirds of reported chlamydia cases; this is likely due to the fact that women are routinely screened for these conditions. Across all STIs there is a large and persistent racial disparity, with African-Americans comprising from two-thirds to three-fourths or more of all new cases. Geographic disparities are also evident, as seen in the following map of gonorrhea incidence rates by census tract. Gonorrhea rates vary from virtually zero cases to as high as 1,775 cases per 100,000, a rate that is four times as high as the countywide rate. Census tracts with high rates of STI cases are characterized by high percentages of racial minorities and are more adversely impacted by social determinants of health.







- HIV infection incidence rates have been consistently higher in Guilford County than in the state as a whole.
- Mortality rates due to HIV infection have declined over the last 15 years in the county and the state.

Tuberculosis (TB)

Tuberculosis (TB) is a lung infection caused by a bacterium that can spread from an infected person when that person coughs, sneezes or breathes. In 2018, reported Tuberculosis cases dropped from 21 cases in 2017 to 14 cases in 2018. TB cases were evenly split between men and women and about 70% of cases were over the age of 45 in 2018. Foreign-born individuals comprised 86% of new cases.

Reportable Disease	2014		2015		2016		2017		2018	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Tuberculosis	20	3.9	21	4.1	19	3.6	21	4.0	14	2.6

Source: NC DETECT.

Other Reportable Diseases

According to the NC Administrative Code (rule 10A NCAC 41A.0101), 72 communicable disease conditions are legally required to be reported to the Division of Public Health within specified timeframes, depending on the disease. Some of these conditions are rarely if ever reported to occur in Guilford County. The following table includes selected reportable diseases, organized by means of transmission. Please note that some conditions can be transmitted in more than one manner. Hepatitis C, for example, is typically transmitted through contaminated blood, but in some situations can be transmitted sexually.

Reportable Disease	2014		2015		2016		2017		2018	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Water or Food-Borne Disease										
Campylobacter	17	3.3	29	5.6	36	6.9	38	7.2	13	2.4
Cryptosporidiosis	13	2.5	10	1.9	11	2.1	10	1.9	18	3.4
Escherichia Coli	4	0.8	6	1.2	17	3.3	21	4.0	7	1.3
Hepatitis A	4	0.8	0	0.0	5	1.0	2	0.4	2	0.4
Listeriosis	1	0.2	1	0.2	3	0.6	0	0.0	2	0.4
Salmonella	60	11.7	64	12.4	42	8.1	45	8.5	48	9.0
Shigellosis	11	2.1	17	3.3	14	2.7	16	3.0	4	0.8
Blood-Borne										
Hepatitis B (acute)	8	1.6	2	0.4	7	1.3	12	2.3	12	2.3
Hepatitis B (chronic carrier)	41	8.0	21	4.1	29	5.6	30	5.7	72	13.5
Hepatitis C (acute)	8	1.6	4	0.8	4	0.8	5	0.9	7	1.3
Sexually-Transmitted										
Chlamydia	3,563	694.6	4,138	799.5	4,102	786.8	4,731	897.8	4,841	907.9
Gonorrhea	1,271	248.0	1,656	320.0	1,776	340.7	1,713	325.1	1,826	342.4
Syphilis (Primary & Secondary-P&S)	40	7.8	120	23.2	91	17.5	110	20.9	73	13.7
Syphilis (P&S & Early Latent)	84	16.4	199	38.5	175	34.7	179	34.0	134	25.1
HIV Infection (HIV & AIDS)	96	18.7	122	23.6	139	26.6	127	24.1	--	--
Air-borne										
Tuberculosis	20	3.9	21	4.1	19	3.6	21	4.0	14	2.6
Legionellosis	8	1.6	1	0.2	36	6.9	24	4.6	13	2.4
Haemophilus Influenza	13	2.5	7	1.4	7	1.4	7	1.3	8	1.5
Pertussis (Whooping Cough)	6	1.2	12	2.3	10	1.9	11	2.1	11	2.1
Vector-borne										
Lyme Disease	5	1.0	4	0.8	1	0.2	8	1.5	1	0.2
Malaria	6	1.2	2	0.4	13	2.5	10	1.9	11	2.1
Rocky Mountain Spotted Fever	0	0.0	1	0.2	1	0.2	22	4.2	0	0.0
Population	512,119		517,600		521,330		526,953		533,213	

Source: NC Electronic Disease Surveillance System (NCEDSS), data downloaded March 12, 2019; NC DHHS HIV/STD Prevention and Care Branch; NC DHHS Communicable Disease Branch; NC DHHS Tuberculosis Control Program.

Injuries

Injuries include both unintentional and intentional harm to the body. The most common unintentional injuries include those that result from unintentional poisoning, motor vehicle crashes and falls. Intentional injuries include those that result from self-inflicted injury, suicide, and homicide or injury inflicted on another person. Increases in the number of poisoning deaths is the result of adverse reactions to prescription and non-prescription use of opioid drugs. Firearms were used in the majority of suicide and homicide deaths.

Leading Causes of Injury Mortality and Rates per 100,000, Guilford County, 2013-2017

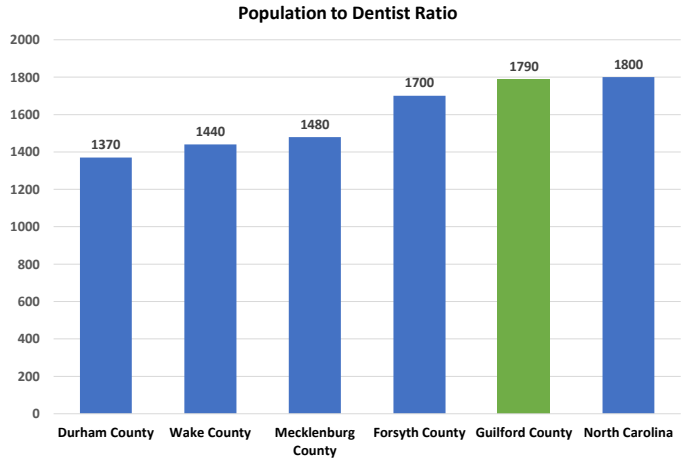
Injury Type	2013		2014		2015		2016		2017	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Motor Vehicle Injury	47	9.2	53	10.3	53	10.2	57	10.9	71	13.5
Unintentional Falls	83	16.4	74	14.4	77	14.9	83	15.9	67	12.7
Suicide, Self-Inflicted Injury	52	10.3	43	8.4	71	13.7	60	11.5	63	12.0
Homicide	33	6.5	28	5.5	39	7.5	44	8.4	51	9.7
Unintentional Poisoning	37	7.3	51	10.0	62	12.0	95	18.2	118	22.4
Unintentional Death by Fire	5	1.0	4	0.8	1	0.2	5	1.0	2	0.4
Population	506,610		512,119		517,600		521,330		526,953	

Source: North Carolina Department of Health and Human Services, Division of Public Health. State Center for Health Statistics.

Oral Health

Availability of dentists is an oral health issue in Guilford County. Guilford has a higher ratio of population to dentists than in comparison peer counties. The Health Resources and Services Administration classifies Guilford County as a Dental Health Professionals Shortage Area (DHPSA).

Population to Dentist Ratio 2017



Source: County Health Rankings, Area Health Resource File.

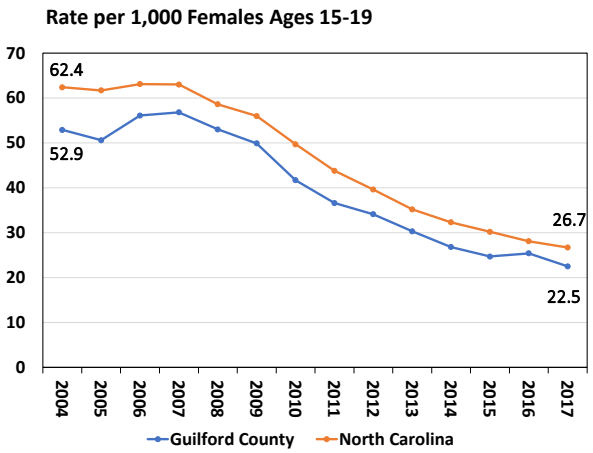
Maternal and Child Health

Maternal and Child Health was identified as a priority focus area in the 2016 Guilford County Community Health Assessment. ***For current data and analysis on MCH, see Chapter 5: Maternal and Child Health.***

Teen Pregnancy

Teen pregnancy involves behaviors that can impact the risk of poor birth outcomes as well as the risk of contracting sexually transmitted infection. Studies have shown, for example, that nearly one-third of pregnant teenagers were infected with one or more STIs, and because of unprotected sex during and after pregnancy are at risk for repeat pregnancies as well as additional STIs (Meade and Iskovics, 2005). Pregnant teens are more likely than older mothers to enter prenatal care late or not at all, experience pregnancy related conditions such as hypertension and anemia and fail to gain adequate weight during pregnancy (Scholl, et al., 1994). Pregnant teens are also more likely to deliver a low-birth weight baby preterm, increasing risk of child developmental issues and illness (Chandra et al., 2002). Additionally, being a teen parent can adversely impact subsequent educational attainment and decreased employment earnings.

Teen Pregnancy Rates, Ages 15-19, 2004-2017



Source: NC State Center for Health Statistics.

Behavioral Health

Behavioral Health—which includes both Mental Health and Opioid Issues--was identified as a priority focus area in the 2016 Guilford County Community Health Assessment. For current data and analysis, see ***Chapter 6: Behavioral Health.***

Healthy Eating and Active Living

Healthy Eating and Active Living was identified in the 2016 Guilford County Community Health Assessment as a priority focus area. ***For current data and analysis, see Chapter 7: Healthy Eating and Active Living.***

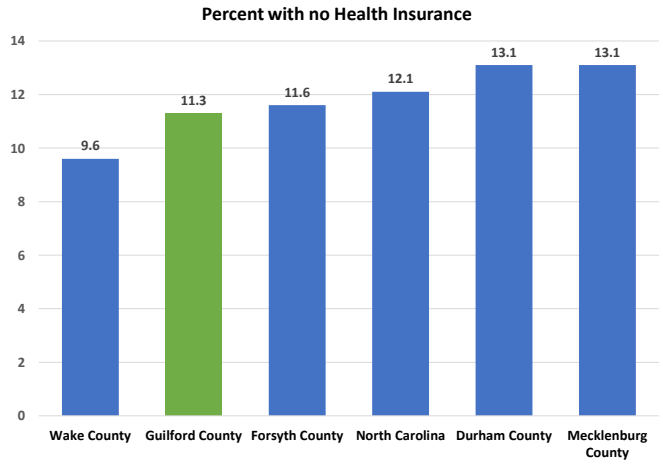
Clinical Care

According to the County Health Rankings Health Model, access to quality clinical care contributes 20% of the variation in health outcomes. Research suggests that the uninsured are less likely: to receive preventive and diagnostic health care services, are more often diagnosed at a later disease stage, tend to receive less treatment for their condition compared to insured individuals and have higher mortality rates than the insured population (Fronstin, 2009). Access to effective and timely primary care has the potential to improve the overall quality of care and help reduce costs (Institute of Medicine, 2003). Increases in numbers of primary care physicians has been shown to reduce mortality (Macinto and Shi, 2007).

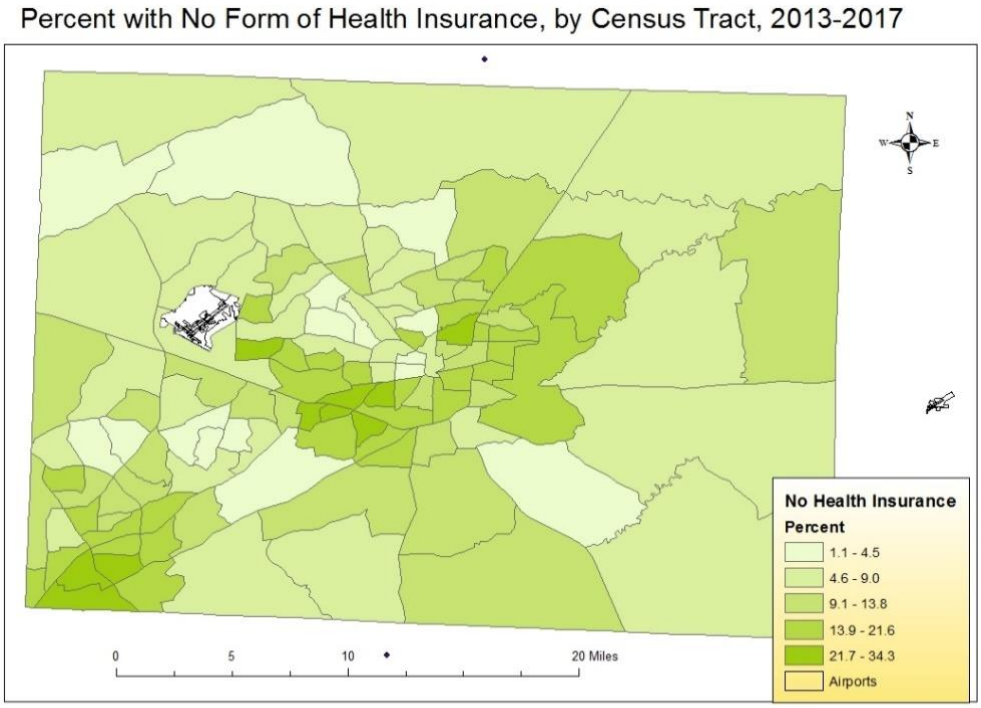
Health Insurance

The American Community Survey estimates that about 11.3% of the civilian non-institutionalized population in Guilford County had no form of health insurance, which is a higher percentage than comparison peer counties, with the exception of Wake County, and the state as a whole. In Guilford County, having health insurance varies by race/ethnicity, with 8.5% of Whites having no form of health insurance compared with 13.5% of Blacks and 30.5% of Hispanics. Areas of the county with higher proportions of racial minorities, lower educational attainment and higher poverty rates had higher percentages of residents with no form of health insurance.

Percent with No Form of Health Insurance by County, 2013-2017



Source: American Community Survey, 2013-2017.



Source: American Community Survey

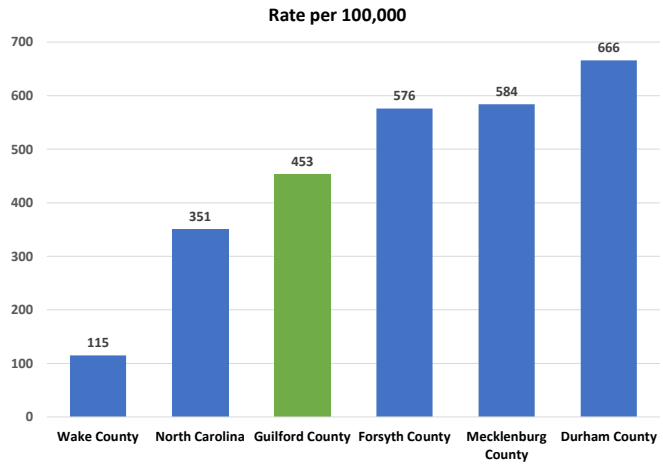
Social Determinants of Health

The Social Determinants of Health was identified as a priority health issue in the 2016 Guilford County Community Health Assessment. ***For current data and in-depth analysis, see Chapter 8: Social Determinants of Health.***

Violent Crime and Intentional Injury

High violent crime rates can be a barrier to the pursuit of healthy behaviors such as walking and exercising outdoors. Exposure to crime and violence has been shown to increase stress, which may exacerbate hypertension and other stress-related disorders and may contribute to obesity prevalence (Ellen and Dillman, 2001). The violent crime rate is a composite rate of violent offenses, including murder, non-negligent manslaughter, forcible rape, robbery and aggravated assault. Recent data from the Uniform Crime Reporting program from 2014 and 2016 found that Guilford County had a violent crime rate of 453 violent crimes per 100,000 population, higher than North Carolina and peer county Wake County, but lower than other peer counties.

Rate of Reported Violent Crime Offenses by County

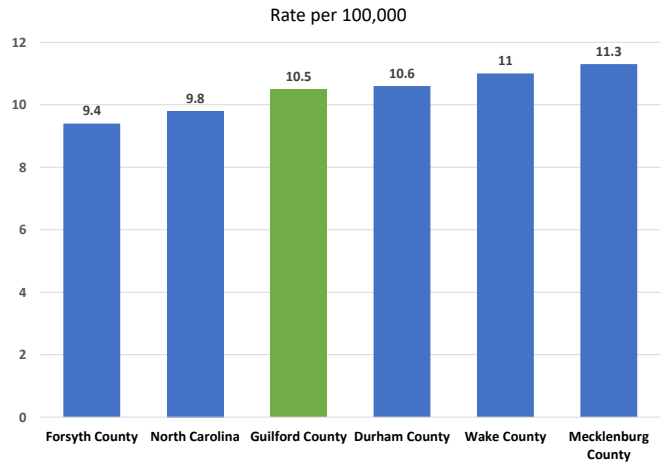


Source: County Health Rankings, Uniform Crime Reporting Program, 2014, 2016.

Air Quality - Particulate Matter 2.5

An indicator of air quality measures the amount of particulate matter in the air. It is calculated using data collected by monitoring stations and modeled to include counties where no monitoring stations occur. This indicator reports the percentage of days with particulate matter 2.5 levels above the National Ambient Air Quality Standard (35 micrograms per cubic meter) per year. Guilford County's average daily ambient particulate matter did not exceed recommended standards.

Percentage of Days with High Particulate Matter by County



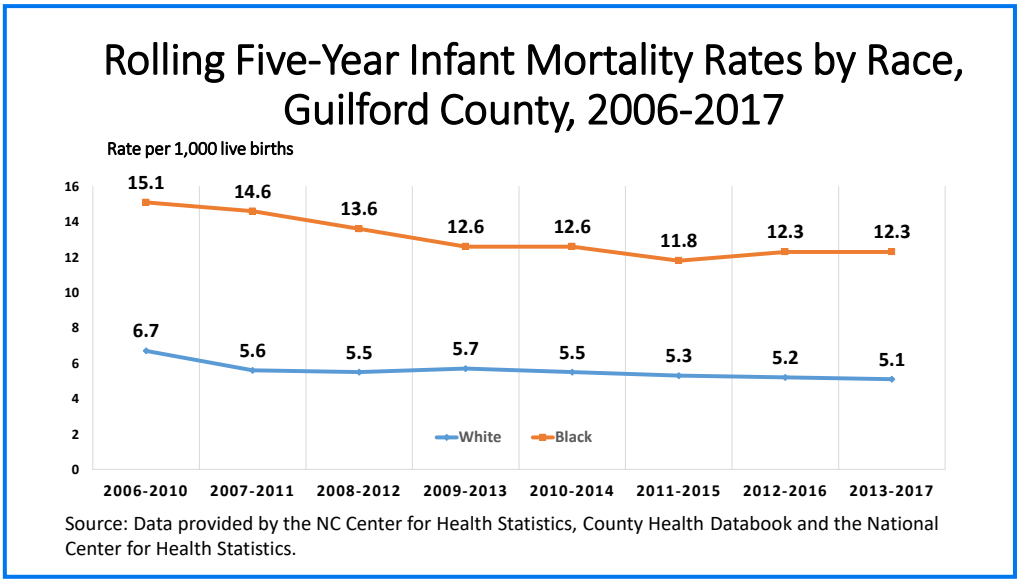
Source: County Health Rankings, CDC Public Health Tracking Network, 2014.

5 Maternal and Child Health

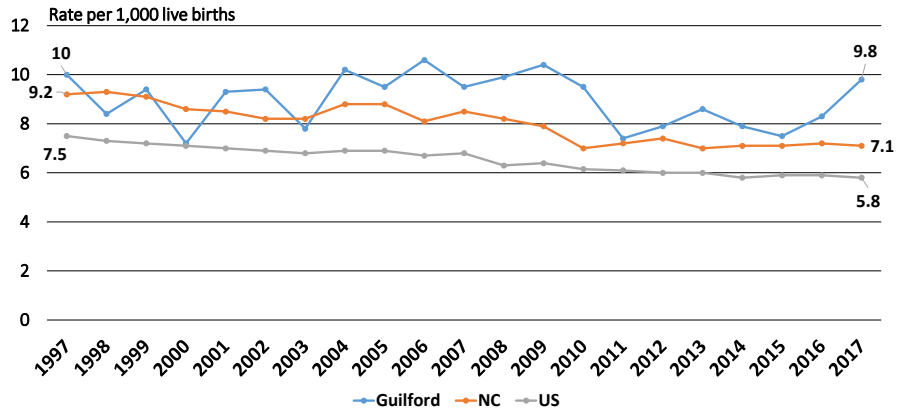
Why Is This Issue Important?

Preparing children for a great start in life begins long before birth. Mothers and children benefit from healthy nutrition, daily physical activity, social support and trusted health care providers. They also need supportive neighborhoods and communities with a variety of resources and policies that support women and children. Deficits or disadvantages in these areas may lead to poor birth outcomes. Pre-term birth (before 37 weeks of gestation), low birth weight (under 5.5 pounds) and infant mortality (death of a child before the first birthday) are areas of concern for organizations devoted to improving maternal and infant health (MCH) for women in Guilford County, as pre-term birth often co-occurs with low birth weight, which is a risk factor for infant mortality.

How Does Guilford County Trend Over Time?



Source: Data provided by the NC Center for Health Statistics, County Health Databook and the National Center for Health Statistics.



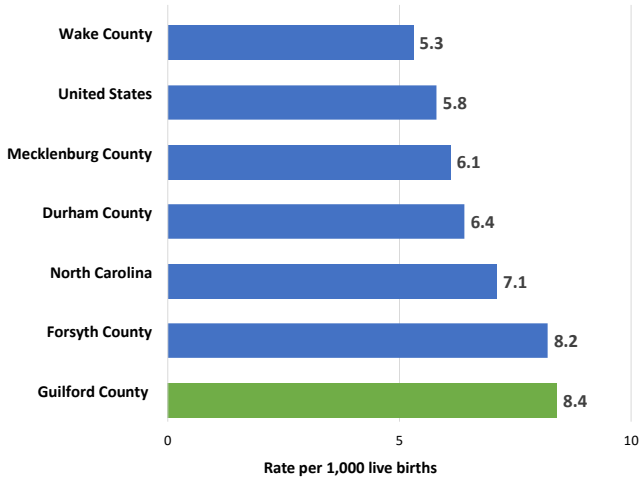
Source: Data provided by the NC Center for Health Statistics, County Health Databook and the National Center for Health Statistics.

Poor birth outcomes are a significant problem for Guilford County, with rates of infant mortality and low birth weight higher than national benchmarks and objectives. As shown in the infant mortality trendline chart, above, over the last 20 years Guilford County has had consistently higher infant mortality rates than the state of North Carolina and the United States. The trendlines for rolling five-year infant mortality rates by race illustrates the critical feature of birth outcomes in Guilford County: persistent racial disparities. African-Americans experience preterm birth, low and very low birth weight and infant mortality at substantially higher rates than Whites.

How Does Guilford County Compare to Others?

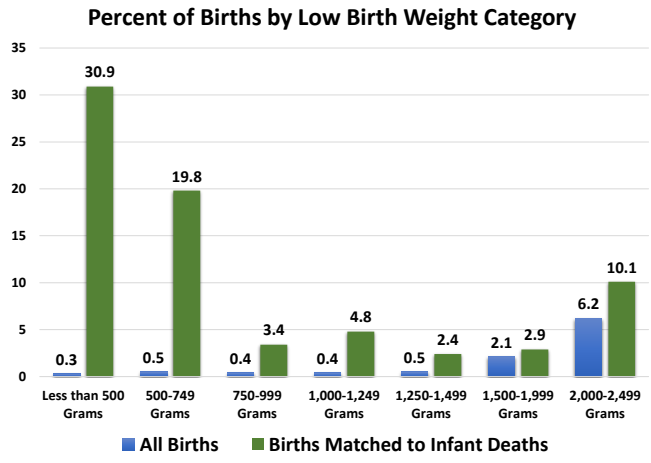
Infant mortality is an important issue in many communities, but as the following charts suggest, Guilford County has a heavy overall burden—a higher five-year infant mortality rate than all the peer comparison counties and the state as a whole—and a significant challenge in overcoming racial inequality in infant outcomes.

Infant Mortality 5-year Rates, 2013-2017 by County



Source: SCHS, Databook, 2013-2017 ; Note, US data for 2017 only.

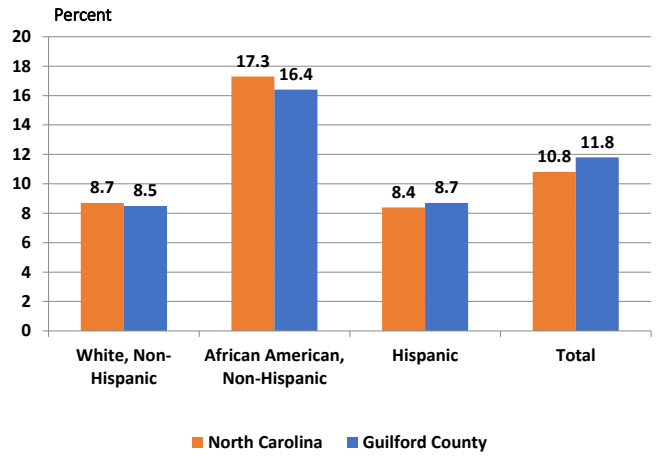
Low Birthweight in Guilford County



Source: NC State Center for Health Statistics, 2013-2017.

Analysis of birth certificates matched to death records shows that over 50% of all births resulting in infant death between 2013-2017 were extremely low birthweight (less than750 grams) infants. As the next chart shows, there is a significant racial disparity in low birthweight births.

Percentage of Births - Low Birthweight, 2013-2017



Source: County Health Databook, NC State Center for Health Statistics.

What Explains the Racial Disparity in Infant Mortality?

Table 1: Guilford County Infant Deaths by Race and Birthweight Distribution

Guilford County Deaths 2014-2017				
Black/African-American				
Birthweight	Births	Deaths	Birth Distribution	Mortality Rate
200-499	46	40	0.005	869.565
500-749	69	28	0.007	405.797
750-999	58	4	0.006	68.966
1,000-1,249	66	6	0.007	90.909
1,250-1,499	81	3	0.008	37.037
1,500-1,999	276	4	0.027	14.493
2,000-2,499	787	11	0.078	13.977
2,500-6,499	8714	24	0.863	2.754
Total	10097	120	1.000	11.885
White				
Birthweight	Births	Deaths	Birth distribution	Mortality Rate
200-499	21	16	0.002	761.905
500-749	13	6	0.001	461.538
750-999	24	2	0.002	83.333
1,000-1,249	28	3	0.003	107.143
1,250-1,499	35	1	0.004	28.571
1,500-1,999	137	1	0.014	7.299
2,000-2,499	417	9	0.042	21.583
2,500-6,499	9319	14	0.932	1.502
Total	9994	52	1.000	5.203

	% Due to Differences in Birthweight Distribution	% Due to Differences in Birthweight Specific Mortality Rates
200-499	0.300	0.054
500-749	0.359	-0.034
750-999	0.038	-0.009
1,000-1,249	0.055	-0.011
1,250-1,499	0.022	0.007
1,500-1,999	0.022	0.022
2,000-2,499	0.096	-0.068
2,500-6,499	-0.022	0.168
Total	0.871	0.129

Source: NC State Center for Health Statistics.

The assessment process looked at four years of Guilford County infant birth and death data to better understand the nature of the racial disparity in infant mortality. The Kitagawa method was used to tease out whether the disparity is due to racial differences in birthweight-specific mortality rates or because of differences in birthweight distribution (Kitagawa, 1955). Over the four-year period between 2014-2017, the racial difference in infant mortality rates per 1,000 live births was 11.9 for African-Americans and 5.2 for Whites. The Kitagawa method revealed that 87% of the difference in infant mortality rates was due to differences in birthweight distribution and only 12.9% was due to birthweight-specific mortality rates (See Table 1). African-American mothers in the county are giving birth to a higher percentage of very low birthweight babies than do White mothers, but why is this the case?

An MCH Key Informant Assessment Workshop was convened to identify approaches to improve MCH outcomes.

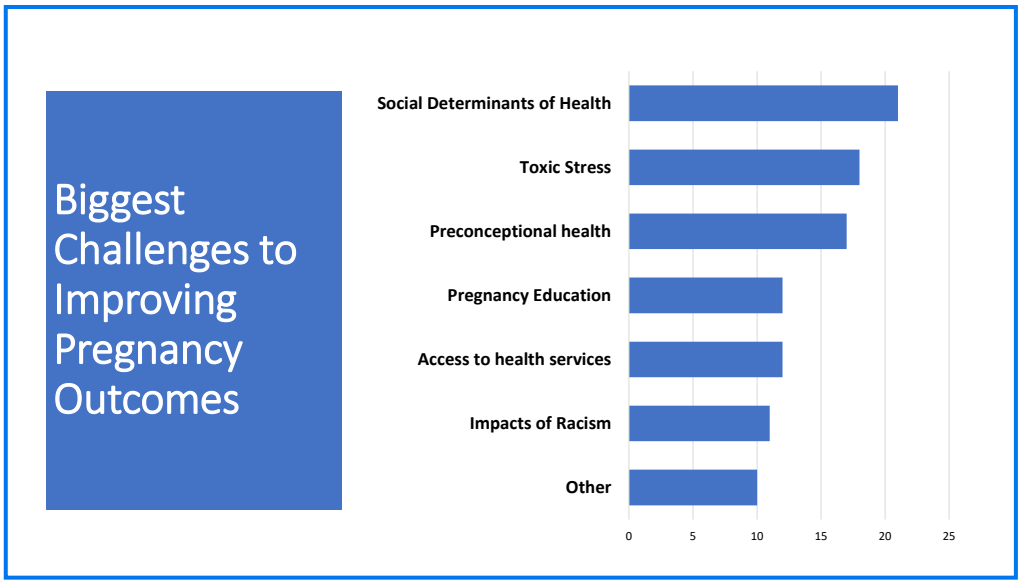
Maternal and Child Health Key Informant Survey

In March 2019, 157 persons identified by the CHA Team as Key Informants—persons with subject-matter expertise, knowledge and experience in the areas of maternal and child health—were invited to complete an online survey with questions regarding the current state and potential for an improved future state of pregnancy and childbirth in Guilford County. Of the 157 potential Key Informants invited to take the Pregnancy and Childbirth survey, results were obtained from 34 persons. 35% of respondents were non-profit service providers, 19% were from local government agencies, 22% were health care professionals, 3% were university or neighborhood representatives and 11% reported being personally affected by the issue.

Assessing the Current State of Maternal and Child Health

Challenges to Improving Pregnancy Outcomes

To assess the current state, survey respondents were asked for their views on three dimensions of maternal and child health in Guilford County: the most important challenges to improving pregnancy outcomes, the populations most impacted by challenges to maternal and child health, and perceived assets (programs and services, infrastructure and policies).



As depicted in the chart to the right, the most common challenge Key Informants reported was to improve the social determinants of health, followed by toxic stress and pre-conceptional health. In the following quotes, Key Informants explained that for African-American women, toxic stress, social determinants and racism are closely related.

The following quotes from respondents illustrate these challenges:

Social Determinants of Health

"Social determinants seem to coincide with access to services (stable transportation, understanding of need for care and how to navigate the health care system)."

Toxic Stress

"The women I work with are often juggling a number of stressors. They typically work difficult hours for very low pay and have inflexible schedules."

Pre-conceptional Health

"Low income families…don't have the financial means to have the proper pre-conception care."

Pregnancy Education

"(Many women) lack knowledge of risks, preconception and inter-conceptional health and the importance of early and continuous prenatal and postpartum care."

Access to Health Services

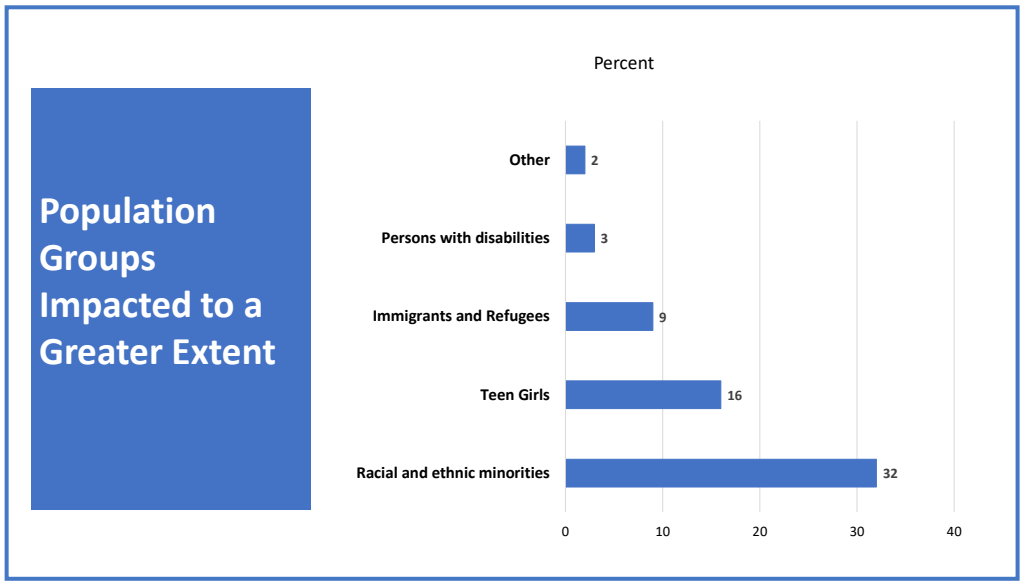
"Very low pay and inflexible work schedules...make it very difficult to get to regular appointments."

Impacts of Racism

"Institutionalized racism contributes to toxic stress which contributes to poor health pre-conception."

Populations Most Impacted by Poor Pregnancy and Birth Outcomes

When asked whether any special population groups are more impacted by poor pregnancy and birth outcomes, the most common groups mentioned were racial and ethnic minorities, teen girls, immigrants and refugees, followed by persons with disabilities. Some of the relevant comments are shown below.



"The lived experiences of people of color can reduce their chances of a healthy pregnancy and birth, as well as the survival of their infant. Living in poverty further lessens the chances for children to flourish."

"Racial and ethnic minorities are more likely to experience toxic stress and racism. Both which have been shown to transcend social class, education and income. Immigrants and refugees are more likely to not know how to navigate or distrust health systems and not receive early prenatal care."

"Refugees are often living in dire circumstances before they arrive, with untreated problems. Racial and ethnic minorities, esp. African-Americans, generally have the worst birth outcomes."

"Younger women experience higher rates of pre-term birth and low birthweight births. Teen moms often have experienced interpersonal violence and other social and emotional risk factors."

"Adolescent parents, and women living at low-income have higher risk of perinatal depression and possible impact on the infant's brain development."

Racial Disparities

Data reviewed during the 2019 Community Health Assessment demonstrated a strong and persistent racial disparity in pregnancy outcomes, with African-American women experiencing higher rates of preterm birth, low birthweight and infant mortality than the majority of White mothers. Asked what they regard as the most important factors causing these disparities, some Key Informant responses are below.

"Lack of understanding of the underlying factors related to social determinants of health and Adverse Childhood Experiences (ACES). This population needs to be treated differently. Integrate mental health therapy with physical health."

"Toxic stress resulting from decades of systemic racism."

"Racial bias, if not overt racism from providers. Cultural/community beliefs. Underlying health issues (which may or may not be evident.) Family support/family planning."

"Stress, racism and poverty are big factors. They need emotional support. Also, they really need to focus on eating healthy and exercising."

"Toxic stress, grew up in home with a mom that was a teen mom, poor pre-conception education."

"Diet, education, preconceptions due to race, lack of care by health care professionals, poverty, partner not involved or lack of family support, cultural traditions."

Perceived Assets and Gaps in Maternal and Child Health

The Key Informant Survey asked respondents to reflect on existing assets in our community that promote maternal and child health, along three dimensions – programs and services, infrastructure and policies. We included survey responses in Table 2 that were mentioned by multiple respondents.

Table 2. Perceived Assets – Effectively Addressing Pregnancy and Childbirth in Guilford County: Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Nurse Family Partnership • Family Connects • Adopt-a-Mom • YWCA programs • OB Care Management • CenteringPregnancy®	• Nonprofits, agencies and programs • Support systems • Access to care	• Maternity and Family Leave policies • Breast-feeding friendly spaces

Asked what ***Programs and Services*** are effectively addressing pregnancy and childbirth in Guilford County, Key Informants named numerous programs, including those listed in Table 2, as well as: community-based doulas, the YWCA Teen Mentor Program, and the Newborn Home Visiting Program and the JustTeens Clinic LARC programs at GCDHHS.

Asked what ***Assets and Infrastructure*** are important in addressing pregnancy and childbirth, respondents noted ***Nonprofits and Other Agencies*** (including Get Ready Guilford, Smart Start, Cone Health Foundation, Foundation for Healthy High Point, Guilford County Department of Health & Human Services, Nurse Family Partnership, and Care Coordination for Children); ***Support Systems*** (including, family, school, faith, community); and ***Access to Care***, (including Doula services, pregnancy medical homes, screenings, hospital nurseries, access to LARC and other contraceptives and the Community Action for Healthy Babies Consortium).

Asked about **Policies** that are effective, Key Informants reported: that family leave policies are important (for both parents), WIC, breastfeeding-friendly workplaces, adolescent access to care and right to consent to healthcare, folic acid for women of childbearing age, 17p injections to prevent preterm birth, school programs for teen mothers and safe sleep education programs.

Survey respondents also addressed gaps in our community's ability to effectively address challenges in maternal and child health; responses from multiple respondents are recorded in Table 3.

Table 3. Perceived Gaps to Effectively Addressing Challenges to Maternal and Child Health in Guilford County: Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Access/Insurance Issues: insurance, medical home, Medicaid approval, wait lists • Service needs: substance use and mental health disorders, childbirth education, family planning/birth control • Program capacity issues: limited staff, reduced caseloads	• Social determinants of health: transportation, jobs, safe housing and neighborhoods, affordable childcare • Communication and coordination between service providers • Access/care: maternity medical home, substance use centers, access to LARCs, more providers • Funding (lack of and competition for resources)	• Maternity and Family Leave policies • Social policies: livable wages, health insurance • Law enforcement policies (treatment v. incarceration) • Access issues (interconceptional care, access to comprehensive sex education in the schools)

Asked about gaps and needs in ***Programs and Services,*** Key Informants noted: lack of quality affordable childcare, lack of insurance coverage prior to pregnancy, lack of focus on communities most at-risk, lack of programs that integrate mental health, lack of communication between programs and services and lack of education targeted at employers—i.e., allowing time for doctor's appointment. The need for partner counseling and education, more doula services, wrap-around services and better transportation options were also identified.

Key Informants noted numerous gaps and needs in ***Assets and Infrastructure***, including gaps in community understanding about how important the first three years of a child's life is to their health/success trajectory; accessible and affordable childcare and transportation; affordable, safe housing; access to low-cost contraception including LARC options for non-teens, access to good jobs, access to safe and supportive neighborhoods; lack of knowledge and awareness of resources and the tendency for organizations to work in "silos."

Key Informants were also asked about gaps and needs in ***Policies*** that would benefit pregnancy and childbirth outcomes. Key Informants noted the need for more family friendly policies that are more widely available; policies that effectively address social determinants of health and adverse childhood experiences; the need for longer family leave for fathers to support mothers and babies postpartum; access to comprehensive sexual health education in Guilford County Schools; lack of inter-conceptional health care (because women often lose Medicaid eligibility between pregnancies); housing policies and women gaining access to Medicaid late in pregnancy.

In reviewing the perceived Assets and Gaps in Maternal and Child Health, it is important to note that some issues, such as: access to care and maternity and family leave policies are listed in both Table 2 and Table 3, indicating that they may be perceived as assets in our community and perceived as inadequate as well.

Promising Approaches for a Desired Future State

One of the final questions of the Key Informant Survey looked to future opportunities for improvement: **Based on your knowledge and experience, what do you see as the most promising approach or approaches to improve birth outcomes for all mothers among Guilford County residents?**

Here are a few of the noteworthy responses:

Identified Promising Approaches (MCH)

Downstream

- NCCare360
- Expanding access to services and resources
- Adopt-a-Mom

Midstream

- Ready, Ready
- Sex education
- CenteringPregnancy®
- YWCA
- Coordination among providers
- Universal approaches

Upstream

- Economic Development
- Medicaid Expansion
- Affordable health care

"Ready for School, Ready for Life's work WHEN it is successful will be key; continued economic development that brings more and better paying job to our community; implementation of NCCARE360 with increased availability of services including housing, food and transportation; adoption of voluntary living wages from some of our community's largest employers."

"Home visits. Nutritional support for mom and babies. Sex education in schools (& to other age groups) to reduce unintended pregnancies which may lead to negative health or social outcomes."

"1. Building a systemic approach that identifies the needs of all women and connects them to resources to meet those needs; 2. Building infrastructure to improve coordination among programs and providers serving women and families 3. Additional services that can provide positive social support and information for women during pregnancy and childbirth (e.g. doulas, home visiting, childbirth education, inter-

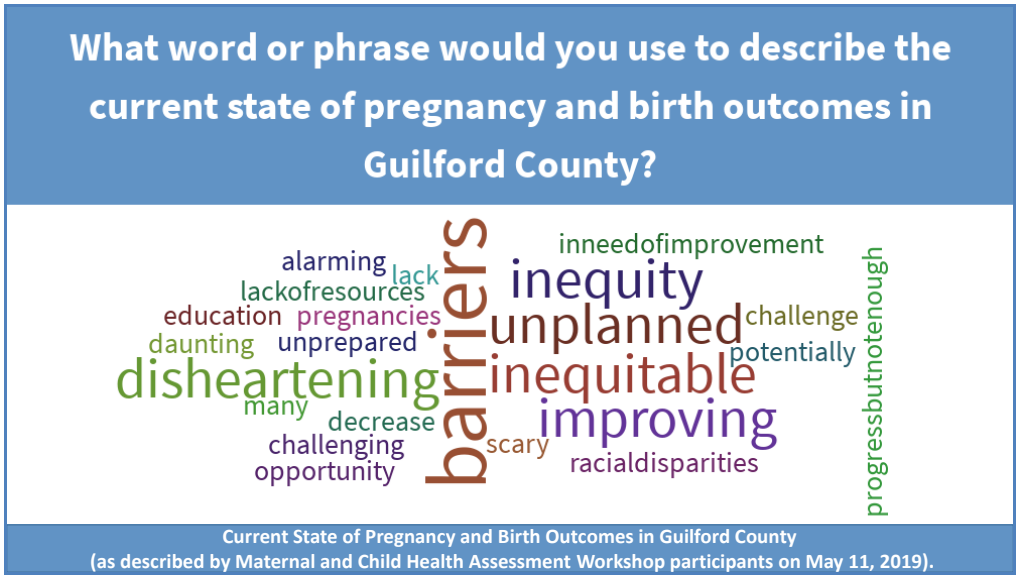
conception education/activities in a peer group setting) 4. Additional resources to increase access to care (including better process for Medicaid enrollment, improved transportation infrastructure, family-friendly hours, etc.)"

"Making patients feel welcomed during prenatal visits; provide transportation and childcare if needed, provide safe sleep gift boxes given after delivery, help families secure stable housing, calling patients if they miss an appointment to reschedule quickly, get patients in and out-no one wants to sit in clinic for 3-4 hours."

Maternal and Child Health Key Informant Assessment Workshop

On May 11, 2019, the CHA Team and the Community Action for Healthy Babies (CAHB) Consortium convened a half-day MCH Assessment Workshop. Persons asked to complete the MCH Key Informant Survey, along with CAHB members, were invited to attend, with 30 attending. Workshop participants considered the current state of maternal and child health through presentations of both the quantitative data and discussion of findings from the MCH Key Informant Survey, followed by small group discussion of a desired future state of pregnancy and childbirth.

At the beginning of the workshop, participants shared words or phrases that expressed their views of the current state, and the most common phrase was "barriers", followed by "disheartening" and "inequitable." While these word clouds are not precise statements of fact, they may be interpreted as barometers of current values, perceptions, moods and priorities. Many of the responses here are negative, reflecting the group's frustration with current outcomes (See Word Cloud #1).



Word Cloud #1

Workshop participants also discussed the impact of racism on pregnancy and birth outcomes. "*It seems like racism is expressed through social determinants*," one participant stated, and many participant comments reflected the sentiment that race, ethnicity, income and education are intertwined. In turn, these act as key drivers of access to fundamental building blocks of health, including housing and transportation. There was a consensus that tackling racism and discrimination would have a significant impact on maternal and child health, and an acknowledgement that we lack knowledge of effective interventions and solutions to achieve that goal. The participants also commented on access to high quality, affordable childcare as an important impact on health, affecting both the child's development and the mother's ability to secure employment and improve a family's financial sustainability.

In the workshop, participants shared words or phrases that expressed their priorities for improvement; "universal healthcare" was by far the most common response, with issues related to poverty, equity and access to care among the common sentiments (See Word Cloud #2 below). Among workshop participants, there was acknowledgement that inequity of outcomes required addressing issues like racism in society and within healthcare, and system change that includes universal access, as much as possible. This group also commented on the challenges posed by limited

access to healthcare because of eligibility guidelines for Medicaid that leave many low-income working women without healthcare between pregnancies. Many workshop participants saw a universal approach to healthcare access as a possible remedy. They commented that universal healthcare access would improve women's access to interconceptional care to better address chronic health issues, such as diabetes, perinatal mood disorders, substance use and other issues that affect maternal health and birth outcomes.

Word Cloud #2

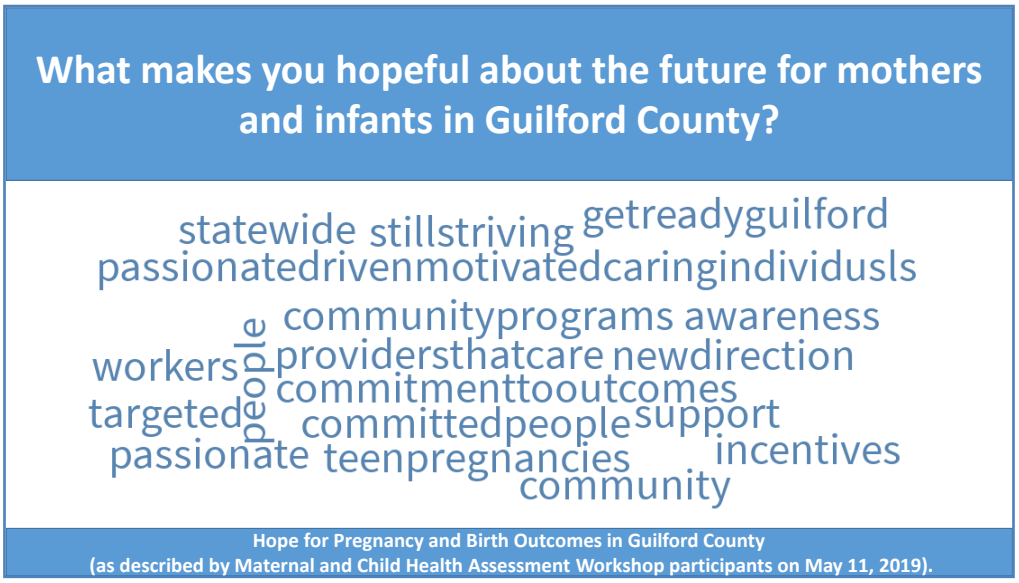
In reviewing and discussing the perceived Assets and Gaps in Maternal and Child Health, the workshop participants commented on the fact that issues, like access to care and maternity and family leave policies are identified as both perceived assets in our community and perceived as inadequate as well. They noted that Guilford County has built and maintained many programs and policies to benefit young families. Nevertheless, many service practitioners perceive that existing capacity is not sufficient to address current needs.

Downstream, Midstream and Upstream Approaches

We asked both survey respondents and workshop participants to share promising approaches that they see in our communities or elsewhere. We have organized these responses in Table 4; items are not listed in priority order. ***Downstream*** refers to diseases, illness or conditions that we want to reduce or eliminate in our community. ***Midstream*** refers to changes we would like to see in the environment and behaviors. These changes drive downstream improvement. ***Upstream*** changes are those we would like to see in policy and social equity. These changes will drive midstream and downstream improvement. Workshop participants expressed considerable interest in "one-stop-shop" types of interventions, integrating prenatal care into programs that offer education/job skills training and other supports. There was also support for offering universal access to perinatal interventions, acknowledging that families of all backgrounds need support for healthy pregnancies and family development. Participants suggested that this reduces stigma for families, who resist labeling and perceive certain programs as only for women "at risk."

Table 4. Promising Approaches to Improving Maternal and Child Health		
Downstream	**Midstream**	**Upstream**
Diseases, Illnesses and Conditions	**Environment, Infrastructure or Behaviors**	**Policies**
• Preconceptional and interconceptional health • Infant mortality • Smoking, including cannabis • Safe sleep • Spacing pregnancy, especially for teens • Sexually Transmitted Infections • Teen pregnancy • Obesity • Nutrition • Diabetes • Pre-term birth • Toxic stress	• Implementation of Integrated Service Delivery network • Implementation of NCCARE360 • Coordination among existing providers • Expansion of collaborative multiple social determinants programs like Family Success Center; CenteringPregnancy®; YWCA; Ready for School, Ready for Life; Adopt-a-Mom • More Pregnancy medical homes • More mental health providers who accept Medicaid • Primary care providers integrated with mental health providers • More smoking cessation programs • More substance use treatment options • Access to healthy food options, including eliminating food deserts, making healthy options more affordable, expanding Farmer's Markets and community gardens • Safe infant sleep education • Health education • Increased opportunity for teens, including after school enrichment • Childcare access • Safe, reliable, affordable public transportation, especially in rural areas and expansion of hours in High Point • Affordable housing • Neighborhood safety and reduce gun violence • Job training	• Universal healthcare • Universal maternal family leave • Community development targeted to improve social equity • Increased minimum wage • Medicaid expansion to cover more people, and expansion in which services are covered • Tobacco-free policies • Program policy for home visiting programs to assess infant sleep environments • Policies to promote poverty reduction and reduction in income inequality • Universal breastfeeding spaces • Eliminate "catch 22" of working versus benefits – develop a transition to allow women access to some income-based benefits while they move back into sustainable employment • Universal Pre-K • Equitable access to education • Equitable access to contraception, including LARCs

The workshop participants wrapped up their reflection by sharing words or phrases that expressed their views of what makes them hopeful about the future for women and infants in Guilford County (see Word Cloud #3 on the next page).



Word Cloud #3

Summary and Conclusions

The analysis of quantitative health data on maternal and infant health offered here identifies a critical factor driving 87% of the racial disparity in infant death in Guilford County: the higher prevalence of African American births in the lowest birth weight categories. Solutions that aim to remedy this disparity should be chosen that will prevent all children – especially those born to African American mothers—from being born at low birth weights. There are multiple medical risk factors for low birth weight: such as high blood pressure; diabetes; heart, lung and kidney problems; sexually-transmitted infections; and eating disorders. There are also behavioral risk factors (such as smoking and substance use) and environmental risk factors (such as exposure to air pollution, lead and discrimination). Survey and workshop participants in Guilford County identified additional stressors that underlie these risk factors: racism, low wages, inflexible work schedules, toxic stress, poverty, inadequate emotional support and bias within healthcare.

Taken together, primary and secondary data in this assessment point towards the necessity of developing effective interventions that:

- address **structural** issues (such wages, housing and health coverage) that disproportionately affect low income women and women of color;
- are offered **universally**, acknowledging that all women and young families need support to be successful;
- advance **equity** in outcomes, by eliminating bias in care delivery, addressing differences in power, and evaluating outcomes by race and other critical dimensions of difference; and
- are **coordinated** within our community, linking multiple agencies that offer care to young families.

Many agencies in Guilford County have committed to a 12-year strategy, the Get Ready Guilford Initiative (GRGI) that seeks to break the cycle of intergenerational poverty by building a continuum of services for families and children starting in the prenatal period. At the time of this writing, the first phase, focused on the prenatal period to age 3, is beginning to build capacity for evidence-based interventions to promote healthy development, establishing the backbone organization that will drive continuous improvement and constructing its data ecosystem. Much of the design of this work is built on concepts of equity, coordination and universal access. Progress in maternal and child health will rely on effective implementation of that design; developing innovative ways to address structural issues; and courage in facing, understanding and eliminating the root causes of racial inequity in maternal and child health outcomes.

6 Behavioral Health: Mental Health and Opioid Dependence and Overdose

Why Is This Issue Important?

The World Health Organization (WHO) defines mental health as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to contribute to his or her community" (WHO, 2019). Such definitions underscore the importance of mental health and its relationship to a fundamental sense of well-being and meaning. The term "Behavioral Health" is often used to describe the connection between our behaviors and this fundamental sense of well-being. Practitioners working in Behavioral Health offer therapies designed to help individuals cope with issues such as depression, anxiety and addiction to alcohol or illegal drugs. Many issues contribute to Behavioral Health outcomes – everything from an individual's genetic predisposition to family function and community support, to policies like alcohol taxation and rates of available Behavioral Health care providers.

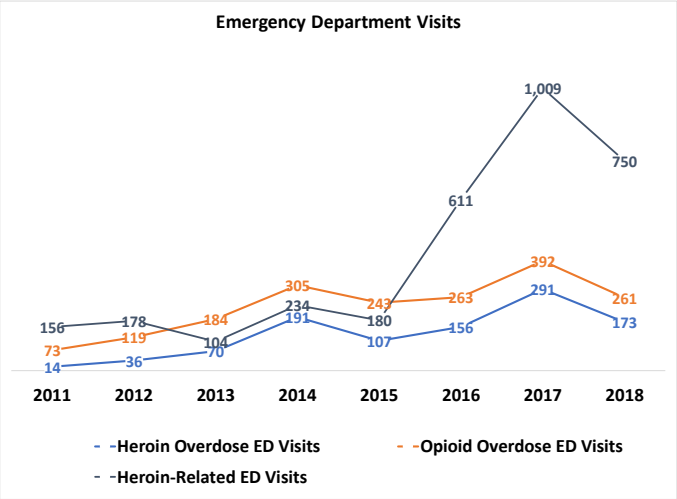
Current, county-level data on Behavioral Health are very difficult to find. For example, a resident survey we conducted in the 2016 CHA estimated self-reported prevalence of depression and anxiety in Guilford County at over 20%, making these among the most common chronic diseases in our community. However, valid, non-biased resident surveys are resource-intensive. One alternative, analyzing information from medical records, is hampered by access restrictions. As a result, we lack information on issues that affect many individuals in our community, making it difficult to fully understand these issues and track progress. We have no current data on tobacco or alcohol use in this chapter, despite these being the most common addictions in our communities. Also, epidemiologists estimate that one in seven women suffer from perinatal anxiety or depression, making this the most common complication of pregnancy, but we do not have local prevalence data, nor the ability to analyze patterns to identify which groups are at highest risk, at which stages of pregnancy and which treatment programs are most effective. Very importantly, we lack local data on youth and Behavioral Health. The most recent year in which Guilford County participated in the Youth Risk Behavior Survey was 2011; in that year, over 5,000 Guilford County Schools students responded to questions on a variety of topics, including mental health, bullying and substance use.

Without valid, local, current data, our Behavioral Health practitioners, families and individuals affected by these issues, are often left navigating this work without any fixed compass points. To paraphrase a participant in the Behavioral Health workshop, "*We have so many different diagnoses and symptoms, but no standardized benchmarks for quality. I want our agency to be the best, because I want our patients to get the treatment they need. But I don't have a way to compare our outcomes to understand how we can improve. And what about our patients? How does someone in the community know which of us are doing a good job*?"

How Does Guilford County Trend Over Time?

Reduced Emergency Department visits in 2018 provided an indication that the opioid overdoses may be declining in the county.

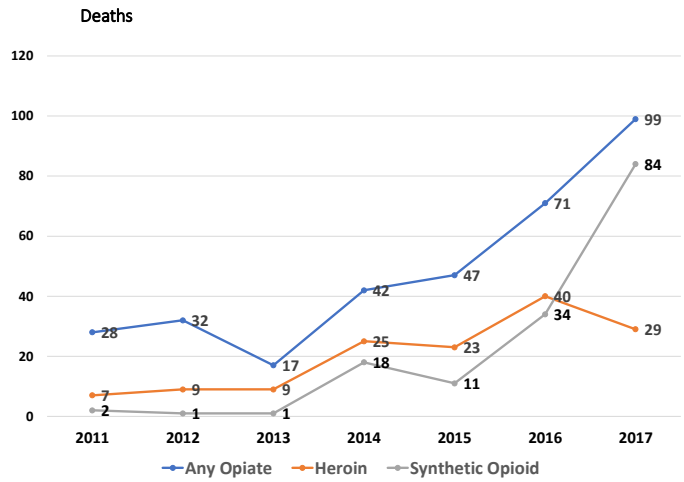
Trends in Opioid-related Overdose Emergency Department Visits



Source: NC Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT).

Opioid overdose mortality in Guilford County showed an increasing trend through 2017. There was a decline in deaths due to heroin, but an increase is deaths due to synthetic opioids (such as fentanyl).

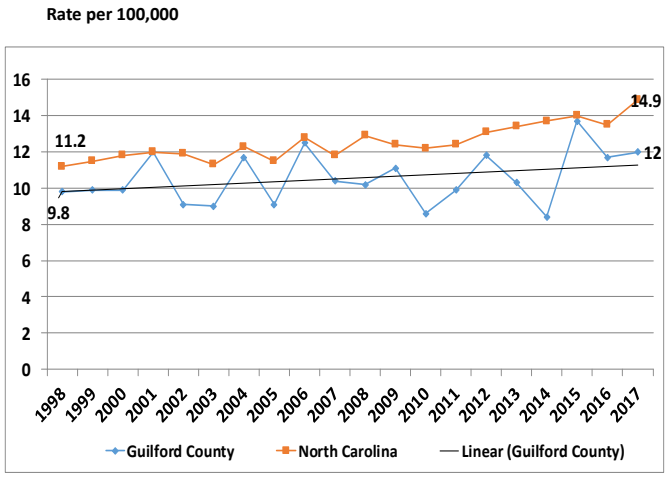
Opioid Poisoning Deaths, Guilford County, 2011-2017



Source: NC State Center for Health Statistics.

Suicide rates in Guilford County showed a slightly increasing trend in the 20 years from 1998-2017 but rates grew at a smaller rate than the state overall. Age-adjusted suicide mortality rates were almost four times higher among Whites (16.3 per 100,000) compared to African Americans (4.5 per 100,000). 38.8% of suicide deaths in 2017 occurred among persons ages 20-29, with smaller percentages of deaths in other age groups, including suicides among persons over the age of 80.

Suicide Mortality, Guilford County and NC, 1998-2017

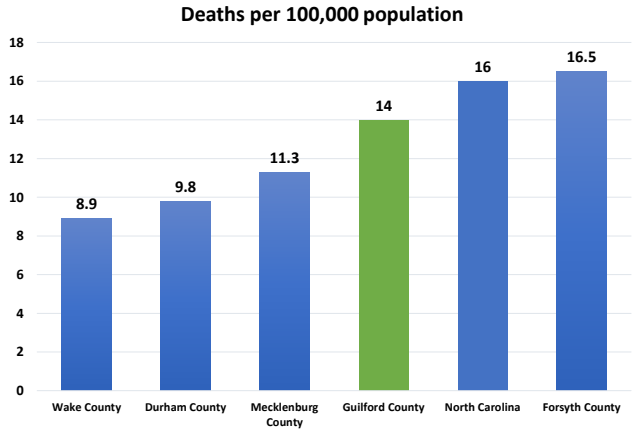


Source: Data provided by the NC Center for Health Statistics.

How Does Guilford County Compare to Others?

Five-year mortality rates from unintentional drug poisoning – which includes deaths due to prescription and non-prescription opioid overdoses—shows that Guilford County has lower drug poisoning rates than the state overall and peer county Forsyth, but has higher rates than Mecklenburg, Durham and Wake counties.

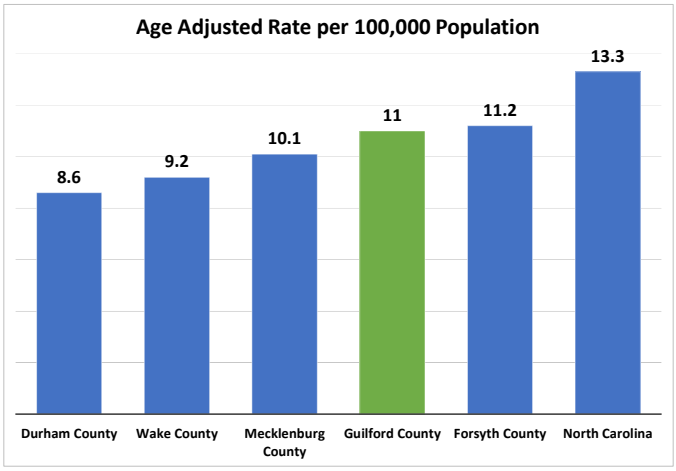
Mortality Rates from Unintentional Drug Poisoning by County, 2013-2017



Source: County Health Databook, NC State Center for Health Statistics, 2013-2017 .

Five-year suicide mortality rates in Guilford County are better than the state overall and peer county Forsyth, but suicide rates in other peer counties—Durham, Wake and Mecklenburg are lower.

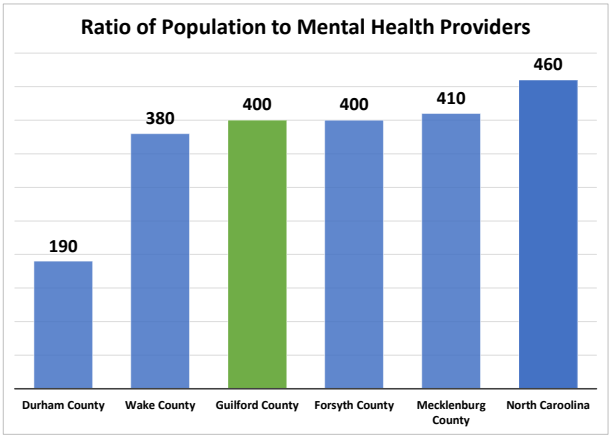
Suicide Mortality Rates by County, 2013-2017



Source: County Health Databook, NC State Center for Health Statistics. 2013-2017.

Guilford County has more availability of mental health providers than residents of the state overall, but some counties, such as Wake and especially Durham, have a better ratio of population to mental health providers.

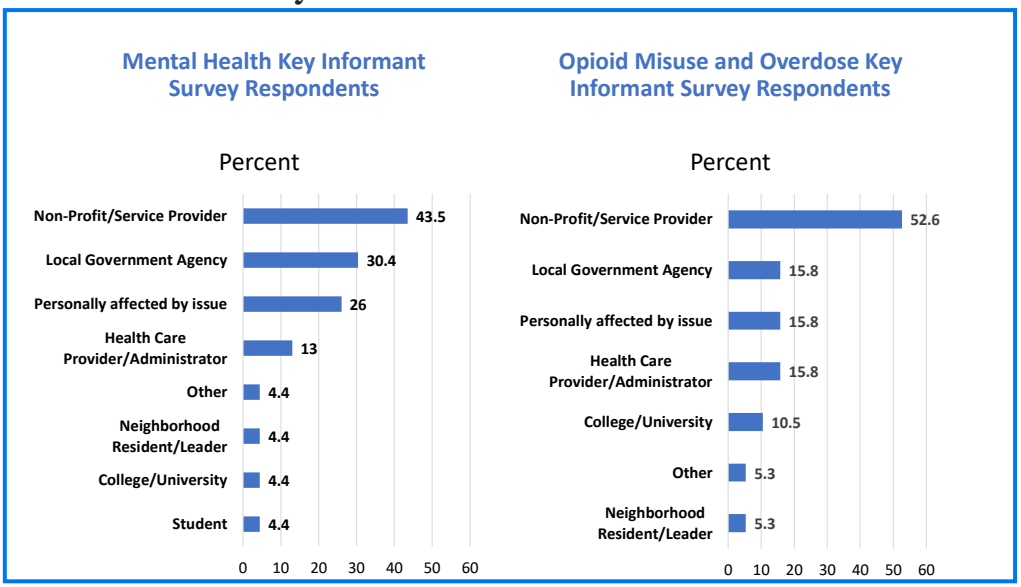
Mental Health Providers by County, 2018



Source: CMS, National Provider Identification Registry, County Health Rankings, 2018.

Behavioral Health Key Informant Surveys

In March 2019, 119 persons identified by the CHA Team as Key Informants—persons with subject-matter expertise, knowledge and experience in Behavioral Health--were invited to complete an online survey with questions regarding the current state and potential for an improved future state of Behavioral Health. They were invited to complete either the Mental Health or Opioid Misuse and Overdose survey component, or both. Thirty-one Key Informants completed the Mental Health survey and 25 completed the opioid Misuse and Overdose survey. The chart above shows the distribution of Key Informant respondent types for each survey component.

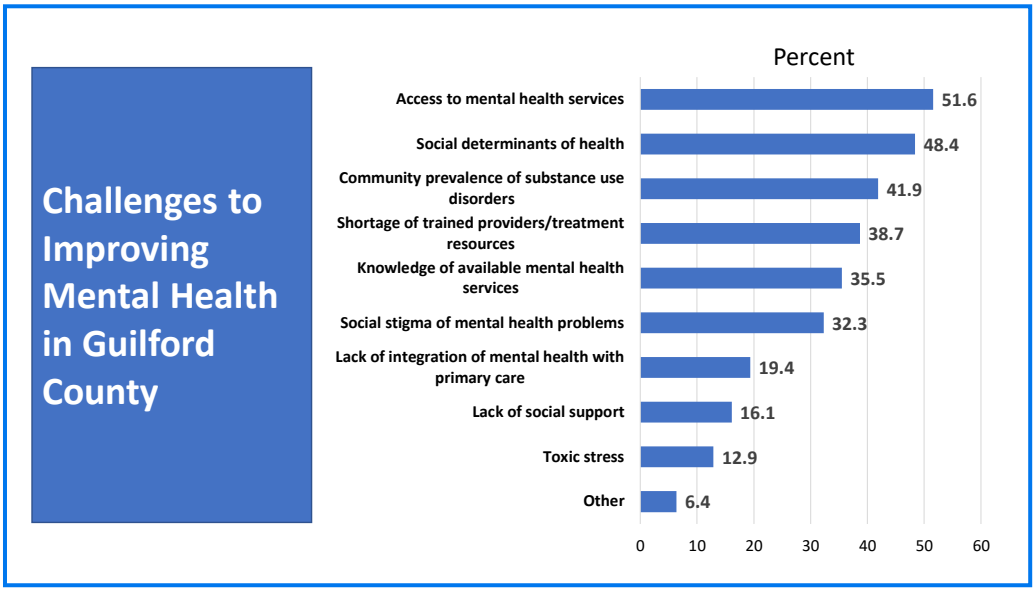


Assessing the Current State of Behavioral Health

To assess the current state survey respondents were asked for their views on three dimensions of the current state of mental health and opioid misuse/overdose in Guilford County: the most important challenges to improving these two areas of concern, the populations impacted to a greater extent and perceived assets (programs and services, infrastructure and policies).

Challenges to Improving Mental Health

Among survey participants, the most important challenge to improving mental health in Guilford County is to improve access to mental health services. Following closely in importance was the recognition of the impact of the social determinants of health on mental health, community prevalence of substance use disorders, shortage of trained providers and treatment resources, knowledge of available mental health services, social stigma attached to mental health problems, lack of integration of mental health and primary care, lack of social support and toxic stress. The following quotes from Key Informants illustrate these challenges.



"Mental health services are completely devalued. Mental health providers are expected to hold fundraisers, run bake sales, have galas, etc. No one would feel comfortable going to a neurologist that had to sell hot dogs in the parking lot to keep their doors open."

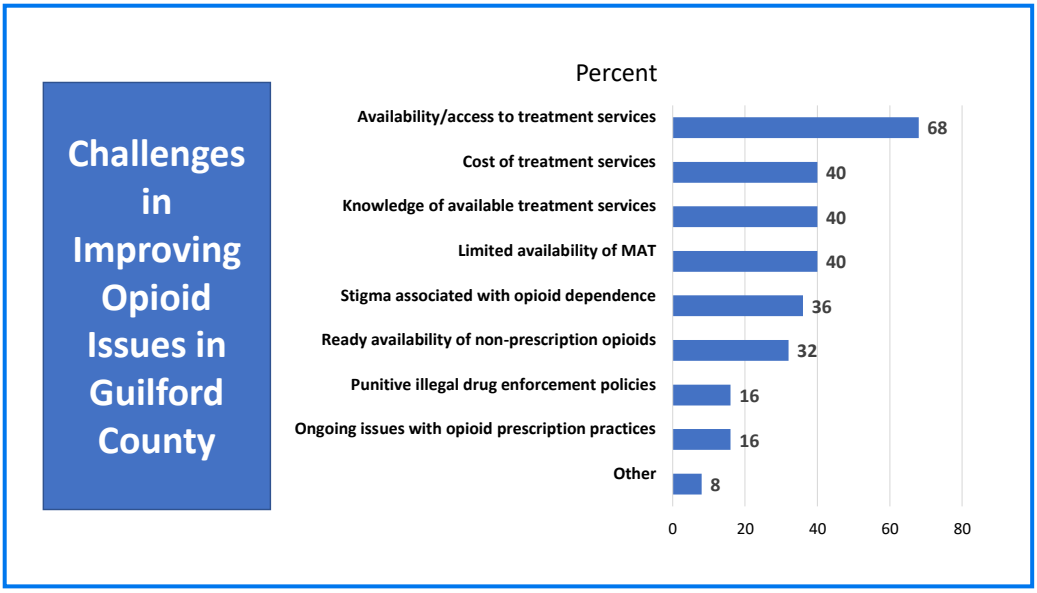
This quote speaks to the challenge that many shared of having appropriately funded resources at the scale necessary to meet the need. This quote also reflects a recurrent theme of the differences and divides between the mental health system and the traditional medical care system. Many of the survey respondents spoke about resources, of the need to have many more trained professionals, services available for uninsured people and people with expensive co-pays.

"Shortage of trained professionals willing to provide services to low income populations."

"I work in a hospital setting and often these patients arrive at our doors with no other alternatives. Although we have some mental health capabilities we often exhaust resources and keep people for extended periods of time without appropriate treatment."

Challenges to Improving Opioid Misuse/Overdose

Concerns regarding adequate access to care were also frequently expressed in the opioid misuse and overdose survey. Among survey respondents, the most important challenge to improving the problem of opioid misuse/overdose in Guilford County is to improve availability and access to dependency treatment services. Following in importance was the cost of treatment services, limited availability of medication-assisted treatment (MAT) services, knowledge of treatment services, and the stigma associated with opioid dependence. The respondents below emphasized the disconnect between need and availability:



"I think the single biggest hindrance to those with opioid use disorders is the stunning lack of access to treatment services WHEN SERVICES ARE NEEDED."

MAT, which combines behavioral therapy and medications to treat substance use disorders, proved to be a topic without consensus. There were calls for more access, expressed in these quotes.

"High Point needs to have its own MAT like [provider] used to have before its funding was cut…"

"Ready access to MAT could be improved."

But there were others who are highly critical of this approach.

"Continued focus on MAT, or drug replacement and Rx issues is proving to be short-sighted."

"Money is irresponsibly being funneled into programs that provide no treatment services. Providing medication-only serves no purpose. Instead, it drastically increases the number of individuals who are physiologically dependent."

An important issue is overcoming the stigma associated with opioid misuse/overdose. Quotes below are from the Key Informant Survey:

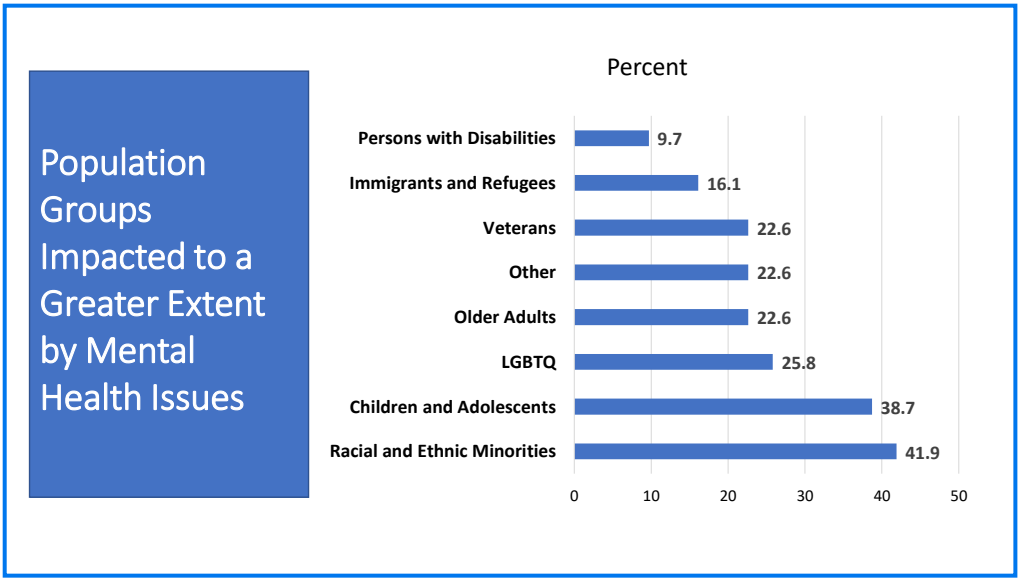
"Stigma is huge. Folks don't want family, employers, etc. knowing that they have a substance use disorder."

"Providers have a tough time raising money to assist patients with treatment costs because of stigma."

"We need a grassroots strategy much like we did decades ago with HIV/AIDS to address stigma."

Populations Most Impacted by Behavioral Health Issues

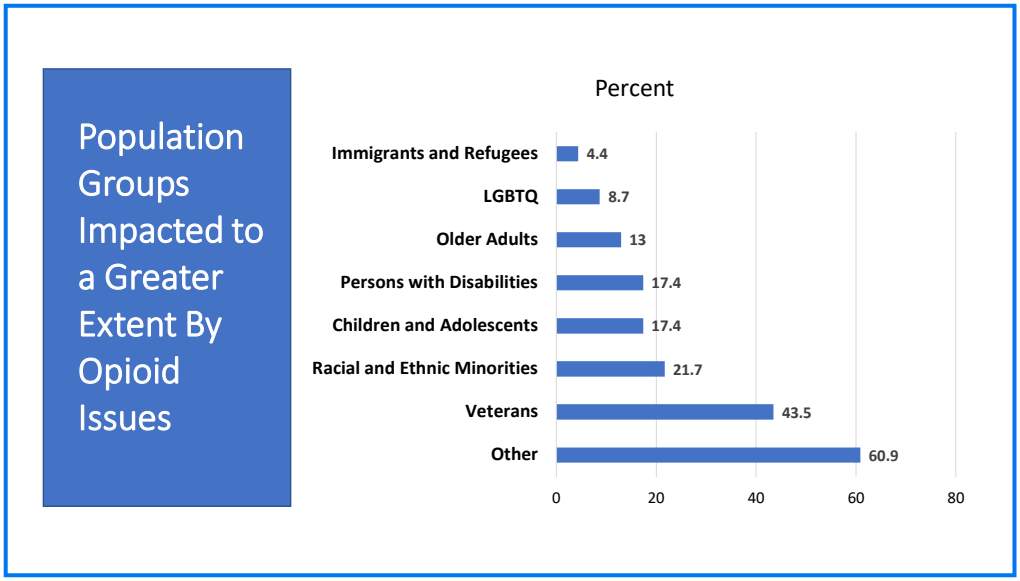
Mental Health survey respondents identified racial and ethnic minorities and children and adolescents as two population groups greatly impacted by mental health issues. Quotes from respondents below reflect a sense of the structural nature of their vulnerability. People of color face inequity in access to mental healthcare, and experience bias within that system. Children must rely on parents or other adult advocates to help them access care.



"People of color are often the last served – and/or served with insensitivities to implicit racial/ethnic biases and unconscious micro-aggressions."

"Children and adolescents, especially those who have or are still experiencing adverse childhood events and are so often prevented from [accessing] the mental health system by the very individuals causing their higher levels of mental health issues."

There was little consensus among Key Informants regarding which population sub-groups have been most impacted by opioid misuse; the most common survey response was "Other", followed by Veterans. These respondents' quotes are representative of different responses in the category "Other."



"Ages 20-34 are a growing group addicted to opioids and demonstrating need for services."

"Middle class Caucasian"

"Affects all populations."

One survey respondent remarked on different approaches to addressing substance use based on the race of groups most affected:

"This is a problem that exists overwhelmingly amongst white people. A cynic like myself might suggest this is why we have Good Samaritan and syringe exchange laws. This is good, but it is disingenuous to ignore the fact that this is NOT how we responded when crack cocaine was devastating black communities. The answer then was building prisons as quickly as possible."

Perceived Assets and Gaps in Addressing Behavioral Health

The Key Informant Survey asked respondents to reflect on existing assets in our community at several levels using the following questions: "What existing programs/services, assets/infrastructure and policies do you think are effectively addressing the mental health/opioid misuse of county residents?" Their responses are included in Tables 1 and 2.

Table 1: Perceived Assets – Effectively Addressing Mental Health in Guilford County: Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Integrated Behavioral Health and primary care • Crisis services (mobile and facility) • Intensive Case Management	• Network of community providers (MCO, Community Partnerships, Mental Health Association) • New efforts by the county	• Medicaid expansion (not currently an asset) • "I can't think of anything in the last ten years that were moves in a helpful direction"

Table 2: Perceived Assets – Effectively Addressing Opioid Misuse/Overdose in Guilford County: Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Medically Assisted Therapy (MAT) that provide a full continuum of care • Residential treatment • Harm reduction strategies: syringe exchange, Narcan, peer support • Opioid Treatment Program	• Law enforcement and emergency services collaboration with the provider community • Naloxone availability • Law Enforcement and First Responders Are Dealing Well with Emergencies • Recovery communities • GCSTOP • Caring Services High Point, AA, NA, Mental Health Association	• Good Samaritan Law • Naloxone Access Law • STOP Act • Syringe Exchange Law

Key Informants noted several existing programs and services that were regarded as effective approaches. The existing network of community providers and new efforts by the county to improve mental health access were reported as infrastructure and assets. Key Informants noted numerous existing programs and services that are effectively addressing the opioid problem, including Guilford County Solution to the Opioid Problem (GCSTOP), Alcohol and Drug Services, Medically Assisted Therapy (MAT) and harm reduction strategies such as syringe exchange and Narcan distribution. Law enforcement and emergency responder collaborations with service providers and Naloxone (Narcan) availability were listed as infrastructure assets. The most commonly reported effective mental health policy was Medicaid expansion, which does not yet exist in North Carolina, while the second most common was "I can't think of anything" which points to a serious lack of relevant mental health policymaking known to our Key Informants. In contrast with mental health, where Key Informants were at a loss to identify effective policy measures, opioid Key Informants agreed on several important policies that support improvements in opioid misuse/overdose, including the STOP Act, the Good Samaritan Law and the Naloxone Access Law.

Behavioral Health Key Informants were also asked, "What do you see as the biggest gaps in programs/services, assets/infrastructure or policies in addressing the mental health of county residents?" Their responses are included in Tables 3 and 4. Respondents noted several gaps in programs and services, including substance use treatment, the need for medication therapies and management and integration of physical and mental health services. Infrastructure needs include more trained providers, including culturally representative providers and specialists and community supports such as transportation, and shelters with health insurance. Key Informants saw a need for more health insurance access, including Medicaid expansion, and need for more flexible funding for children's mental health services.

Table 3: Perceived Gaps – Mental Health in Guilford County:
Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Substance use treatment • Medication therapies and management • Hospital and community integration; physical and mental health integration	• Numbers of trained providers, culturally representative providers, and specialists • Community supports: transportation, shelters, jobs with health insurance, safe community outlets	• Health insurance access and Medicaid expansion • Need for more flexible funding for children's services

Table 4: Perceived Gaps – Opioid Misuse/Overdose in Guilford County:
Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Outpatient Opioid Treatment Providers • Medically Assisted Therapy (MAT) • Social-setting detox • Accessibility of treatment options • Supervised injection facilities • Lack of Methadone detox availability; lack of outpatient/recovery supports after detox • Residential treatment facilities	• Informed community and local government • Peer Support expanded to additional settings • Prevention funding	• Policies that address law enforcement and substance use: • Diversion programs • MAT access in jail • Greater recognition of substance abuse as a disability for purposes of obtaining accommodation and assistance

Survey respondents noted additional services that could be beneficial to promoting improvement in opioid misuse/ overdose:

"Certified Peer Support Specialists should be EVERYWHERE! Emergency Rooms, Schools, DSS, DPH, definitely underutilized asset."

"Expanding MAT access to inmates in both jails, due specifically to the high number of individuals who end up in jail. Arguably, it would be better for them not to be arrested and diverted, but if that's not possible, and for higher offense individuals, MAT access would be vital."

"Law enforcement training. Given that they acknowledge that 60% - 95% of their time is spent working with substance users, training in this area should be in basic law enforcement training."

Promising Approaches for a Desired Future State

Key Informants answered the following question: "Based on your knowledge and experience, what do you see as the most promising approach or approaches to promoting improved mental health among Guilford County residents?"

Suggestions and recommendations for addressing mental health issues addressed services offered, access related issues and service integration. Promising approaches included community partnerships--including faith-based integration, new enhanced crisis services through Guilford County/Cone Health/Sandhills and healthcare-community connections (liaison roles, joint facilities, transitions of care, integrated behavioral and primary care).

"*The community-based services are literal life-savers. Allowing providers to literally meet people where they are is great for community integration and the establishment of rapport.*"

Identified Promising Approaches (Mental Health)

Services

- Medically assisted opioid options
- The specialty courts are a beacon of hope in a field decimated by repeated budget cuts
- More psychiatrist involvement coupled with front line trained workers
- More court involvement with the problematic mentally ill that commit crimes
- Guilford County/Cone Health/Sandhills Center partnership to bring enhanced Crisis Services to the community
- Awareness campaigns to reduce the stigma of mental health issues
- Utilizing peer support specialists in the schools
- Implementing LEAD program county-wide

Identified Promising Approaches (Mental Health)

Access

- Providers that offer services to low income/under insured populations
- Increased access to health insurance
- Expanded open office hours outside of the after-hours emergency intake
- Improved access to substance dependency inpatient services
- Marketing available mental health services here

Integration

- Inclusion of faith-based infrastructures in mental health and physical health
- More collaboration and communication among providers
- Greater participation from community resources such as church programs and shelters
- An integrated care approach is most beneficial

Key Informants offered suggestions and recommendations for addressing opioid-related issues in the county such as using peer support specialists in the schools, expanding access to MAT, young-adult-specific treatment, increased funding to support treatment regardless of income and education for the public and for opioid prescribers.

Identified Promising Approaches (Opioid Misuse &Overdose)

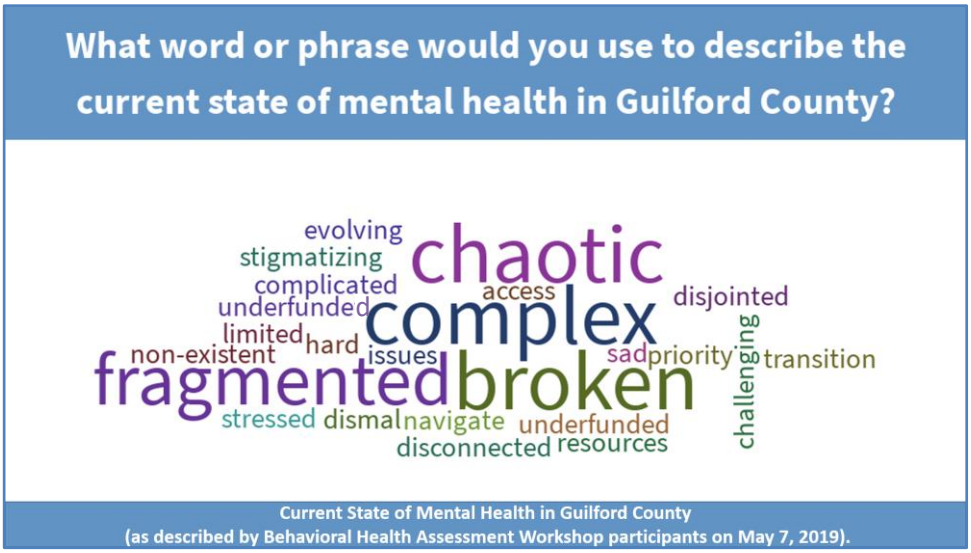
- Utilizing peer support specialists in the schools
- MAT and harm reduction (expanding access to MAT via outpatient treatment providers)
- Implementing LEAD program county-wide
- Stricter penalties on sellers and some accountability for repeat users
- Supportive and affordable treatment in places such as Caring Services, Inc. and education regarding harm reduction through programs such as GCSTOP
- Partnership between MCO/providers/community
- Consistent outreach directly to individuals using opioids to build relationships
- Strict prescribing rules around opioids
- Young adult opioid-specific treatment tracts at residential treatment facilities
- Continued public education on the risks associated with opioid use, even when prescribed
- Education for prescribers
- Increased funding and awareness
- Treatment being available for all regardless of income

"We still educate. Education must be bold."

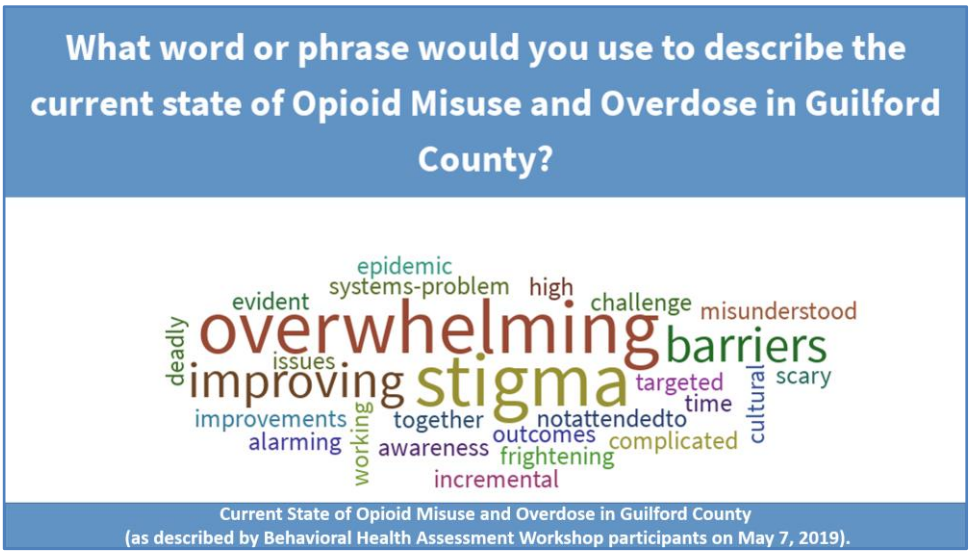
"Extended Transitional care back into society which is not expensive. Funding is the downfall."

Behavioral Health Key Informant Assessment Workshop

On May 7, 2019, the CHA Team convened a half-day Behavioral Health Assessment Workshop. Persons invited to complete the Mental Health or Opioid Misuse/Overdose Key Informant Surveys were asked to attend, with 25 persons attending. Workshop participants considered the current state of mental health and opioid issues through presentations of both quantitative data and discussion of findings from the Behavioral Health Informant Surveys, followed by small group discussion of desired future states of these issues.



Word Cloud #1



Word Cloud #2

The Word Clouds (#1 and #2) above depict responses to questions posed at the beginning of our Behavioral Health Assessment Workshop to the 25 participants gathered. Workshop participants discussed the feeling of being overwhelmed in several ways. A mother that became aware of a loved one's addiction described how families are overwhelmed by the many choices they need to make, and the difficulties of navigating a fragmented care system with different services and eligibility guidelines. Practitioners described being overwhelmed by demand for services, and the acuity of presentation:

"*We all run as fast as we can and we still feel like we're losing ground. We have overwhelming demand and even when we feel caught up, there is still someone walking through the door in crisis. It's hard on everyone.*"

Mental health service providers also expressed mixed feelings about the attention being paid to opioid addiction. While participants generally agreed that this attention is necessary to make progress on this important work, some also expressed beliefs that other important Behavioral Health issues, which may affect far greater numbers of individuals in our communities, were also worthy of time, attention and investment. To paraphrase participants:

"The opioid crisis sucks all the oxygen out of the room. Just focusing on opioids and neglecting other issues is a problem. Sometime people think that if we have solved opioids, then the work is complete. That ignores the prevalence of alcohol addiction, and the re-emergence of meth, as well as other important widespread issues like depression."

Some participants framed this discussion in terms of the difficulties in identifying resources to sustain Behavioral Health services, especially for uninsured residents. They mentioned the difficulty in securing general operating funds, shrinking corporate philanthropy and the pressure to develop splashy new programs rather than improving existing services. One participant remarked that:

"The key to this is collaboration, not competition, as we are being asked to share a very small pie."

Both survey and workshop participants remarked regarding opioid treatment that: "WHEN SERVICES ARE NEEDED" may not be Monday – Friday from 8 – 5, but is often when someone is in jail, when someone is pregnant, when someone is at the Emergency Room – and these are all places and circumstances that are critically important to promoting recovery and also clinically complex times or places to provide care.

Like survey respondents, workshop participants also expressed differing opinions about Medication Assisted Treatment(MAT). Some were concerned, like the respondent in the quote above, about separating medication from behavioral therapies. Others disagreed, challenging MAT protocols that required participation in individual or group therapy. To paraphrase one workshop participant:

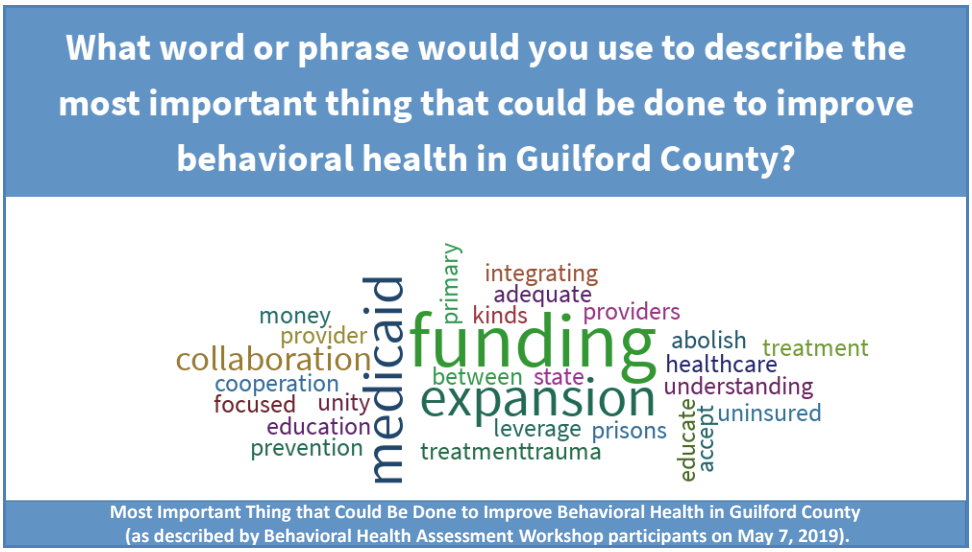
"*Opioid users who take medications like buprenorphine have a 40% reduction in rate of fatality. Imagine if we told a diabetic that you can't get your insulin until you come to counseling four times a week, and we only offer counseling during work hours."*

Workshop participants were also vocal about the negative impacts of stigma. Shame over addiction prevents people from seeking professional help, makes it difficult to ask for support from friends and family and makes relapse more difficult to address. One participant spoke specifically to the concept of relapse (paraphrased):

"I want to challenge the concept of relapse. Some of us are blessed to need very little support. Others are going to need ongoing support, sometimes for a very long time. When our services only offer short-term support, and then withdraw, we have a history of blaming and shaming the person that begins using again. Thirty years ago, I started out understanding this as, "Well, you must not want recovery bad enough to stop using," now I understand this as a chronic brain disorder. And if it is a chronic brain disorder, then shouldn't we understand relapse better?"

Workshop participants expressed the sentiment that the different approaches in addressing substance use based on the race of groups most affected. They noted that the opioid harm reduction strategies (peer support, syringe exchange, naloxone availability and other strategies to reduce negative consequences of substance use without requiring abstinence) are aligned with our current scientific understanding of addiction, but that they need to be applied to all addictive substances, not just those that affect White people. Workshop participants also discussed a desire to invest in prevention, noting that current prevention resources felt "disjointed" as they were administered by multiple agencies, such as law enforcement, the Health Department and EMS. Some participants also remarked on the need for prevention dollars "without strings attached", especially if those strings relate to harm reduction strategies that have a strong scientific evidence base but may be politically controversial.

There was consensus among survey respondents and workshop participants on several gaps in mental health services. With current capacity for treatment services far below the need, they propose additional residential services but also new and integrated approaches to outpatient services, such as integrating Behavioral Health into primary care and developing intensive outpatient services for substance use treatment. They also agreed that more robust community supports, such as transportation and health insurance coverage, would be critical drivers of success.



Word Cloud #3

Downstream, Midstream and Upstream Approaches

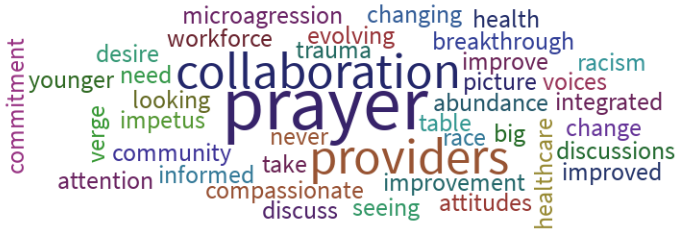
Workshop participants were asked to share what word or phrase would describe the most important thing that could improve Behavioral Health in Guilford County and the most common words that included "funding" "Medicaid expansion" and "collaboration" (see Word Clouds #3 above). Small-group discussion of desired future states focused on promising approaches considered to be "Downstream," "Midstream," or "Upstream." Downstream refers to diseases, illnesses or conditions that we want to reduce or eliminate. Midstream approaches are changes we would like to see in the environment, infrastructure or behaviors. Changes to midstream factors drive improvements downstream. Upstream approaches are changes we would like to see in policy and social equity. Upstream changes drive midstream and downstream improvements. The following table compiles the suggestions for promising approaches that emerged from the Behavioral Health Assessment workshop (see Table 5 below).

Table 5: Promising Approaches to Improving Behavioral Health in Guilford County

Downstream	Midstream	Upstream
Diseases, Illnesses and Conditions	**Environment, Infrastructure and Behaviors**	**Policies**
Mental Health		
• Stigma	• Education; advocacy: support; public service info; online services; support provided in diverse locations • Diversity in support leadership	• Funding for innovative strategies
• Homelessness	• Add incentives to building affordable housing • Innovative tiny homes, etc.	• Increase funding to and reorganize Housing and Urban Development (HUD)
• Chronic physical and behavioral health (high blood pressure, diabetes, pain)	• Integrated behavioral health and primary care	• Pay primary care provider for longer visits
• Reduce Adverse Childhood Experiences (ACES) • Childhood obesity	• Affordable, healthy food • Transportation	• Change stigma around public assistance
• Alcohol Use	• Move access to social setting detox	

Downstream	Midstream	Upstream
Diseases, Illnesses and Conditions	**Environment, Infrastructure and Behaviors**	**Policies**
Opioid Misuse/Overdose		
• Unequal access to treatment	• Transportation • Allocation of resources to uninsured/underinsured	• Medicaid expansion
• Stigma	• Education • Advocacy • Support • Addressing this in diverse locations • Lessons learned from HIV/AIDS grassroots movements • Stories from those who have lived/experienced-acceptance of speaking out	• Social Determinants of Health • These are called different things/names in different fields but root cause is racism
• Decrease opiate use	• Changing culture to evaluate and educate community around self-care and medication	• Insurance coverage - bundled payments when treating and preventing addiction and medical needs
• Decrease access to additive substances (opioids)	• Law enforcement – to decrease supply • Education • Locking up drugs/disposal; managing emotional stress • Pros/cons to prescribed opioids pain management alternatives	• Legal ramifications for pharmaceutical companies • Take into account population health
• Increase support of people in all stages of process	• Legal/criminal - decrease consequences • Employers hiring practices • Job training opportunities	• Tax breaks for entities that give opportunities to those in treatment and recovery

What makes you most hopeful about the future of behavioral health in Guilford County?



Current State of Opioid Misuse and Overdose in Guilford County
(as described by Behavioral Health Assessment Workshop participants on May 7, 2019).

Word Cloud #4

Summary and Conclusions

"Chaotic," "complex," "broken" and "fragmented" were the most common one-word terms used by Key Informants to describe the current state of mental health in Guilford County. The terms used to describe the current state of opioid misuse/overdose in the county were similarly grim, including "overwhelming," "stigma" and "barriers" but with some noting an "improving" situation. Asked what makes them feel hopeful about the future of Behavioral Health in the county, some noted the importance of mental health "providers" while other noted the importance of "collaboration" (See Word Cloud #4). Pessimism regarding current prospects for community efforts to improve Behavioral Health was reflected in the selection of "prayer" as the most common thing that makes people feel hopeful.

Compared with manifestations of physical health, Behavioral Health data at the county level are difficult to obtain for purposes of assessment. From available data, we know that many county residents are adversely affected by mental health issues, including substance use issues. The assessment process sought to dive deeper into these subjects to identify key issues, challenges, special populations, disparities, inequities, needs, assets and potential promising approaches to making improvements, reaching out to subject matter experts and other Key Informants through a survey and a workshop.

The most important challenge noted by Key Informant Survey respondents to improving mental health in Guilford County is to improve access to mental health services: the need for mental health services exceeds the resources available. Following closely in importance was the recognition of the impact of the social determinants of health on mental health, community prevalence of substance use disorders, shortage of trained providers and treatment resources, knowledge of available mental health services, social stigma attached to mental health problems, lack of integration of mental health and primary care, lack of social support and toxic stress. Concerns regarding adequate access to care were also frequently expressed in the opioid misuse and overdose survey. Access-related issues of cost and knowledge of treatment services were also recognized.

Mental health survey respondents identified racial and ethnic minorities and children and adolescents as two population groups especially impacted by mental health issues. Racial minorities face inequity in access to mental healthcare and experience bias within that system. Veterans were recognized as a population group impacted by opioid-related issues, though Key Informants noted that the population group experiencing problems with opioid misuse/overdose is largely White.

Key Informants noted several important gaps or needs relating to mental health, including the need for greater integration of physical and mental health services, more trained and culturally representative providers, community supports for social determinants and more health insurance access (Medicaid expansion). Medication-assisted therapy (MAT) was seen as a need to improve opioid misuse/overdose problems, along with more residential treatment facilities and greater prevention funding. Except for the network of existing providers, Key Informants struggled to identify services, infrastructure assets and policies that effectively address mental health in the county. For opioid misuse/overdose issues, numerous effective programs, assets and policies were noted, however, such as GCSTOP, the Good Samaritan Law, the Naloxone Access law and syringe exchange laws.

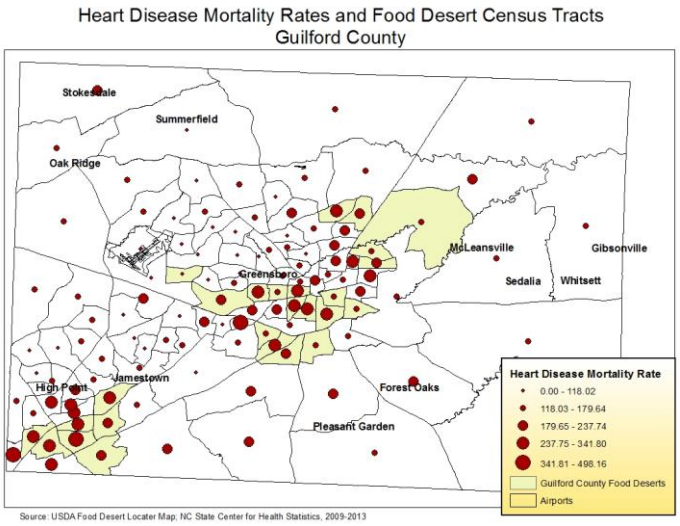
In addition to assessment of key issues, populations affected and gaps and needs, Key Informants considered promising approaches to improving Behavioral Health concerns. Suggestions and recommendations for addressing mental health issues addressed services offered, access related issues and service integration. Promising approaches included the promotion of community partnership such as faith-based integration, new enhanced crisis services and healthcare-community connections through joint facilities, transitions of care and integrated behavioral and primary care. Key Informants offered suggestions and recommendations for addressing opioid-related issues in the county such as using peer support specialists in the schools, expanding access to MAT, young adult specific treatment, increased funding to support treatment regardless of income and education for the public and for opioid prescribers.

7 Healthy Eating and Active Living

Why Is This Issue Important?

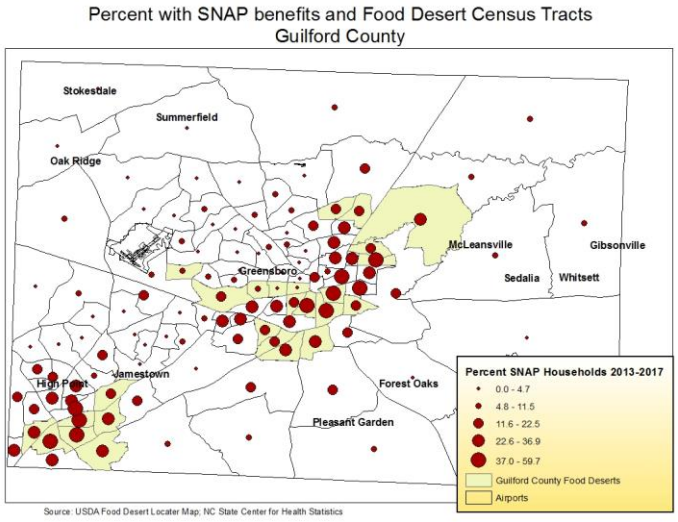
Chronic diseases, such as heart disease, diabetes and high blood pressure can often be prevented by a healthy lifestyle, which includes diets rich in fruits and vegetables, lean proteins and whole grains and regular physical activity (CDC, 2019). Healthy Eating and Active Living have both an individual and a societal component, involving both personal healthy habits and improved environmental conditions, ensuring that that more residents have convenient access to full-service groceries and produce outlets, as well as parks, sidewalks and other opportunities for exercise and recreation (Story, et al., 2008).

Food Access is an Important Health Issue



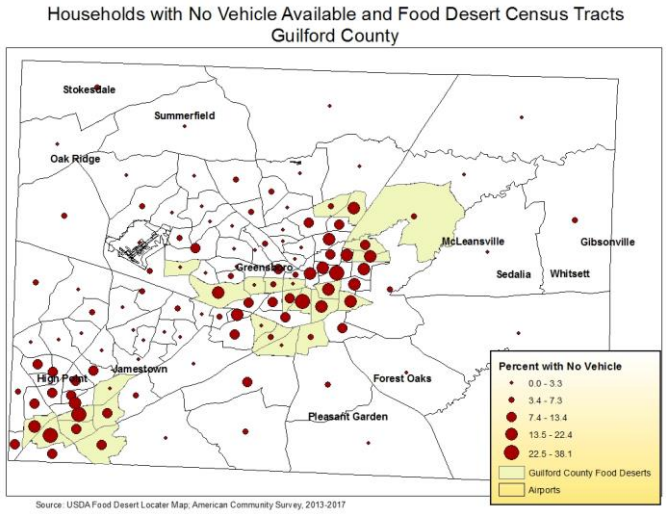
Out of 119 census tracts in Guilford County, 26 are food deserts, where at least one-third of residents live at least one mile from a full-service supermarket and at least 20% of residents live below the poverty level. As the map above shows, heart disease mortality rates tend to be higher in areas with poor access to stores with a variety of healthy foods. As seen in the following map, households with SNAP (food stamps) generally live in areas with limited access to full-service supermarkets.

Food Deserts and SNAP Households



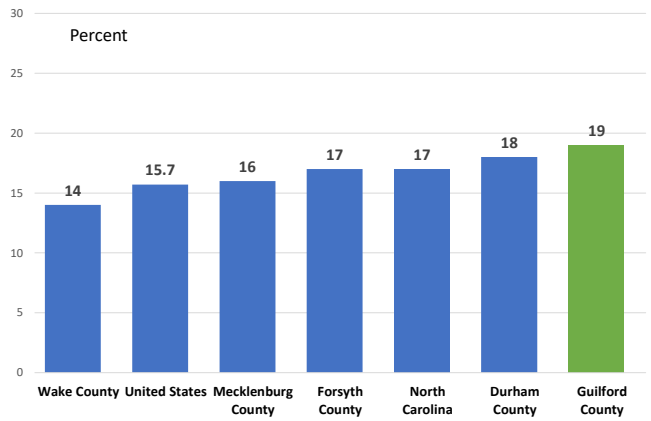
The map below indicates where residents of food desert census tracts have less local access to full-service supermarkets. Some food desert census tracts have as many as 38% of households with no vehicle available, creating logistical difficulties in shopping at healthy food outlets.

Food Deserts and Households with No Vehicle Available



How Does Guilford County Compare to Others?

Percentage of Persons Experiencing Food Insecurity by County

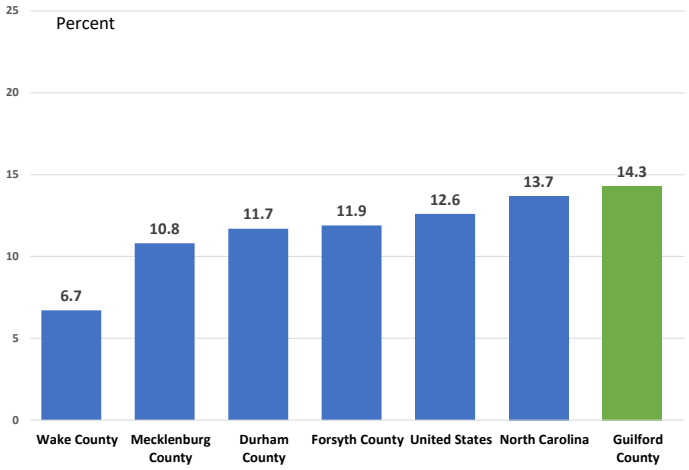


Sources: County Health Rankings BRFSS 2017, USDA 2017 (US Rate).

Guilford County ranks higher than peer counties, North Carolina and the United States in food insecurity, the percentage of the population who lack adequate access to healthy food. Lacking consistent access to food and the ability of families to provide balanced healthy meals can have negative health outcomes.

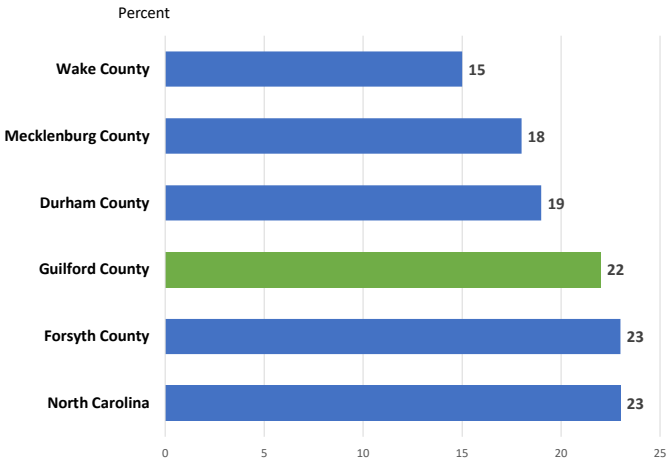
Though the proportion of Guilford County residents who engage in no leisure time physical activity is better than in neighboring Forsyth County and the state, it is higher than peer counties. Poor nutrition and lack of physical activity contribute to obesity. Except for Forsyth County, Guilford has a higher rate of obesity than other peer counties and the state overall.

Percent of Households with SNAP Benefits by County



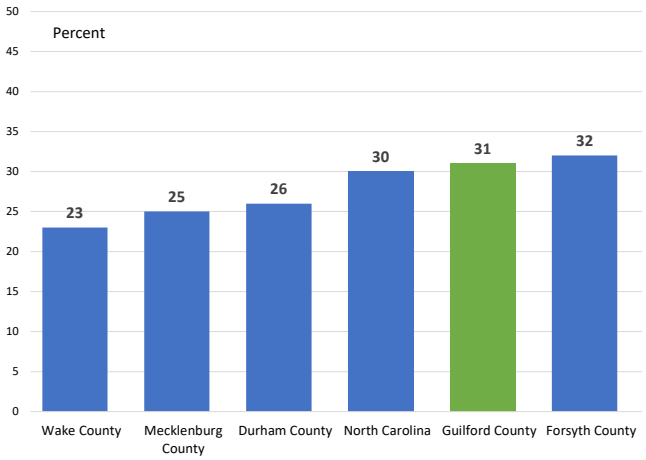
Sources: American Community Survey, 2013-2017.

Percentage of Adults Engaged in No Leisure-Time Physical Activity



Sources: County Health Rankings, BRFSS 2017.

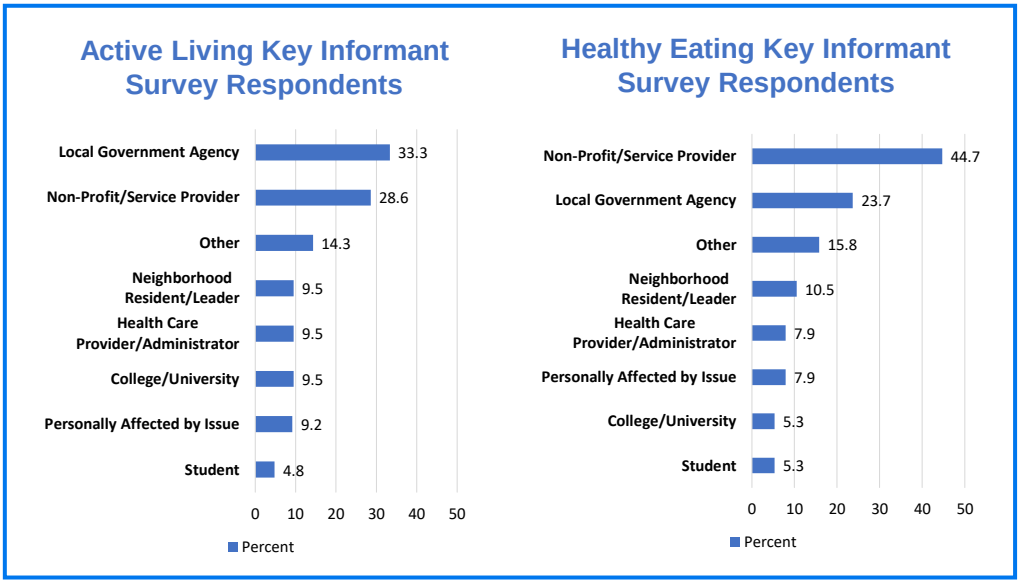
Percentage of Adult Obesity by County



Sources: County Health Rankings BRFSS 2017, CDC Report 2015-2016 (US Rate).

Healthy Eating and Active Living Key Informant Surveys

In March 2019, 213 persons identified by the CHA Team as Key Informants—persons with subject-matter expertise, knowledge and experience in the areas of healthy eating and active living—were invited to complete an online survey with questions regarding the current state and potential for an improved future state of nutrition and physical activity in Guilford County. They were invited to complete either the Healthy Eating survey component or the Active Living survey component, or both. Forty-three Key Informants completed the Healthy Eating survey and 19 completed the Active Living survey. The following chart shows the distribution of Key Informant Respondent types for each survey component.

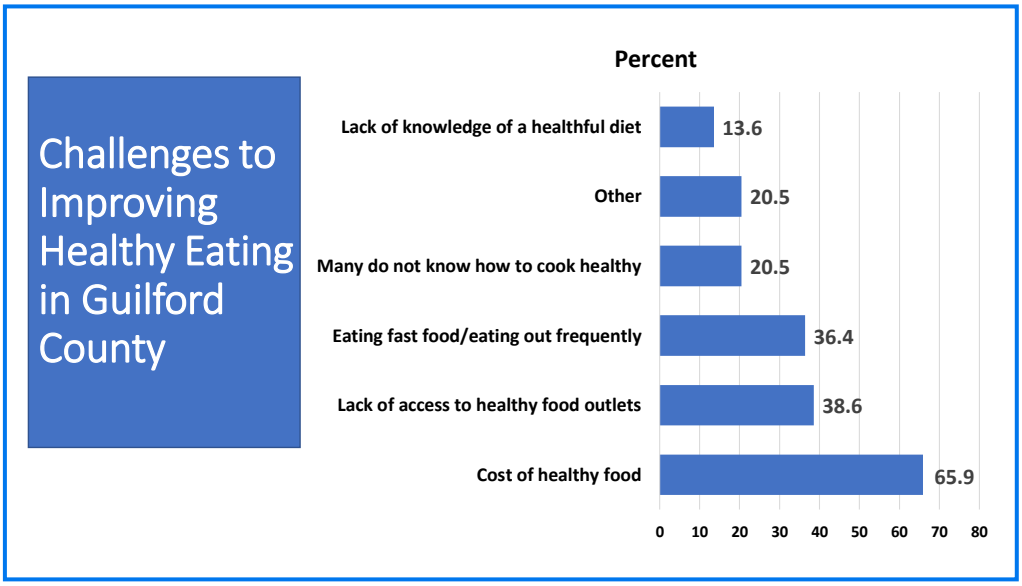


Assessing the Current State of Healthy Eating and Active Living

To assess the current state, survey respondents were asked for their views on three dimensions of the current state of healthy eating and active living in Guilford County: the most important challenges to improving healthy eating and active living, the populations impacted to a greater extent and perceived assets (programs and services, infrastructure and policies).

Challenges to Improving Healthy Eating and Active Living (HEAL)

HEAL Key Informant Survey respondents identified cost of healthy food and access to healthy food outlets as the leading challenges to improving nutrition in the county. Less frequently, respondents also identified eating fast food or eating out frequently and lack of knowledge on how to prepare food in a healthy way.



The following quotes illustrate these challenges:

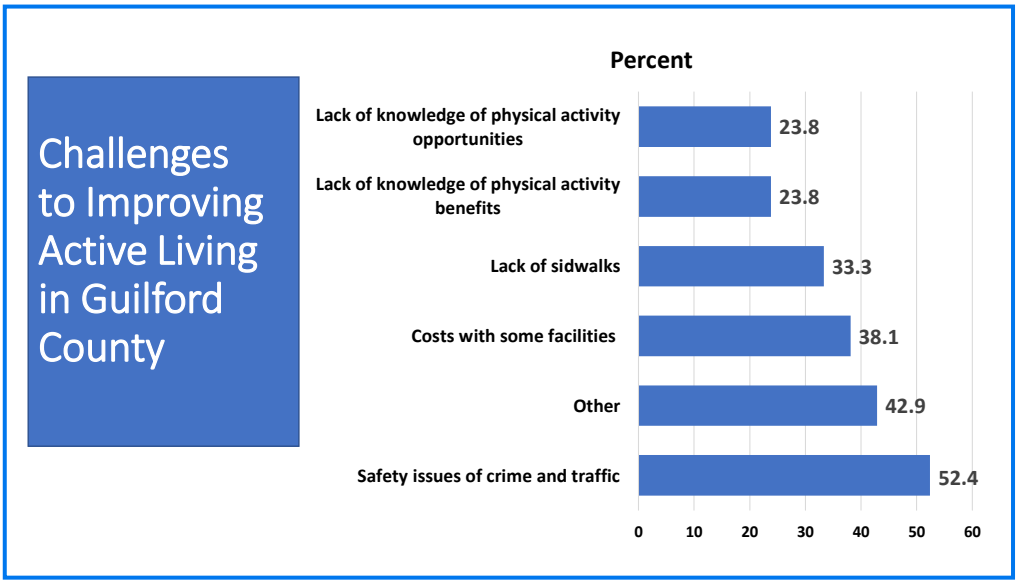
Cost of Healthy Food

"A lot of people know what is healthy or unhealthy to eat but cost is prohibitive along with transportation to supermarkets."

Lack of Access to Healthy Food Outlets

"Guilford suffers from food deserts and an effort to assist with increasing healthy food access is to assist residents in learning how to eat healthy."

Key Informants identified safety issues of crime and traffic as an important challenge to increasing physical activity in Guilford County.



Other challenges mentioned included:

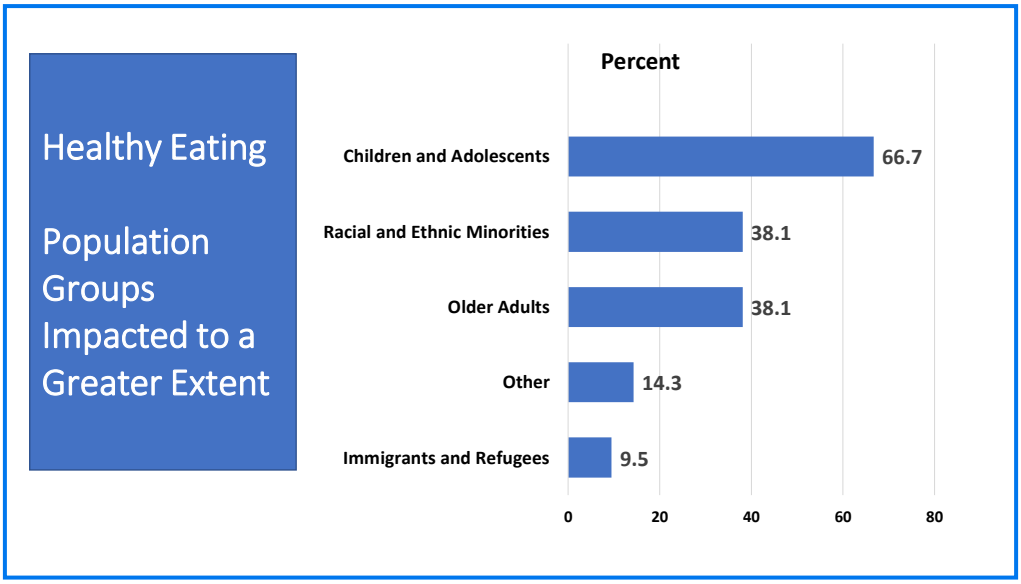
- Lack of time;
- The benefits of small amounts of exercise are underestimated;
- Dissolution of community and the perception that kids are safer indoors;
- Increased screen time;
- Activity not currently a part of a person's lifestyle; and
- Starting (physical activity) while overweight or out of shape.

Safety

"Many families I know don't let their children go out much because of the lack of sidewalks but also fear of crime and strangers."

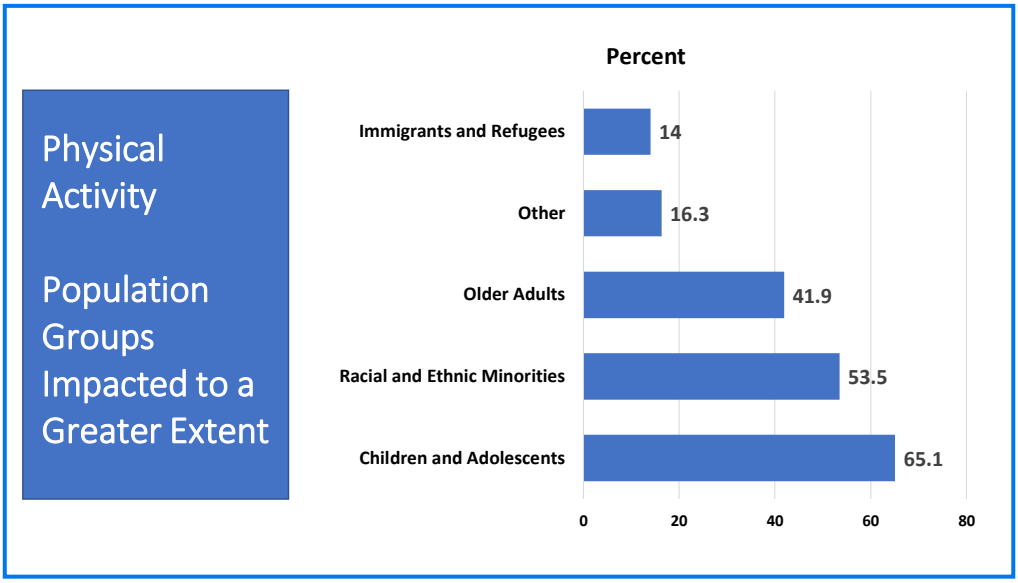
Populations Most Impacted by Healthy Eating and Active Living Challenges

Asked if any population groups are more impacted by healthy eating challenges, Key Informants reported a concern for children and adolescents, followed by racial and ethnic minorities and older adults.



"Many seniors are socially isolated and on fixed incomes. Racial and ethnic minorities don't always have the same opportunities for access to good nutrition and lifestyle habits."

Asked if any population groups are more impacted by physical activity challenges, Key Informants reported a concern for children and adolescents, followed by racial and ethnic minorities and older adults.



"Children and adolescents rely on their parents/guardians for nutrition. Older adults have limited access to healthy food."

"Immigrants and refugees often develop health issues when the key ingredients are not available to them, so they turn to processed foods."

Perceived Assets and Gaps in Addressing Healthy Eating and Active Living

The Key Informant Survey asked respondents to reflect on existing assets in our community that promote healthy eating and active living, along three dimensions – programs and services, infrastructure and policies. We included survey responses in Tables 1 and 2. Key Informants were also asked to share their perception on gaps along these dimensions as shown in Tables 3 and 4.

Table 1: Perceived Assets in Effectively Addressing Healthy Eating in Guilford County: Themes from Key Informant Survey Responses

Programs and Services	Infrastructure	Policies
• Farmer's/mobile markets • Meal delivery (Meals on Wheels, Food Assistance Inc) • Food banks/distribution (faith based, non-profit) • Federal program (SNAP, WIC, SLP/SBP, summer feeding) • Population specific programs (Backpack beginnings, Senior Resources of Guilford)	• Bringing together community stakeholders to address food insecurity issues • Markets at healthcare facilities • Community private/public/non-profit partnerships • Public transportation system • Neighborhood-based farmer's markets; SNAP-doubling programs at farmer's markets • Increased options for nutrition education	• SNAP, writing "veggie" healthy food prescriptions • USDA programs, local zoning changes for community gardens • City of High Point providing water and other resources for community gardens • SNAP at Farmer's Markets • School lunch programs that continue through the summer

"In general, people are overworked, on the run and tired, they want the easiest and quickest food possible. Most have no idea that there are healthy, quick and easy recipes they can cook."

"I think exhaustion, 'busyness' and stress underlie the fast-food issues. Most people know how to eat somewhat better but don't feel like they have the time or money or energy."

Table 2: Perceived Assets in Effectively Addressing Active Living in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Parks and Recreation programs • YMCA and YWCA programs (youth, Silver Sneakers) • School-based fitness and sports • Community based opportunities (recreation centers, Go Far, etc.) • Eat Smart, Move More • Greenways and trails (but not everyone access/transportation) • Community parks and playgrounds (updating/addressing safety)	• Parks and recreation facilities, parks, trails, greenways, walkable destinations • Sidewalks/development standards that require sidewalks • University/community partnerships • Fitness-promoting non-profits • Social supports (formal and informal – ex. Black Girls Run, F3 –Fitness, Fellowship, Faith for men) – need more • Bike rental services	• Recommended PE in the schools (specific time not mandated) • Organizational policies that enhance access for lower-income groups/communities, e.g., youth sports, YMCA and YWCA scholarships) • Workplace policies promoting exercise • More mixed-use, walkable development • Sidewalk ordinance

"I think people may do more physical activity than they realize (e.g., walking to bus/work, house/yard work). Raising awareness of and CELEBRATING physical activity is as important as the fear tactics often associated with marketing."

"Active living and exercise doesn't have to cost much and can often be achieved in/around home - like walking, calisthenics. However, many people need outside accountability/support to start and to be consistent with exercise programs."

"I truly think that most people know that they need to exercise and be active, but in our daily lives we are so busy that finding the time to fit it in can sometimes be impossible. And when we can fit it in, for many people in our community, I have heard that they do not feel safe doing so in their neighborhoods."

Table 3: Perceived Gaps in Effectively Addressing Healthy Eating in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Little knowledge sharing among agencies • Metrics to assess success • Mobile markets • Lack of programs that teach cooking skills • Food pantries that offer healthy foods • Regular access to meals	• Access/availability to healthy food every day for all ages • Lack of coordination between efforts • Lack of awareness of extant programs • Difficulty reaching particularly vulnerable populations • Lack of funding • Poor transportation • Poor access	• Not expanding Medicaid • Reductions or restrictions on SNAP • Bag limits on city buses • SNAP not meeting needs • Need for living wage

"Processed, boxed food is cheaper than whole fruits and vegetables. Cooking also takes time and isn't something everyone learns at home, especially with busy, working parents. So, a boxed meal is quick and cheap and often what families decide is the best option for them right now."

"I am a pastor in the 27405 ZIP Code. What I notice is that many people don't have reliable transportation, groceries with fresh and healthy food options aren't easy to get to, and people mention an interest in programs related to 'eating healthy on a budget."

"I feel that the biggest challenge to overcome in improving nutrition is getting people to prioritize eating nutritious food. Cost, location of food, convenience and personal preference are all barriers to healthy eating."

Table 4: Perceived Gaps to Effectively Addressing Active Living in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Physical activity/education not mandated in schools • Limited programming for all segments of community (children and youth; individuals with disabilities; in all parks; in minority residential areas) • Need for family-oriented opportunities, buddy/mentor programs, non-competitive sports programs, afterschool programs with fun movement • Barriers – transportation, fees, countywide advertising of what's available • Athletic shoes for those in need	• Mechanisms to feel safer in neighborhoods • Safer more accessible sidewalks, walking trails and bike routes (especially inner city neighborhoods), finishing Downtown Greenway and Yadkin Greenway (formerly known as Lake Brandt Greenway, Battleground Rail Trail and Bicentennial Greenway) • Access to low-cost health facilities • Health insurance policies that provide discounts for gyms, trainers, programs	• School policies – mandatory daily PE/recess (not as a reward or punishment) • Workplace/wellness policies (my workplace gives weekly wellness hours- amazing!) • "Health in all" policies policy in county and municipalities • Incentives to walk/bike to school, work, church, etc.

"The church where I'm the pastor is in a neighborhood in Northeast Greensboro along a fairly major road with no sidewalks. People are poor and so are not going to be able to have a membership to a gym, and without reliable transportation aren't going to go there regularly anyway."

"Many immigrants and refugees stay here as well, and I notice that cultural isolation and feeling intimidated by the unfamiliar surroundings keep people inside more often."

"Our built environment does not always lend itself to walking or biking options. If folks could walk or bike to their daily activities, physical activity would be much easier to accomplish and become a part of people's lives."

Promising Approaches for a Desired Future State

Key Informant Survey respondents identified several promising approaches to improving healthy nutrition in the county, including: nutrition education, transportation access to healthy food outlets, and communication and collaboration among programs and agencies.

Identified Promising Approaches (Healthy Eating)

- Nutrition education (cooking classes)
- Increase access through transportation
- Improved data collection to better understand the issues
- Better marketing of programs and food outlets
- Greater collaboration and communication between programs/agencies
- Healthier food options (food banks, food deserts, schools)
- SNAP incentives for healthy food and constant support for farmers markets

Key Informant Survey respondents identified several promising approaches to increasing physical activity among Guilford County residents including: enhancements to the built environment, more opportunities for physical activity, comprehensive planning and early childhood physical activity education.

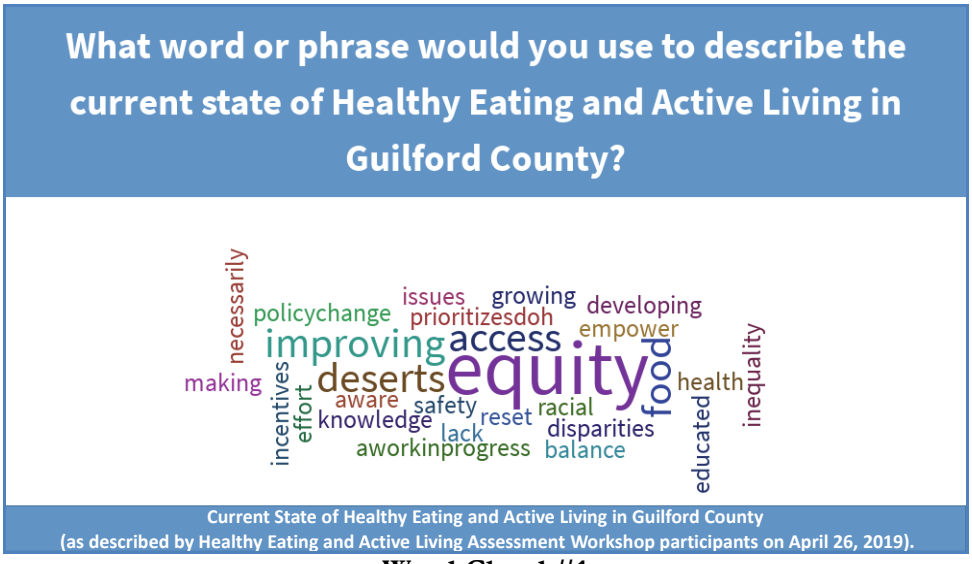
Identified Promising Approaches (Active Living)

- Continued expansion of built environment elements that facilitate fitness and accessible to lower income zip codes (more walkable neighborhoods, greenways, paths, parks, trails, etc.)
- Providing additional opportunities for recreation (not necessarily organized)
  - Recreation Center programming (youth and adults) and keeping facilities up-to-date
  - Free community/school events
  - Mandatory PE and recess breaks in schools
- Comprehensive marketing plan that includes input from all segments of the community (include social media)
- Education for young people , support early child development and parenting skills to cultivate physically active mindset

Healthy Eating and Active Living Key Informant Assessment Workshop

On May 25, 2019, the CHA Team convened a half-day HEAL Assessment Workshop. Persons invited to complete the HEAL Key Informant Surveys were invited to attend, with 15 attending. Workshop participants considered the current state of healthy eating and physical activity through presentations of both the quantitative data and discussion of findings from the HEAL Key Informant Survey, followed by small group discussion of a desired future state of healthy eating and physical activity.

At the beginning of the workshop, participants shared words or phrases that expressed their views of the current state, and the most common phrase was "equity", followed by "improving," "food deserts" and "access." While these word clouds are not precise statements of fact, they may be interpreted as barometers of current values, perceptions, moods and priorities. While some of the responses here are negative, some comments reflect incremental progress and potential for change (See Word Cloud #1).



Word Cloud #1

In the workshop, participants also shared words or phrases that expressed their priorities for improvement; "increase coordination," was by far the most common response, with issues related to equity, Medicaid expansion and prioritizing social determinants of health following close behind (See Word Cloud #2 below).

Word Cloud #2

Downstream, Midstream and Upstream Approaches

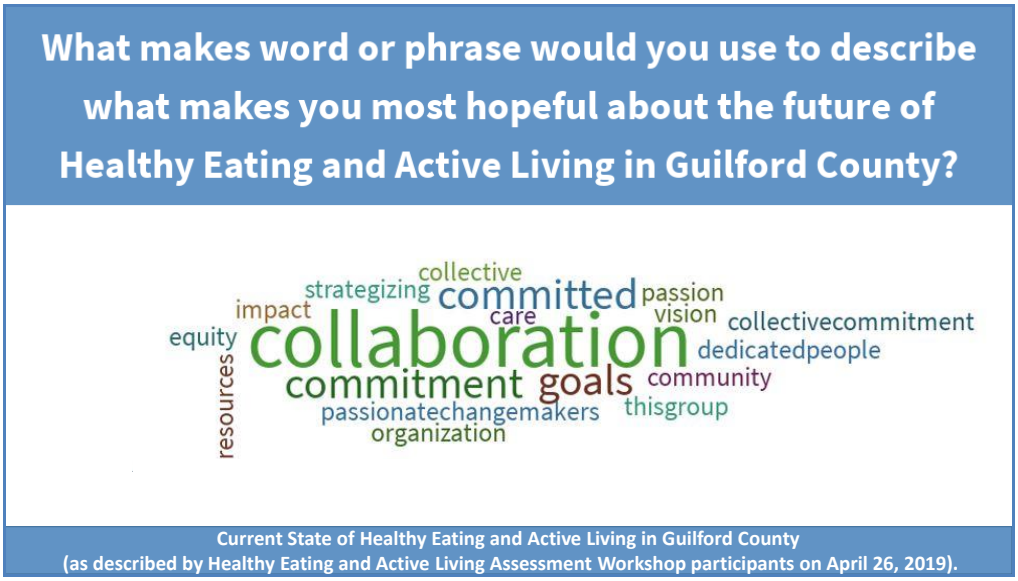
Participants identified suggested approaches to increasing healthy eating and physical activity through changes or improvements to the environment, infrastructure, behaviors and public policies (Table 5).

Table 5: Downstream, Midstream and Upstream Approaches to Improving Healthy Eating and Active Living in Guilford County

Downstream	Midstream	Upstream
Diseases, Illnesses and Conditions	**Environment, Infrastructure and Behaviors**	**Policies**
Healthy Eating		
• Type 2 Diabetes	• More cooking classes and healthy food education about eating out • A societal shift for older adults, a mindset that they are still valuable and contributing and should continue to eat healthy and be active. • Raising awareness and inter-connecting agencies	• Mandatory K-12 health eating and food systems cooking curriculum (in all public schools with enforcement) • Transitional care clinic after hospitalization
• Coordinate information and distribution and keeping info up to date	• Coordination and collaboration of institutions • Ensuring participation of all key stakeholders (Guilford County school system, faith communities, etc.)	• Equity-oriented policies—priority as opposed to programming • Interrupting established policies that have impact on historical redlining • Expanding living wage • Social Service systems adjusted so not a disincentive • Expand Medicaid

Table 5 (Continued): Downstream, Midstream and Upstream Approaches to Improving Healthy Eating and Active Living in Guilford County		
Downstream	**Downstream**	**Downstream**
Diseases, Illnesses and Conditions	**Environment, Infrastructure and Behaviors**	**Policies**
Active Living		
• Increase Physical Activity	• Accelerated sidewalk program • Neighborhood design to promote walking, planned development • Culturally appropriate community outreach • Target areas with fewer resources	• Policies in schools to promote more physical activity in school • More shared use agreements with schools to open tracks and other facilities for exercise after hours • Health and equity in all policies
• Obesity, diabetes, high blood pressure, heart disease, overweight, self-image	• Street lights and safety • Exercise as medicine; prescriptions for exercise • Have information in multiple languages, culturally appropriate outreach and exercise time (i.e., High Point YWCA)	• Medicaid expansion, closing the health insurance gap • Medicaid reform and Social Determinants of Health screening

The workshop participants wrapped up their reflection by sharing words or phrases that expressed their views of what makes them hopeful about the future of healthy eating and active living in Guilford County (see Word Cloud #3).



Word Cloud #3

Summary and Conclusions

The Greensboro-High Point metro area is no longer ranked number one in the nation for food hardship, as it was when Healthy Eating and Active Living were identified as priority health issues during the previous Community Health Assessment in 2016, but food hardship—and access to healthy food generally—remains an important issue. The county has 26 food desert census tracts—up from 24 in 2016—areas with limited access to healthy food outlets and limited resources to purchase healthy foods. Areas with limited food access also tend to be areas with higher heart disease mortality rates, higher utilization of SNAP and high rates of households with no vehicle available to get groceries from the store. Guilford County residents have high rates of obesity as well as high rates of persons not engaging in leisure time physical activity.

The 2019 CHA seeks to take a deeper dive into healthy eating and active living in the county to identify key issues and challenges, special populations, disparities, needs, assets and potential promising approaches to making improvements, by reaching out to subject matter experts and other Key Informants through an online survey and a half-day workshop where participants discussed the "current state" of Healthy Living and Active Living quantitative data and Key Informant Survey findings, and a desired "future state" and how best to get there.

Though Key Informants noted other challenges to improved nutrition in the county, such as lack of knowledge of a healthy diet and lack of knowledge of how to cook healthy foods, the most important issues pertain to access to healthy food: the cost of healthy food and lack of access to healthy food outlets, followed by frequency of eating out. Two-thirds of Key Informants listed children and adolescents as the population group most impacted by issues of healthy eating, followed by racial minorities and older adults. The most important challenge to increasing physical activity noted by Key Informants was safety issues of crime and traffic, followed by the cost of some exercise facilities and lack of sidewalks, with children and adolescents selected as the population groups impacted to the greatest extent.

Asked to identify promising approaches to improving healthy eating in the county, Key Informants urged that many existing efforts to increase healthy food access such as SNAP incentives, nutrition education and healthier food options at food pantries should continue, with greater collaboration and communication between programs and agencies and better marketing of programs and food outlets. To increase physical activity in the county, Key Informants suggested expansion of elements of the built environment that facilitate physical activity. Expansion of the built environment, which includes where we live, work and play, could include sidewalks, greenways and parks. Other steps that could support activity include comprehensive marketing, including social media, and provision of additional opportunities for recreation.

As part of their consideration of a desired "future state" of nutrition and physical activity, Assessment Workshop participants were asked to identify environmental, infrastructure and policy approaches that could have the potential to make a difference. Key Informants suggested more sidewalks and better neighborhood design to encourage more physical activity and more cooking classes and healthy food education to improve nutrition. Participants also spoke to the broader issue of the importance of the social determinants of health. Key Informants spoke of the importance of targeting areas with fewer resources, support for a living wage, equity-oriented policies and transformation of policies that previously led to inequality of access to resources.

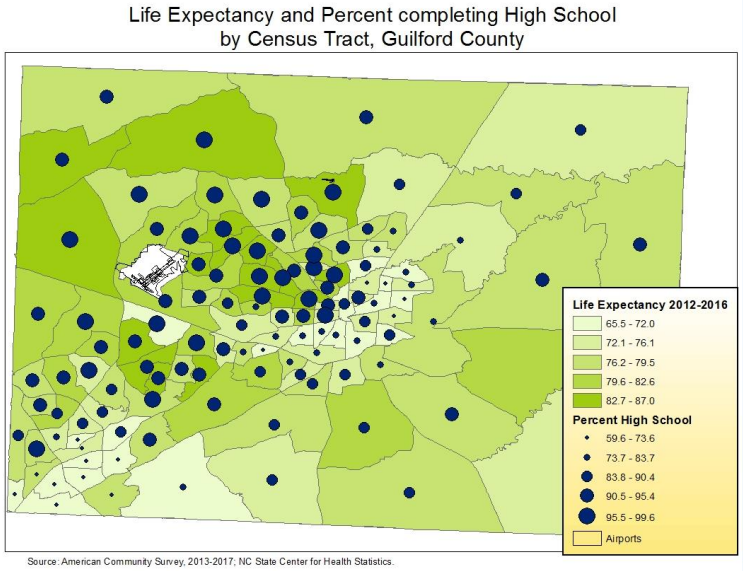
8

Social Determinants of Health:
Education and Economic Health and Healthy Housing

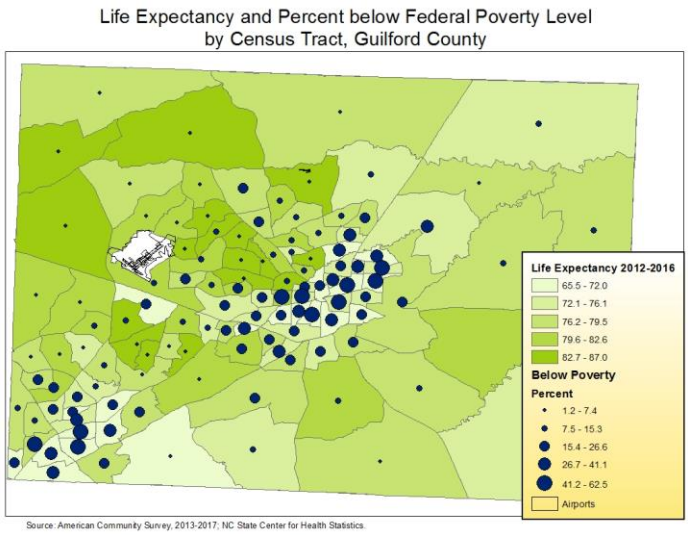
Why Is This Issue Important?

A large body of research finds that social and economic factors contribute at least as much or even more to quality of life and length of life than do factors such as health behaviors and health care availability and quality (Bookse, et al., 2015). In this view of health, an individual's income, education and community characteristics contribute relatively more to life expectancy and quality of life than do an individual's own tobacco use, diet, exercise or sexual activity. The findings below show the strong effects of education and income, respectively, on life expectancy for each census tract in Guilford County.

Educational Attainment and Life Expectancy



Poverty and Life Expectancy

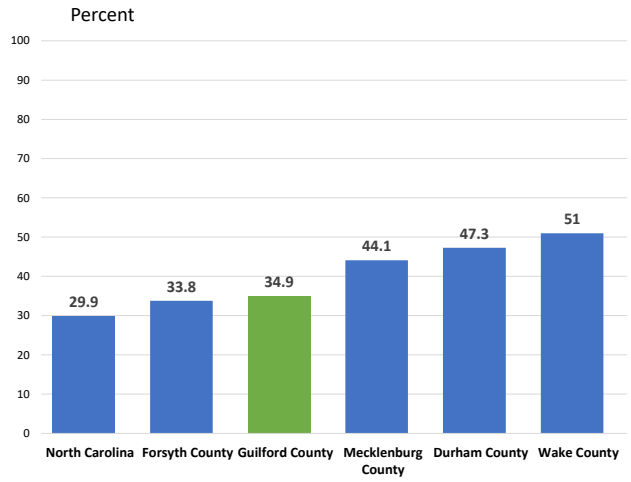


Measures of educational attainment as well as income and poverty are strongly related to health as measured by life expectancy. People living in census tracts with higher educational attainment and higher incomes tend to have higher life expectancy.

How Does Guilford County Compare to Others?

Education and Economic Health

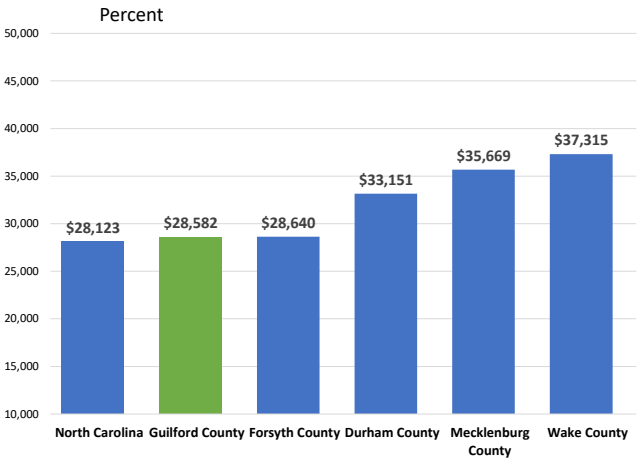
Percent of Adults Completing Bachelor's Degree or Higher, by County



Source: American Community Survey, 2013-2017.

While doing better than its neighboring peer county, Forsyth and the state as a whole, Guilford County tends to lag behind peer counties including Mecklenburg, Durham and Wake in educational attainment.

Per Capita Income by County



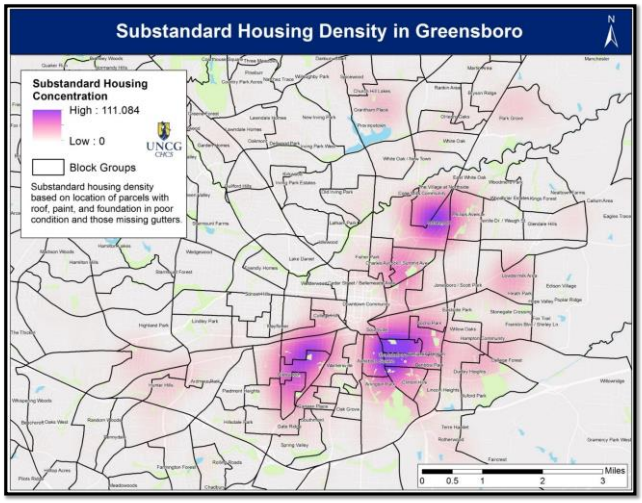
Source: American Community Survey, 2013-2017.

Guilford County also lags behind peer counties, especially Durham, Mecklenburg and Wake in measures of income. Urban counties with higher educational attainment and population income measures tend to rank higher as healthy counties in the County Health Rankings conducted by the Robert Wood Johnson Foundation and the University of Wisconsin Population Institute.

Housing and Health

The Social Determinants of Health/Healthy Housing Assessment Workshop included a presentation and discussion regarding healthy housing. Dr. Stephen J. Sills, Director of the Center for Housing and Community Studies at UNC-Greensboro, presented data and research on issues of sub-standard housing and housing affordability.

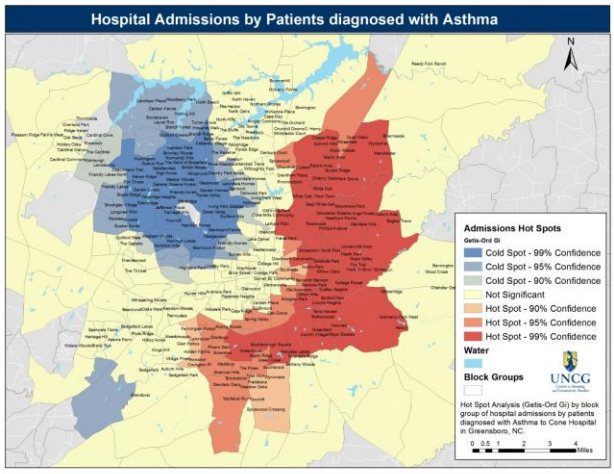
Substandard Housing Density is Higher in Low Income Areas of Greensboro and High Point.



From presentation by Dr. Steven Sills, Director of the UNCG Center for Housing and Community Studies.

A theme running through the housing presentation is that substandard housing poses health risks—such as increased risk of asthma triggers in the home—and is a larger problem in areas of the county with higher proportions of African-American residents, lower educational attainment and lower income.

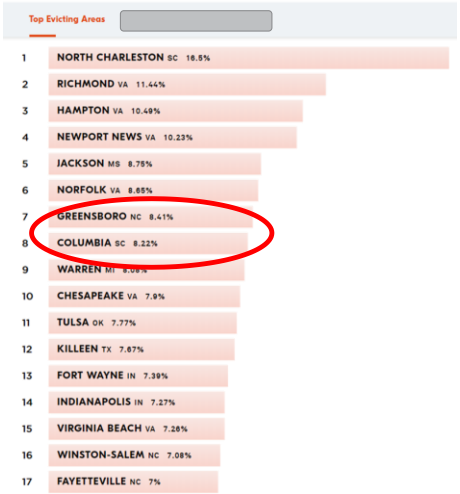
Areas of the County with Substandard Housing Have Higher Rates of Hospital Admissions due to Asthma.



From presentation by Dr. Steven Sills, Director of the UNCG Center for Housing and Community Studies.

In the wake of the housing crisis following the financial turbulence of the later 2000s, average housing vacancy rates have steadily declined while monthly rents have steadily increased; this, combined with local disparities in economic resources, has led to serious problems of home affordability and evictions.

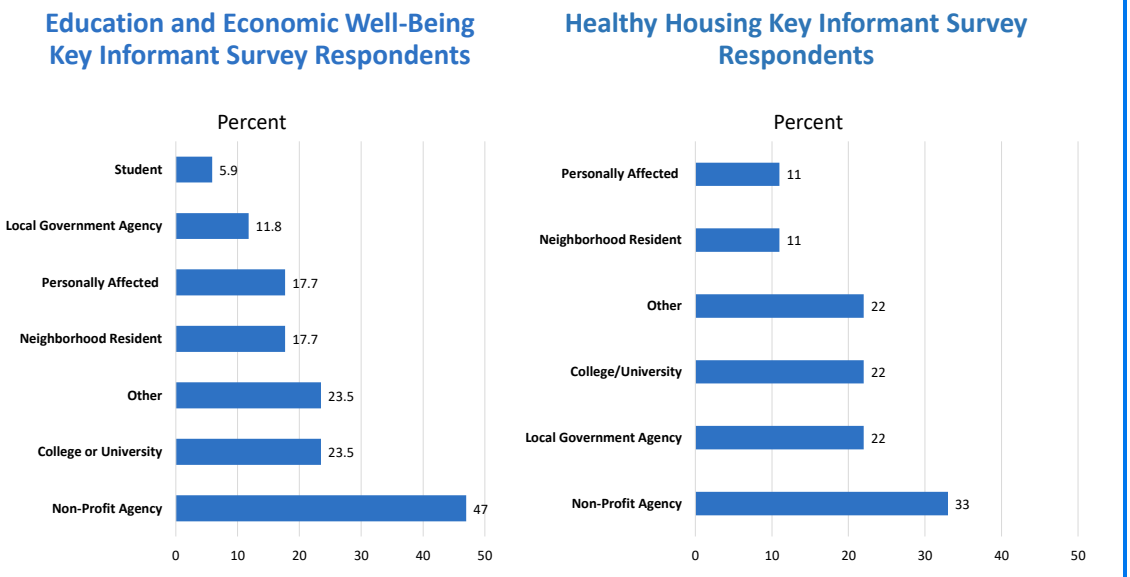
Greensboro Ranks 7th in the Nation in Eviction.
There were 4,948 Evictions in Greensboro in 2016, an Average of 13.56 Households Evicted Every Day.



Source: Eviction Lab; from presentation by Dr. Stephen Sills, Director, UNC Center for Housing and Community Studies.

Social Determinants of Health Key Informant Surveys

In March 2019, 90 persons identified by the CHA Team as Key Informants—persons with subject-matter expertise, knowledge and experience in the areas of social determinants of health were invited to complete an online survey of questions regarding the current state and potential for an improved future state in Guilford County. They were invited to complete either the Education and Economic Well-Being Survey component or the Healthy Housing Survey component, or both. The Education and Economic Well-Being Survey was completed by 24 Key Informants and 10 completed the Healthy Housing Survey. The following chart shows the distribution of Key Informant respondent types for each survey component.

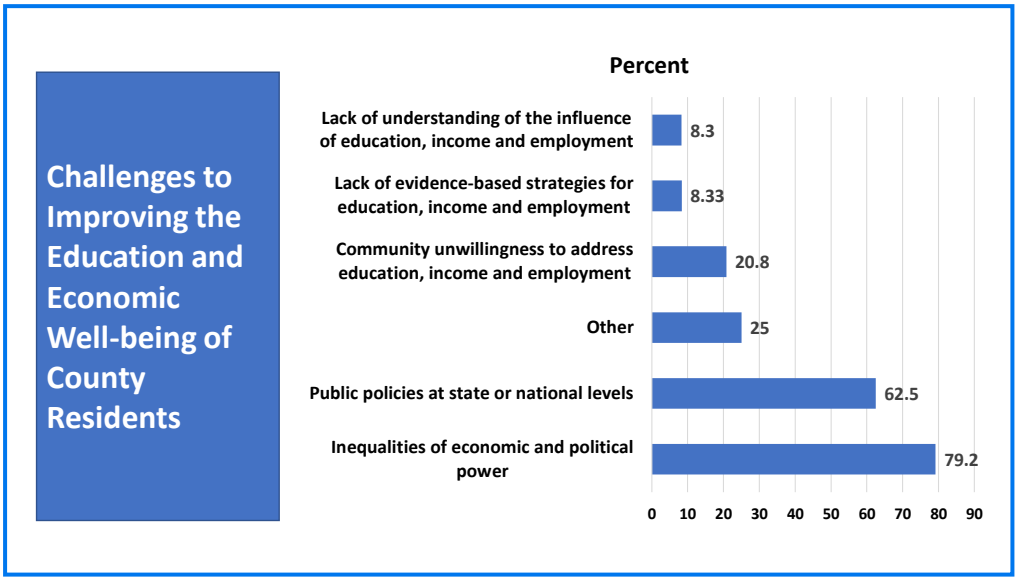


Assessing the Current State of Education and Economic Health

Challenges to Improving Education and Economic Health

To assess the current state, survey respondents were asked for their views on three dimensions of the current state of education and economic health in Guilford County: the most important challenges to improving education and economic well-being; the populations impacted to a greater extent; and perceived assets and gaps in programs and services, infrastructure and policies. Key Informants identified the most important challenges to improving education and economic health and well-being of Guilford County residents.

The responses selected most often were inequalities of economic and political powers and public policies impacting education, income and employment at the state or national levels.



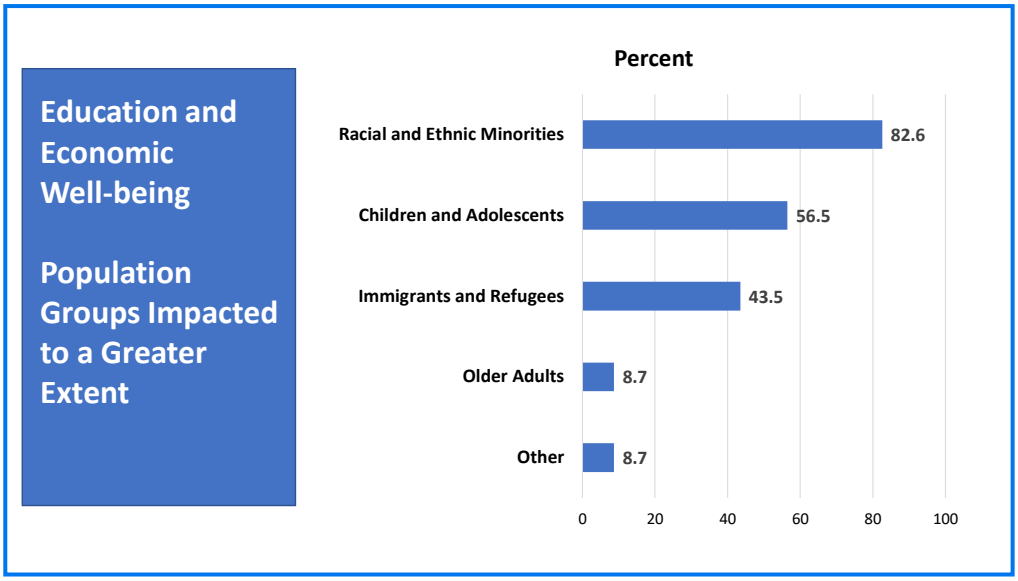
The following quotes illustrate these challenges:

"Systematic and systemic racism still taints our policies and structures, as well as our societal norms. We need to address policies that, in particular, address inequalities of economic and political power."

"The history of racial exclusion in Guilford County and the US has produced generations of people and families who have been and are unable to generate meaningful access to economic opportunities and the power to hold systems accountable."

Populations Most Impacted by Issues Related to Education and Economic Health

Asked whether any population groups are more impacted by issues relating to education and economic health and well-being, over 80% of Key Informants reported that racial and ethnic minorities are most impacted, followed by children and adolescents, and immigrants and refugees.



"There is not a single indicator of outcomes where Black residents are on par with White residents. Across all economic and educational levels."

"Children of color and newcomers to the US usually have inadequate educational facilities and support, putting them behind in qualifying for better paying employment."

"Early childhood support and appropriate interventions are the foundation for all that follows. Racism is a huge factor in execution at the population level."

"Racism is alive and well when it comes to civic policies and emphasis. Children and adolescents being more vulnerable are the most effected."

"Poor public policy negatively affects those who cannot advocate for themselves. The most vulnerable suffer. Refugees, in particular, come to Guilford County hoping for a better life and a brighter future for their children. They are exploited due to their lack of language, knowledge of their rights and "how things work." They are not given choices in employment but in truth, they do not have many options."

Perceived Assets and Gaps Relating to Income, Employment and Education

Asked what programs and services are effectively addressing social determinants of employment and income in Guilford County, Key Informants named numerous programs, including NC Works, Minority and Women's Business Enterprise (WMBE) programs and entrepreneurial programs. Effective infrastructure or assets include local community colleges and efforts by institutions of higher education to contract locally. Effective policies reported include increased minimum wage in Greensboro and several existing state and national policies such as the Equal Employment Opportunity Act that prohibits employment discrimination based on race, color, religion, sex or national origin (See Table 1).

Table 1: Perceived Assets – Effectively Addressing Employment and Income in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• NC Works • Minority and Women's Business Enterprise (MWBE) programs • Orange Card • Entrepreneurship efforts • Chamber, Nussbaum Center, The Forge, Church World Service, FaithAction, Guilford Refugee Employment Advancement Team	• City goals for contracts and procurements • Higher education institutions hiring/purchasing locally • Adding sidewalks and greenways connecting to mass transit facilities/making communities multi-modal and attractive • Community College	• Affirmative Action, Equal Employment Opportunity, American Disabilities Act, Family Medical Leave Act • MWBE • Increased minimum wage to $15/hour for city employees • Community activism • None are serving us all well

Key Informants reported numerous programs and services regarded as being effective in promoting and supporting increased educational attainment for all Guilford County residents including: the Say Yes to Education Guilford program, Ready for School, Ready for Life and local community colleges. High school magnet schools were reported as effective infrastructure. Other than the federal Title IX legislation prohibiting discrimination based on sex in educational programs or activities, Key Informants noted policies that promote economic and community development as a way to advance educational attainment (See Table 2).

Table 2: Perceived Assets – Effectively Addressing Education in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Racial equity trainings, service learning programs • Communities in Schools (tutoring) • After-School Care Enrichment Services (ACES) program • New Arrivals Institute • Center for New North Carolinians • Ready for School, Ready for Life • School social work • Guilford Education Alliance • Say YES to Education • Community Foundation of Greater Greensboro investment • Community College system • Community partnerships with schools	• Collaborative problem identification and solving • Systemic practice change • High school magnet programs • Installation of green infrastructure (sidewalks, greenspaces, etc.), to reduce stress, increase quality of life	• $15/hour city wage • Title IX • Policies that make community development improvements that attract businesses and create inner city jobs • MWBE

"Various service learning programs that emphasize democracy and that teach democratic practice, listening skills, building bridges across communities. Anytown has a long track record of success. The Bonner Scholars program at Guilford exemplifies the gold standard of college/university level community engagement and service."

Key Informants noted numerous needs or gaps in efforts to increase employment and raise incomes, including educational deficits, language barriers, problems with public transportation and equitable economic development and capital infrastructure funding. Gaps in infrastructure assets included industries willing to train workers, employers that don't pay benefits and lack of incentives to encourage young graduates to stay. Needs in terms of policy include increases in the minimum wage, changes to the tax structure, racism and at-will employment policies in North Carolina that allow employers to fire workers without showing cause (See Table 3).

Table 3: Perceived Gaps – Employment and Income in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Living wages • Education needed to earn a living wage • Language barriers • Staff that don't know the communities in which they work • Public transportation • Lack of opportunities for diverse populations • Workforce development • Equitable economic development and capital infrastructure funding	• Industry willing to train • Gentrification can hide issues • Systemic analyses without regard to race • Employees that do not receive benefits • Political will • Funding for transportation, child care, small business loans • Lack of job opportunities for non-English speaking residents • Lack of incentives to encourage young graduates to stay	• Minimum wage • Living wage • Tax structure • Global economic trends • At-will employment in NC • Racism and inequity dealing with communities

"Lack of living wages and benefits being provided by small private businesses."

"Programs like MWBE need to build capacity for minority owned businesses."

"Living wage (≥ $15). Right now, even with 2,3,4 working members in a family, they can just make it. If they're working then they can't be in the classroom retraining or learning English."

"Institutional and cultural barriers to sufficient wages for lower income families to achieve economic stability."

Table 4: Perceived Gaps – Education in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Programs focus on changing the individual's behavior (or issues) not systemic or environmental context • Programs to support socio-emotional learning of staff, teachers, students and families • Parental involvement • Not enough counselors, social workers or nurses • Systems are not aligned to meet the demand from Pre-K to Post-secondary education • Pre-K, Head Start, etc. reaching out to the refugee population	• Schools (buildings are inadequate or in poor condition) • Resources unevenly distributed (including social capital) • Employment and living wages • Lack of low income housing • Unequitable practices not effectively addressed by school administration	• No policy regarding tardiness in schools • No enforcement to hold systems accountable for race based outcomes • Lack of local hiring policies • Racist policies and those who protect this system remain in charge • No Child Left Behind • Fund and build up minority and women-owned businesses (capacity to bid and secure contracts) • Truancy – schools have no good way to enforce attendance

Key Informants reported several educational needs and gaps including: the need for more counselors, social workers and school nurses, the need for closer alignment of school systems from Pre-K to post-secondary education and need for better outreach to the refugee population. Needs in infrastructure include deterioration of school facilities, uneven distribution of resources and lack of low income housing. Key Informants noted numerous policy-related education needs: including policies relating to tardiness and attendance enforcement, need for systems accountability for race-based outcomes and No Child Left Behind policies (See Table 4).

"Pre-K, Headstart, Child Find, etc reaching out to the refugee population."

"Programs to support socio-emotional learning of staff, teachers, students and families."

"We have an over-abundance of programs focused on changing individual's behavior instead of changing the environmental context that puts people at risk."

"Truancy - there is no separate truancy court in Guilford County, schools have no good way to enforce the compulsory attendance law, effectively impacting attendance issues."

"Safe and open schools - need to clean up and renovate many schools."

"There is no law/policy regarding tardiness in schools. Students can come in at 10:00 every day of the week, missing language and math and there is nothing that the schools can do. It happens all the time. Students miss important learning time and there is nothing the schools can do."

"No enforcement to hold systems accountable for race based outcomes."

Promising Approaches for a Desired Future State of Education and Economic Health

One of the final questions of the Key Informant Survey looked to future opportunities for improvement: **Based on your knowledge and experience, what do you see as the most promising approach or approaches to improve Education and Economic Health among Guilford County residents?** Key Informants offered a variety of suggestions for promising approaches to improving the social determinants of health.

Identified Promising Approaches

Employment

- Employer and industry engagement in job training programs
- Strong partnerships among the public workforce system, education providers, and employers in key sectors
- Sectoral training strategies
- Promotion of quality employment (not just low wage, low/no benefit jobs)

Income

- Federal programs like EBT and Orange Card lessen the strain on families
- United Way's Family Success Center Initiative
- Job training strategies involve a mix of employment services, job training and support services
- Coordination and collaboration across systems (businesses, schools, community colleges, non-profits, etc.)
- Minority and Women's Business Enterprises

Education

- Integrated training programs (job readiness, basic skills, technical training, case management , support services, job placement assistance).
- Afterschool academic enrichment programs
- Advanced Career Academy for GCS youth, free training in high demand trades
- Health Disparities Collaborative
- Linking employment, career pathways to business recruitment.
- Ready for School, Ready for Life

A few of the noteworthy responses included:

"A very ambitious Advanced Career Academy for youth in Guilford County Schools, free training in high demand skills trade's programs at the community college."

"We are NOT the Triangle with all its research facilities and universities and high-tech businesses so please, let's stop "dreaming" in this direction (let's jettison the whole WIRED mess of a few years ago). Improving education in GC means linking employment, c-a-r-e-e-r-s, career pathways, decent wages and housing to recruitment of businesses (like logistics and advanced manufacturing, two WIRED concentrations) that can deliver. If there's no vision, no dream, no nothing, then sorry — we'll see talented youngsters continue to up and leave."

"One recent random assignment evaluation of sectoral training programs that provided integrated job readiness, basic skills, technical training, case management, supportive services, and job placement assistance found that, over the 24-month study period, participants in some programs earned 18 percent more, were more likely to be employed, and worked significantly more hours than members of the control group. This evaluation reinforced findings from earlier studies that found that employers also benefit from partnerships with training programs. For example, in a 2009 survey of Pennsylvania employers, 84 percent of those who indicated they participated in industry partnerships reported significant increases in productivity. A 2008 study in Massachusetts found that sector initiatives resulted in a 41 percent reduction in employee turnover, a 19 percent reduction in work revision, and a 23 percent reduction in customer complaints."

"Making communities more attractive through green infrastructure to attract business and create jobs, raise the quality of life, and promote public and environmental health."

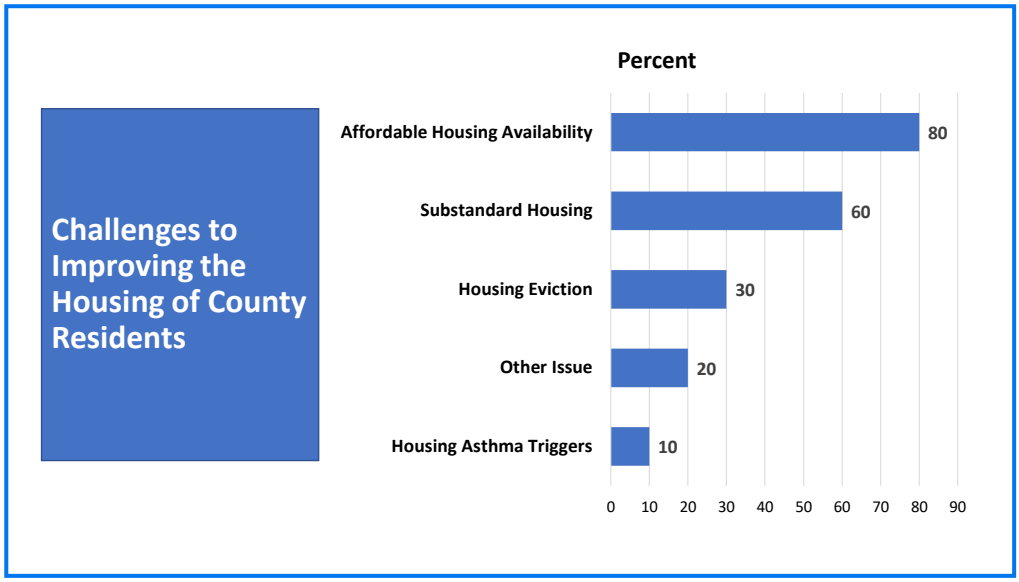
"Research on job training and skills development indicates that many of the most promising job training strategies involve a mix of employment services, job training, and supportive services. This inevitably requires coordination and collaboration across systems that provide specialized services or training, including workforce development agencies, schools and community colleges, and public and non-profit human services and employment services agencies."

Assessing the Current State of Healthy Housing

Challenges to Improving Housing

Key Informants were asked what they saw as the most important challenge to improving the quality and affordability of housing in Guilford County.

The responses selected most often were the availability of affordable housing, current housing that is substandard in nature, and housing evictions.



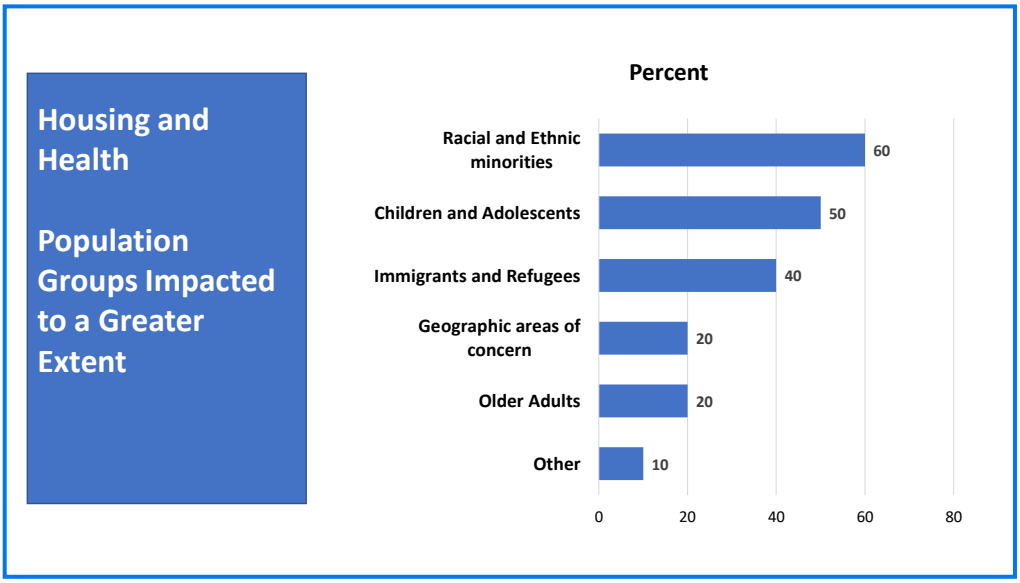
"Adequate housing stock that is safe, decent and affordable is the cornerstone to a healthy housing community."

"When there is not enough available, affordable housing, people pay more than they can afford, leading to eviction, and/or owners do not maintain housing, leading to substandard conditions."

"Housing costs have increased 35% since 2011 when wages have only increased 5%. There is not enough safe, affordable housing in this community. It's quite apparent after what happened at the Cone and Summit apartment complex. "

Populations Most Impacted by Housing Related Issues

Asked whether there are some populations that are more negatively impacted by issues related to housing, 60% of Key Informants identified racial and ethnic minorities, followed by children and adolescents, and immigrants and refugees.



"Disparities and discrimination are alive and well in our community. Housing is still segregated and 'red-lined'."

"If you look at our zip codes in the city and county- the poverty rates, income, home values and educational experience falls along racial lines."

"Immigrants and refugees due to financial constraints and lack of understanding of our culture. Children are impacted often more than adults due to metabolic assimilation of contaminants in substandard or unhealthy homes."

"Families with dependent children have a harder time paying for adequate housing, child care, food, etc. Minority families are concentrated in geographic areas of substandard housing."

"Senior housing that is affordable is at a minimum and substandard housing is geographic in this county. If these issues were truly addressed it would have a positive impact on safe decent and affordable housing for all."

"Marginalized and vulnerable populations and families with small children are disproportionately affected by housing affordability, and substandard housing."

Perceived Assets and Gaps in Addressing Housing Related Issues

A look at Key Informant's takes on perceived housing assets in view of perceived gaps reveals that Key Informants generally agree that there are effective programs and services, infrastructure and policies that are making housing healthier in Guilford County. However, participants also agreed the resources are inadequate to the task of solving the problems of lack of safe, affordable housing. There is both a need for more affordable housing but also a need for better paying jobs (See Tables 5 and 6).

Table 5: Perceived Assets – Effectively Addressing Housing in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• UNC Greensboro Center for Housing and Community Studies' Housing & Health Symposium/Housing Consultants Group • Greensboro Housing Coalition • Rental vouchers, housing rehab programs • Healthy Homes programs and Supportive housing programs. Though both are way under invested in.	• School nurse programs for asthma in school age children • Habitat for Humanity • Multi-sector collaboration, especially between health and housing and academics • Low income housing tax credits, though inadequate	• Changes to code enforcement (allowing them to be more proactive) is a plus • Minimum Housing standards • Code enforcement, fair housing • Code and code policy to some extent.

"Look, services like GHC are great — for the narrow lane they work in. Other programs similarly are great — in the narrowest sense that without more resources and a bigger push to empower residents to complain, take aggressive legal action, defend and pursue their rights, they will ALWAYS be limited in their impact."

"Low income housing tax credits, though they only produce a tiny fraction of what is needed."

Table 6: Perceived Gaps – Housing in Guilford County: Themes from Key Informant Survey Responses		
Programs and Services	**Infrastructure**	**Policies**
• Lack of cross systems coordination • Need for race analysis • Lack of resources and code enforcement with teeth • Ways to improve affordability, support for extremely low income and homeless populations	• Lack of development plans for marginalized, underserved neighborhoods • Lack of resources provided by the county/city • Hard to get financing for purchase and rehab of single family homes	• Lack of development plans for marginalized, underserved neighborhoods • Lack of resources provided by the county/city • Hard to get financing for purchase and rehab of single family homes

"Lack of development plans for marginalized, underserved neighborhoods."

"Public a-c-c-o-u-n-t-a-b-i-l-i-t-y of service agencies in the nonprofit sector."

Promising Approaches to Improving Housing Affordability and Quality

One of the final questions of the Key Informant Survey looked to future opportunities for improvement: **Based on your knowledge and experience, what do you see as the most promising approach or approaches to improve housing for Guilford County residents?** A few of the noteworthy responses included: As the slide to the right notes, Key Informants offered various suggestions for promising approaches to addressing housing issues in Guilford County.

Identified Promising Approaches: Housing

- Bottom up, grassroots, neighborhood and community-respected community health workers
- A more robust enforcement system that holds landlords accountable, with substantial resource allocation by city and county
- Private/public partnerships (Avalon Trace/ Cottage Gardens)
- Policy changes to code enforcement to hold long time bad actors accountable
- Possibly low-income units mixed with subsidized ones

"Full community buy-in that safe decent and affordable housing is a right."

Bottom up, grassroots, neighborhood/community-respected community health workers (promotors/lay health workers, etc)."

"School nurses address those that are most at risk (children) and they have worked hard to get asthma action plans in place for all children."

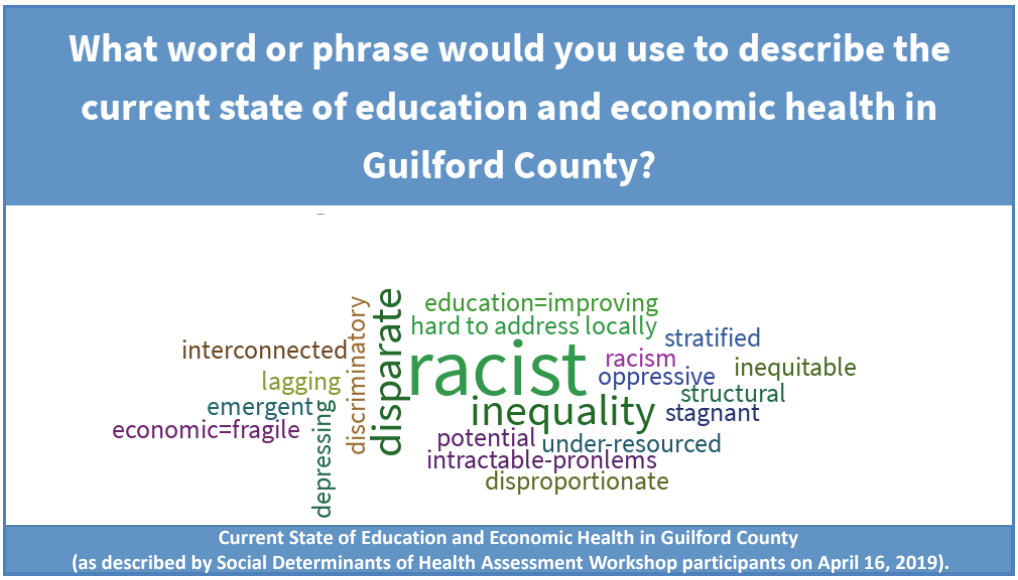
"Possibly low-income units mixed with subsidized ones. Northern VA (Loudon County) has a program where of every 6 townhomes built, one has to go into a program that is essentially a lottery for qualified individuals (fire fighters, teachers, police officers who couldn't otherwise afford to live in the communities where they work and serve). These individuals are put into a lottery to buy the town house at cost. I think there should be something similar for apartment units and condos in Guilford County."

Social Determinants of Health/Healthy Housing Key Informant Assessment Workshop

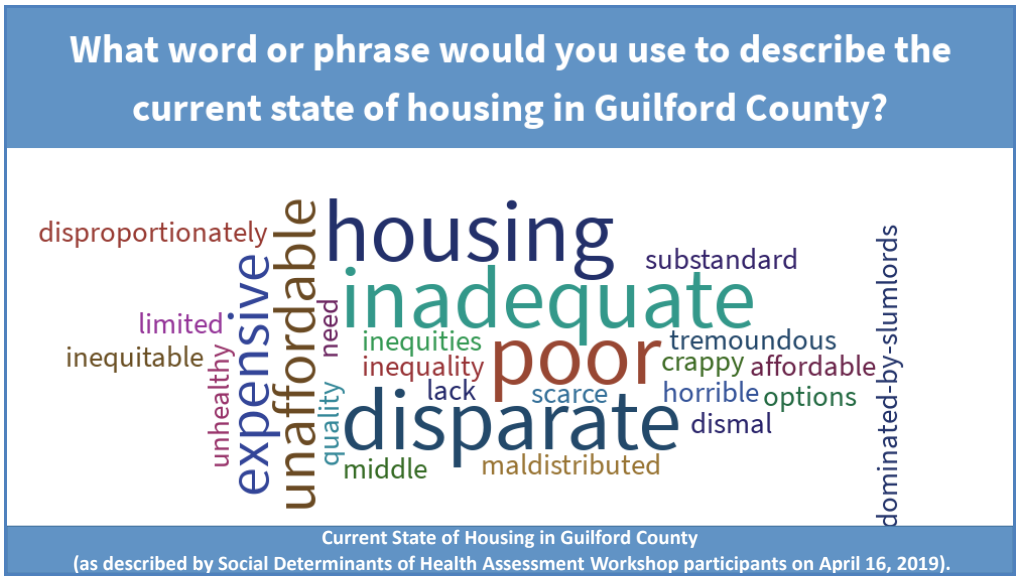
On April 16, 2019, the CHA Team convened a half-day Social Determinants of Health Assessment Workshop. Persons asked to complete the Education and Economic Health and Well-Being or Healthy Housing Key Informant Surveys were invited to attend, with 19 persons attending. Workshop participants considered the current state of education, income and housing issues through presentations of both the quantitative data and discussion of findings from the Social Determinants of Health Key Informant Surveys, followed by small group discussion of desired future states of these issues.

In the Assessment Workshop, participants shared words or phrases that expressed their views of the current state of education and economic health, and the most common phrase was "racist" followed by "disparate" and "inequality" (See Word Cloud #1).

Participants were also asked to choose words to express their views of the current state of housing in Guilford County. The most common words included "inadequate," "poor" and "disparate," followed by "expensive" and "unaffordable" (See Word Cloud #2). Time restraints prevented us from seeking word clouds for two similar questions asked in the other workshops, including "what is the most important thing for education and economic well-being and housing" and "what makes you most hopeful about the future of education and economic well-being and housing."



Word Cloud #1



Word Cloud #2

Downstream, Midstream and Upstream Approaches

Small-group discussion of desired future states focused on promising approaches considered to be "Downstream," "Midstream," or "Upstream." Downstream refers to diseases, illnesses or conditions that we want to reduce or eliminate. Midstream approaches are changes we would like to see in the environment, infrastructure or behaviors. Changes to midstream factors drive improvements downstream. Upstream approaches are changes we would like to see in policy and social equity. Upstream changes drive midstream and downstream improvements. The following table compiles the suggestions for promising approaches that emerged from the Social Determinants of Health/Healthy Housing Assessment Workshop (See Table 7).

Table 7: Promising approaches to Improving Healthy Housing and Social Determinants of Health		
Downstream	**Midstream**	**Upstream**
Diseases, Illnesses and Conditions	**Environment, Infrastructure and Behaviors**	**Policies**
Housing		
• Reduce evictions • Affordable housing	• Opportunities for tax credits, branded funding streams, incentives for public/private partnerships • Medical and housing partnerships	• Accountability for landlords • Policies to protect most vulnerable • Equitable development • Reasonable accommodations
Social Determinants of Health/Education and Income		
• Conditions that lead to hypertension	• Change population dynamics	• Target economic development in distressed communities and neighborhoods
• Conditions that lead to unhealthy eating	• Improve access to resources	• Target health interventions to address populations with limited resources
• Specific disease conditions: heart disease and diabetes	• Change behaviors related to health	
• Better informed citizenry	• Active residents going about monitoring and being properly concerned about the state of their neighborhoods	• Empower communities, neighborhoods, families, to report housing violations. And change the model so it is not mostly complaint driven.

Summary and Conclusions

Robert Wood Johnson Foundation reports that health equity, the condition proving everyone a fair and just opportunity to be as healthy as possible, "requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care" (Braveman, et al. 2017). Upon reviewing the data demonstrating the powerful influence of social and economic factors on health outcomes and healthy communities, the 2016 Community Health Assessment (CHA) team identified Social Determinants of Health as a priority health issue, along with Maternal and Child Health, Healthy Eating/Active Living, and Behavioral Health. By Social Determinants of Health, we agreed to focus specifically on economics, education, and housing. The 2019 CHA has sought to dive deeper into these subjects to identify key issues, challenges, special populations, disparities, inequities, needs, assets and potential promising approaches to making improvements, reaching out to subject matter experts and other Key Informants through a survey and a workshop.

Workshop participants reviewed data demonstrating a strong relationship between life expectancy and measures of education, income and poverty, and race. Life expectancy in Guilford County varies by up to 20 years depending on the census tract in which one lives. Areas with lower life expectancy have lower educational attainment, the average percentage of adults completing high school varying from as low as 60% to nearly 100%. Similarly, residents living in lower life expectancy tracts experience higher rates of poverty, with poverty levels ranging from less than 5% in high-life expectancy areas to over 60% in tracts with lower life expectancy. These areas also tend to have issues with substandard housing and housing affordability. Low life expectancy, low educational attainment, high poverty areas of the county are also areas with higher concentrations of African-Americans and other racial/ethnic minorities, creating areas of concentrated disadvantage that have negative generational impacts on population health, including the other health priorities of maternal and child health, nutrition, physical activity and behavioral health.

Key Informants weighed in to say that the crucial challenges to improving social determinants are inequalities of economic and political power, and the reality that disparities in social determinants are driven by local, state, national, and international policies and dynamics including trade and tax policies. Key Informants observed that

racial and ethnic minorities—followed by children and immigrants and refugees—are the populations most impacted by inequities in income, housing, and education. African-Americans living in areas of concentrated disadvantages in Guilford County are living with the legacy of segregation, housing redlining and governmental policies that perpetuated segregation and social inequality for decades. Based upon the Fair Housing Act, Title VIII of the Civil Rights Act of 1968, redlining, is an illegal practice of denying a creditworthy applicant a loan for housing in a certain neighborhood even though the applicant may otherwise be eligible for the loan (Federal Reserve, 2017).

Inequalities in housing, education, income and wealth are associated with inequities in health outcomes. They are the product of long-standing and deep-seated trends involving race, economic and social development and will not be easy to ameliorate. According to the Key Informants, transforming areas of concentrated disadvantage will require focused effort, an effort involving: partnerships and collaborations across systems that include business, public schools, community colleges, non-profit organizations, local government, neighborhoods, and citizens' groups among others. It will be an effort that involves educational, economic and social development targeted at those communities experiencing concentrated disadvantage, and will address the legacy of racial inequity in the community.

9 Promotion of Health & Well-Being

Effective health promotion and prevention is an interactive process that can only be successful when policies, resources, education and knowledge culminate with an individual making a personal choice to change from an unhealthy to a healthy behavior. Opportunities for health promotion and prevention include: public policy development, addressing community and/or individual social determinants of health, community screening events, group education activities, online assessment tools, coalition development and individual counseling with a health care provider. This chapter details the many projects and collaborations that are implemented by the dedicated professionals, community leaders and advocates who care deeply about the quality of life in Guilford County. This is not a complete list, but rather a snapshot of this moment in time, intended to give readers a sense of the depth and breadth of resources available in Guilford County.

Medical Services

A robust health system that includes cooperation and collaboration between public health authorities, hospitals and health systems, public utilities, human service, transportation, economic development and educational organizations is essential to ensure the health and well-being of Guilford County residents.

Hospitals and Health Systems

The following acute care hospitals have facilities in Guilford County.

Hospital Name	Affiliation	Number of Beds	Specialty Services
High Point Medical Center (High Point)	Wake Forest Baptist Health	351	Cancer Center, Heart Center, Women's Center, Joint Replacement Center, Neuroscience Center, Emergency Center, Diabetes Health and Wellness Center, Transitional Care Clinic
Wesley Long Hospital (Greensboro)	Cone Health	175	Cancer Center, Bariatric Center, Orthopedic Surgery Center, Urology Center, Sleep Disorders Center, Emergency Department
Moses Cone Memorial Hospital (Greensboro)	Cone Health	548	Heart and Vascular Center, Neuroscience Center, Orthopedics Center, Stroke Center, Level II Trauma Center, Inpatient Rehabilitation Center
Behavioral Health Hospital (Greensboro)	Cone Health	80	Adult and Adolescent Behavioral Health Units, Substance Abuse Treatment, 24-Hour Face-To-Face Assessment, 24-Hour Helpline
Women's Hospital (Greensboro)	Cone Health	134	Maternity Admissions Unit, Labor and Delivery, Women's Health, Level II and III Neonatal Intensive Care Unit, Family-Centered Maternity Care
Kindred Hospital (Greensboro)	Kindred	101	Long Term Acute Care, Pulmonary and Ventilator Dependent Patients, Dialysis, Sleep Disorder Studies
Fellowship Hall (Greensboro)	None	99	Substance Abuse Treatment that includes Detoxification, Residential Treatment, Partial, Intensive Outpatient Program, Outpatient Treatment, Family Therapy

Guilford County Department of Health and Human Services

The Public Health Division of the Guilford County Department of Health and Human Services (GCDHHS), is the first full-time county health department organized in North Carolina and the second oldest in the nation. The mission of Public Health is to, in partnership with the community we serve, protect, promote and enhance the

health and well-being of all people and the environment in our county. To achieve this mission and vision of healthy people living in a healthy community, Public Health offers a range of services addressing child health, women's health, environmental health and health promotion/disease prevention. The Health Department offers the following clinical services: Children's Dental Clinic, Family Planning Services, Regional Vasectomy Program, Maternity Care, CenteringPregnancy®, Communicable Disease Clinic, Sexually Transmitted Infections Clinic, International Travel Clinic, Home Visiting Services, Women's Health and Refugee Health Services. In 2015 and 2017, the Health Department opened the JustTEENS Clinics in Greensboro and High Point respectively which offers free services for those age 18 and under and heavily discounted rates for 19 year olds. Other healthcare services provided include non-sport physicals, immunizations, pregnancy tests and private health counseling from dedicated medical providers in a separate teen friendly clinical area (https://www.guilfordcountync.gov/our-county/human-services/health-department).

Access to Primary and Specialty Care

Key community partners work together with hospitals, Public Health and physician practices to assure that residents of our community who may be uninsured or underinsured can access primary and specialty care. Guilford Adult Health manages the Guilford Community Care Network ("Orange Card") and Guilford Adult Dental Access Program, helping residents access specialty care and avoid preventable hospitalizations and emergency department visits. This program is available for patients who are at or below 200% of the Federal Poverty Level (FPL). Guilford County has many clinical sites designed to serve low income patients. Triad Adult and Pediatric Medicine is a federally-qualified health center that offers affordable care at multiple sites to insured and uninsured patients. The Community Clinic of High Point, Mustard Seed Community Health, Cone Health's Congregational Nursing Program, Cone Center for Children, Cone Health Community Health & Wellness Center, the Evans-Blount Community Health Center and the Sickle Cell Medical Center are all dedicated to offering access to patients who may otherwise face financial difficulties in finding care. Both Cone Health and High Point Medical Center offer patient financial assistance to help low income residents access affordable healthcare through these systems.

Medicaid Transformation to Managed Care

In November 2019, the North Carolina Department of Health and Human Services (NCDHHS) will transition both Medicaid and NC Health Choice programs from a fee-for-service structure with a single payer to a managed care program with multiple providers offering Pre-paid Health Plans (PHPs). Guilford County is included in the regions that NCDHHS has chosen to undertake this transition first, which means that Guilford County recipients of Medicaid will choose a PHP over the summer of 2019, and the PHP will administer their benefits beginning in the fall. NCDHHS has a phased approach to this transition over several years, which includes the creation of tailored plans to serve individual with more acute behavioral health needs through the existing Local Management Entity and Medicaid-funded Managed Care Organization (Sandhills Center in Guilford). The goals of this transition are to improve health among Medicaid beneficiaries by providing financial incentive to PHPs to promote wellness and programs that will reduce preventable hospitalizations and costly, avoidable medical care. At the time of this writing, there is considerable uncertainty about the consequences of this transition to managed care, which is being implemented for the first time in NC (although common in other states). NCDHHS has issued a comprehensive series of policy papers on this transition, available at https://www.ncdhhs.gov/assistance/medicaid-transformation/proposed-program-design/policy-papers.

Accountable Care Organizations

Accountable Care Organizations (ACO) seek to reduce health care expenditures while improving quality of care. ACOs are networks of health care providers that come together voluntarily to provide coordinated care for their patients. In Guilford County, there are two ACOs: Triad Healthcare Network (THN) and Cornerstone Health Enablement Strategic Solutions (CHESS). THN is located in Greensboro and is a collaboration between Cone Health and community providers in five counties. CHESS is based in High Point and owned by Wake Forest Baptist Health, Cornerstone Healthcare and LabCorp. Both THN and CHESS participate in the Medicare Shared Savings Programs, which offers financial incentives to ACOs that meet 33 quality metrics while reducing overall costs. They have both participated in the "Next Generation ACO" program since 2016. Both ACOs aim to create a health system focused on effective chronic disease management, injury prevention and elimination of preventable hospitalizations and Emergency Department use.

Local Philanthropy

Many philanthropic organizations in Guilford County support goals of health and social well-being. Two foundations in our community, Cone Health Foundation and The Foundation for a Healthy High Point, were formed as the result of hospital mergers, and are devoted specifically to improving health outcomes.

The Foundation for a Healthy High Point was established in 2013 to encourage, support, influence and invest in efforts that improve health and wellness throughout Greater High Point. The Foundation commissioned two white papers, one on teen pregnancy prevention/early intervention and the other on behavioral health in High Point. The Foundation's first grantmaking initiative, Healthy Beginnings, focuses on preventing teen pregnancy and supporting early childhood development (http://www.healthyhighpoint.org/).

Cone Health Foundation was formed in 1997 and focuses its grant making on four priorities: Access to Health Care, Adolescent Pregnancy Prevention, HIV and Substance Abuse and Mental Health. They have invested over $77 million in the Greater Greensboro area in the past 18 years. In 2015, they began implementation of a five-year strategic plan focused on evidence-based interventions and depth of impact within their four focus areas (https://www.conehealthfoundation.com/foundation/).

The United Way and Community Coalitions

Guilford County also has a rich network of nonprofit organizations and faith-based entities that provide services to meet a wide range of needs. This includes many who are supported by United Way of Greater Greensboro and United Way of Greater High Point. United Way of Greater Greensboro is focused on breaking the cycle of poverty for families in Greater Greensboro. United Way of Greater Greensboro works with a larger network of partner agencies to invest in programs and focused initiatives that create the greatest impact in our community. These partners are dedicated to the well-being of individuals and families, focusing on areas that advance their ability to succeed in life (https://www.unitedwaygso.org/). United Way of Greater High Point supports programs at 28 partner agencies in High Point, Archdale, Trinity and Jamestown (https://www.unitedwayhp.org/).

United Way has a long-standing commitment to funding information and referral services in their communities. As a result of this commitment came NC 2-1-1, an innovative, one-stop shop connecting citizens to a network of over 18,000 services and resources right in their own community. NC 2-1-1 provides a comprehensive listing of available health and human service resources, including those offering access to affordable high quality child care/after-school care, counseling and support groups, health services, basic needs such as food, clothing and housing, services for seniors and the disabled. The service is free, confidential and available all day, every day in any language. Trained referral specialists are available to assist via phone by dialing 2-1-1 and online by visiting www.nc211.org. In addition, Guilford Nonprofit Consortium serves as a collaborative of nonprofit organizations, large and small, in Guilford County, which fosters mutual assistance and support.

Maternal & Child Health (Also see Chapter 5)

To thrive, families, mothers and children need healthy communities, good health care prior to conception, a network of community and social support and policies that ensure a safe environment and a sustainable future. Below are just a few of the collaborations in addition to the assets mentioned in Chapter 5.

Guilford County Coalition on Infant Mortality

The Guilford County Coalition on Infant Mortality, a collaborative effort to increase public awareness of infant mortality and to develop strategies to provide for healthier birth outcome. Guilford County Coalition on Infant Mortality's Adopt-A-Mom (AAM) Program has ensured that over 6,500 expectant women have received prenatal care services since 1991. In 2018, the AAM Program served 154 women through one of seven participating provider sites, many of whom may not have otherwise received prenatal care. These women can fall in a gap in coverage as they are Medicaid ineligible, lack private insurance and/or funds to pay for prenatal care. Women receive education, materials, prenatal vitamins and case management/referrals as appropriate (https://www.guilfordcountync.gov/our-county/human-services/health-departmnt/health-and-wellness/coalition-on-infant-mortality-and-the-adopt-a-mom-program).

Community Action for Healthy Babies Consortium

The Community Action for Healthy Babies (CAHB) is consortium of maternal and child health professionals and advocates who meet quarterly to network and pursue strategies to improve the health and well-being of mothers, babies and families in our community such as prenatal care utilization, resource mapping and breastfeeding promotion community-wide.

Partnership for Children of Guilford County

The Partnership for Children of Guilford County's goal is to make sure every child in Guilford County enters school safe, healthy and ready to succeed. Through public dollars and private donations, the partnership creates new programs and collaborates with existing ones to measurably strengthen families and improve the lives of children. In addition to administering the largest NC Pre-K program in the state, through Smart Start, they invest in a wide range of programs to promote health, family support and child care (http://www.guilfordchildren.org/).

Behavioral Health (Also see Chapter 6)

Mental Health and Substance Misuse

Mental health concerns and substance misuse are common in the United States and have significant financial and social impact. Lost earnings, hospitalizations, chronic medical conditions, dropping out of school, homelessness and loss of life are just a few of the ways these issues impact the lives of individuals in our community. In addition to the assets mentioned in Chapter 6, below are just a few of the efforts to address mental health and substance misuse.

High Point Medical Center's Behavioral Health and Cone Behavioral Health Hospital provide behavioral health assessment, inpatient and outpatient treatment programs for chemical dependency and psychiatric conditions. In addition, Cone Health has a 24-hour Helpline (336-832-9700 or 800-711-2635) with access to a trained professional 24 hours a day, seven days a week (https://www.wakehealth.edu/Locations/Hospitals/High-Point-Medical-Center/Behavioral-Health; https://www.conehealth.com/services/behavioral-health/).

The Greensboro Mental Health Association and Mental Health Associates of the Triad are active partners in the development of outpatient programs to assist individuals and patients who are coping with mental illness on a daily basis (https://www.mhag.org/; http://mha-triad.org/). The newest program offered by the Mental Health Association is a day activity program for mentally ill in High Point.

Sandhills Center

Sandhills Center is a Local Management Entity and a Medicaid-funded Managed Care Organization (LME-MCO) that acts as an agent of the NC Department of Health and Human Services. Sandhills Center provides access to publicly-funded mental health, intellectual/developmental disabilities and substance abuse services for the citizens of Anson, Guilford, Harnett, Hoke, Lee, Montgomery, Moore, Randolph and Richmond counties. Sandhills Center connects people in need of services with providers and other community partners. Sandhills Center manages a network of providers to ensure quality services are available (www.sandhillscenter.org).

Wake Forest Baptist Health Network: Transitional Care Clinic

Wake Forest Baptist Health Network: Transitional Care Clinic (WFBHN, formerly the Transitional Care Clinic of High Point Regional Health) is an integrated team of medical, behavioral and social work professionals who support recently discharged patients in their efforts to regain health and wellness. The Community Clinic of High Point works with the Transitional Clinic to provide primary care and chronic disease management for Greater High Point residents who are uninsured/underinsured, who cannot afford health insurance and do not qualify for Medicare and Medicaid. A Licensed Clinical Social Worker (LCSW) works two and a half days each week between the WFBHN: Transitional Care Clinic and The Community Clinic. The LCSW provides onsite counseling, coordination services and telephone outreach to patients with an array of behavioral/mental health concerns (i.e. depression, anxiety, substance misuse, smoking cessation, stress management) in conjunction with management of chronic diseases (i.e. diabetes, heart disease, hypertension).

Partnership to Address Behavioral Health Crisis Needs
A partnership between Guilford County Government, Cone Health and Sandhills Center (the Local Management Entity and Medicaid-funded Managed Care Organization) is currently underway in Guilford County to bring together integrated services for people in crisis to address their physical, mental and substance abuse issues in an innovative way. This plan includes two facilities in a single location; a 16-bed Adult Facility-Based Crisis center and a 16-bed Child/Adolescent Facility-Based Crisis center, along with a 23-hour observation unit and outpatient services for adults, adolescents and children. These new mental health centers are designed to provide comprehensive behavioral health services 24 hours a day, seven days a week. These partners are also working with the North Carolina Department of Health and Human Services to make the project possible (http://www.sandhillscenter.org/partnership-to-bring-new-behavioral-health-crisis-centers-to-guilford-county/).

CURETriad
CURETriad is a community-based coalition that brings together community members and organizations to leverage resources and create mechanisms to provide a unified approach to increase community capacity to address addiction. Guilford County Solution to the Opioid Problem (GCSTOP) is a program housed at UNC Greensboro with the goal of reducing overdoses in Guilford County by 20% through increasing access to harm reduction strategies, increasing access and linkages to care services for our most vulnerable populations and building local capacity to respond to the opioid epidemic. GSTOP engages residents who overdose and who are at high risk of overdose in harm reduction practices, distributes and trains on the use of naloxone (a life-saving narcotic antagonist), conducts community health education programs, coordinates community resources with other community partners and builds relationships focused on ending opioid overdose. From February to October 2018, GCSTOP distributed 836 Narcan® doses and 131,970 syringes for harm reduction, provided 89 referrals into treatment and had 149 successful reversals based on Narcan® administration. The CURETriad website also has information on treatment resources available (https://www.curetriad.com/).

Alcohol and Drug Services
Alcohol and Drug Services (ADS) is a non-profit organization that helps to reduce the impact of substance abuse in our community by providing prevention and early intervention services, education, individual and group counseling, and special medical services to residents of the Piedmont Triad and Central North Carolina (http://www.adsyes.org/).

Fellowship Hall
Fellowship Hall is a hospital that specializes in treatment for substance abuse disorders, and the treatment of co-occurring disorders. Fellowship Hall provides detoxification, residential treatment, intensive outpatient programs, as well as traditional outpatient services and family therapy (https://www.fellowshiphall.com/).

Healthy Eating and Active Living (Also see Chapter 7)
Though Guilford County offers good access to opportunities for physical activity, the county does not score well in terms of access to healthy food, scoring below the state and all neighboring and peer counties except for Forsyth. Guilford County has 26 census tracts that are listed by the US Department of Agriculture as food deserts (see Chapter 5 for Guilford County food desert map). There is strong evidence that residing in a food desert is correlated with a high prevalence of overweight, obesity and premature death. Supermarkets traditionally provide healthier options than convenience stores or smaller grocery stores. Some of the efforts to address healthy eating and active living are described below (see Chapter 7 for additional assets).

Millis Health Education Center
High Point Medical Center offers the Millis Regional Health Education Center, a health education facility specifically designed to give children a hands-on approach to health education. Millis Center is devoted to helping school students, church groups, local organizations and individuals learn about the human body and how to keep themselves healthy. The exhibits available within the center, such as a bicycling skeleton and a transparent anatomical mannequin, help create a healthier future for area youth (http://www.millishealth.com/).

Cone Health

Cone Health has developed a website (http://www.conehealth.com/wellness/10-habits-of-highly-healthy-people/) with local resources to support the ten lifestyle habits that lead to long and healthy lives, including physical activity and nutrition as well as sleep habits, healthy relationships and coping with stress. This resource is updated with new information and is ever-evolving to meet the needs of our community, enabling residents to access local resources and stay healthy.

Greater High Point Food Alliance

Greater High Point Food Alliance (GHPFA) is working to promote access to nutritious and healthy food in High Point and surrounding communities. GHPFA is a group of concerned citizens from business, academia, non-profits, community activists and people who have experienced food insecurity. GHPFA is currently involved in the Burns Hill neighborhood, the Washington Street neighborhood and West End neighborhood (https://www.ghpfa.org/).

Social Determinants of Health (Also see Chapter 8)

The Social Determinants of Health are understood as the living conditions, institutional policies and social structures that are critical drivers of access, power and outcomes in health, education and life expectancy. Below are some of the interventions developed in Guilford County to promote equity in social determinants.

Integrated Service Delivery Models that Address Social Determinants of Health

Several integrated service delivery models in Guilford County aim to meet client needs by co-locating services. The Family Justice Center brings together 15 different disciplines for coordination of legal, health, social and safety services for victims of abuse and sexual violence. The United Way of Greater Greensboro's Family Success Center is focused on eliminating poverty in the 27406 zip code through a two-generational approach, with high quality child care for children and education, success coaches and support groups for adults. For housing, seven housing non-profit agencies are now housed together in one building for a one-stop-shop for affordable housing services. Integrated service delivery reduces barriers for clients and also improves performance for service providers, magnifying the impact.

NCCARE360

In spring of 2019, Guilford, Alamance and Rockingham counties launched NCCARE360, the nation's first statewide, closed-loop electronic referral system. Cone Health was the project's initial health system partner, and has integrated the tool within its medical record system. NCCARE360 allows the health and human services providers within our community to send each other referrals for services for individuals, track outcomes, assess successes and address gaps in our community's network of service providers. Within two years, NCCARE360 will be in place in all communities in North Carolina.

Medicaid Healthy Opportunities Pilots

In 2017, NCDHHS submitted an amended Section 1115 demonstration waiver application to Centers for Medicare and Medicaid Services, a part of the US Department of Health and Human Services. In October 2018, CMS approved NC's 1115 Demonstration Waiver for a five-year demonstration project. This waiver provides North Carolina with the federal authority to implement Medicaid managed care and include innovative aspects into the delivery system, such as Healthy Opportunity Pilots to address both medical and non-medical drivers of health. In two to four geographic areas of the state, Healthy Opportunity Pilots will test evidence-based interventions designed to address non-medical factors that drive health outcomes and costs. Such factors include housing instability, transportation insecurity, food insecurity, interpersonal violence and toxic stress for eligible Medicaid beneficiaries. Go to www.ncdhhs.gov/assistance/medicaid-transformation for more information about this transition and www.ncdhhs.gov/about/department-initiatives/healthy-opportunities for more information about the Healthy Opportunities Pilot.

Education, Income and Employment

The links between education, income and health outcomes are clear. Maximizing an individual's access to education, there are more options for employment and better health outcomes, including a longer life expectancy.

Get Ready Guilford Initiative

Ready for School, Ready for Life employs one singular goal: get children ready to enter kindergarten. Research shows more than one in three children in Guilford County who enter kindergarten are not literacy-ready. Ready for School, Ready for Life (Ready, Ready) built a framework for success which includes encouraging pre-natal care, healthy eating and living, and collective community action. In August 2018, Ready for School, Ready for Life, announced that through their partnership with The Duke Endowment, Guilford County has been chosen for a multi-year investment of $32.5 million from Blue Meridian Partners. Blue Meridian is a partnership of impact-driven philanthropists seeking to transform life trajectories of America's children and youth by making large investments in promising solutions.

Building upon Ready, Ready's work to ensure that every child in Guilford County enters kindergarten ready for school and ready for life, this effort will support a system that over time will connect a wide range of services for the 6,000 children born in Guilford County annually. Priorities include:

- Expanding three existing and proven programs that serve families prenatally through age 3 (Guilford Family Connects, Healthy Steps and Nurse-Family Partnership);
- Developing a navigation system to connect families with effective services prenatally through age 3;
- Supporting Continuous Quality Improvement (CQI) within programs to build capacity for using data in service delivery and decision-making;
- Building supporting technologies to facilitate coordination among child and family serving agencies and organizations;
- Conducting rigorous evaluation; and
- Strengthening the organization to manage this effort.

For more information about Ready for School, Ready for Life, go to: https://getreadyguilford.org/.

Say Yes to Education

Say Yes to Education began in Guilford County to build local endowments that provide tuition scholarships so that public school graduates can complete a postsecondary education, as higher educational attainment results in better health outcomes. This program also builds community supports to assist student learning, including after-school programs, summer programs, tutoring, legal assistance and health services (https://sayyesguilford.org/).

Guilford Education Alliance

Guilford Education Alliance is an independent non-profit that galvanizes the community in support of quality public education for all students by investing time, talent and resources in support of Guilford County Schools. The Alliance leads a speaker series, advocates for investment of education and support the teachers and students through the Teacher Supply Warehouse (https://guilfordeducationalliance.org/).

Housing

Housing is a critical driver of health outcomes. Older adults with secure housing experience stronger mental health and have fewer injuries. Children with safe and secure housing experience fewer acute episodes of asthma and have stronger mental health.

Greensboro Housing Hub

Established out of a need for shared office and warehouse space with help from the Community Foundation of Greater Greensboro and the City of Greensboro, the Greensboro Housing Hub was established in March of 2018. The Hub serves as a "one-stop shop" for affordable housing and includes seven organizations, including Community Housing Solutions, Greensboro Housing Coalition, Habitat for Humanity of Greater Greensboro, Housing Consultants Group, Partnership Homes and Tiny Houses Greensboro. The goal of the Housing Hub is

simple: serve more clients more effectively and more efficiently throughout the affordable housing continuum from homelessness to affordable homeownership.

Greensboro Housing Coalition
Greensboro Housing Coalition is a Housing and Urban Development (HUD) certified Housing Counseling Agency that works to advocate for fair, safe and affordable housing for low and moderate income people and those with special needs. In addition to providing resources to individuals and families to find housing and to prevent housing loss, they hold an annual Housing Summit (https://www.greensborohousingcoalition.org/).

Invest Health
In 2017, Greensboro was named an "Invest Health" city. Invest Health links local leaders to national social impact funders to understand sophisticated financial instruments for sustainable investment in affordable housing rehabilitation and development. A coalition made up of UNC Greensboro, Greensboro Housing Coalition, the City of Greensboro and Cone Health worked to develop plans to improve the stock of affordable housing towards the goal of reducing unhealthy living environments for children, and to make Greensboro an Asthma-Safe City.

Other Community Health Concerns

Tobacco

Tobacco use is the leading preventable cause of death in the United States and North Carolina, and is a well-known risk factor for heart disease, cancer, diabetes and lung disease. While the Guilford County smoking rate of 18.4% is comparable to the NC rate of 17.9%, there are still large disparities. People with less education, lower income and those who are not working are much more likely to smoke cigarettes than are those with more education, higher income and jobs (https://www.ncdhhs.gov/news/press-releases/smoking-rates-drop-north-carolina-not-everyone). While teen cigarette smoking is at an all-time low, the use of alternative tobacco products such as cigars, hookah and electronic cigarettes has pushed the teen tobacco use rate to more than 28% (https://www.tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/2017-YTS-FactSheet-FINAL.pdf). The GCDHHS Division of Public Health works to: support smoke-free and tobacco-free policies that lower risk to non-tobacco-users, promote evidence-based tobacco prevention programs in the school and community and encourage tobacco users to quit. Tobacco users of any age who wish to quit can receive free help by calling 1-800-QUIT-NOW or visiting www.QuitlineNC.com.

Cancer Screening, Education and Support

Cancer is the leading cause of mortality in Guilford County. Health promotion efforts have been primarily focused on education and promotion of appropriate screening. Cone Health, High Point Medical Center and other community partners provide regular education and screening events in the community for skin cancer, prostate cancer, colon cancer, cervical cancer and breast cancer education. For those who are dealing with a cancer diagnosis, the Hirsch Wellness Network is a caring community where they can find emotional support, strength, inspiration and renewal by participating in creative and expressive arts programs free of charge. High Point Medical Center's Hayworth Cancer Center and Wesley Long Hospital's Cancer Center provides free breast and cervical cancer screening and follow up services to eligible women. In addition to the free screening, a Breast Navigator helps women to assess risks of developing cancer or to assist with access to treatment if a cancer is diagnosed.

Heart Disease

Heart disease mortality has seen a steady decline in Guilford County; however, it remains our second leading cause of mortality. Primary efforts to decrease heart disease have been focused on education, screening events and the promotion of healthy lifestyle. Tobacco use, obesity, poor nutrition and the lack of physical activity are major contributors to this problem. Interventions in these areas have helped Guilford County to decrease heart disease mortality.

Heart Strides Cardiac and Pulmonary Rehabilitation Program of High Point Medical Center and the Heart and Vascular Center at Moses Cone Memorial Hospital are both designed to restore health and function to patients with heart or lung disease. Participants work toward a healthy recovery supervised by teams of skilled professionals.

Through exercise, nutrition, counseling, education and behavior modification, cardiac and pulmonary patients in our community are making great strides toward an independent and healthy lifestyle.

Diabetes

Wake Forest Baptist Health's Diabetes Health Center at Gatewood in High Point and Cone Health's Nutrition and Diabetes Management Center in Greensboro provide diabetes education and counseling to groups and individuals. Services for people with diabetes are provided at numerous locations including the Community Clinic of High Point, physician practices, the YMCA's National Diabetes Prevention Program, Humana's Guidance Center in Greensboro, and by many local employers. While many of these programs are available free-of-charge, those with fees may also offer financial assistance. Screening and educational events are offered in Greensboro and High Point on a regular basis.

Sexually Transmitted Infections (STIs)

Health education staff with GCDHHS Public Health Division partners with Nia Community Action Center, Piedmont Health Services and Sickle Cell Agency and Triad Health Project to provide a network of Integrated Targeted Testing Services (ITTS). The ITTS network implements Centers for Disease Control and Prevention (CDC) practices of individual counseling testing and referral services, HIV/STI education in Guilford County (promoting condom use and safer sex) and programs like SISTA (group-level intervention for African American women). Individuals who test positive for HIV and other STIs are referred to the local health department for STIs and Hepatitis B (HBV) treatment and to local providers for HIV and Hepatitis C (HCV) treatments. ITTS network partners also refer clients that are at risk for HIV to the Division of Public Health and local providers for pre-exposure prophylaxis (or PrEP). PrEP is a medication available for individuals at very high risk for HIV that can lower their chances of getting infected by preventing HIV from taking hold and spreading throughout the body. It is highly effective for preventing HIV if used as prescribed, but it is much less effective when not taken consistently.

Triad Health Project (THP) provides emotional and practical support to individuals living with HIV/AIDS, to their loved ones and to those at risk for HIV/AIDS. In addition, this group provides free HIV testing to anyone in the community on a weekly basis. THP is a lead agency in the region's new strategy to reduce stigma, promote widespread HIV testing and improve sustained viral suppression among people living with HIV.

Cone Health Regional Center for Infectious Disease is located in Greensboro and focuses on infectious disease treatment, including effective HIV treatment. Patients treated through this center achieve a suppressed viral load (a lower level of HIV in the blood) that is lower than the national average.

Unintentional Injury

SAFE Guilford is a local injury prevention coalition that brings together health and safety experts, businesses, government departments, community-based organizations and volunteers to address unintentional injuries. The main priorities of this coalition include child passenger safety, bike safety, pedestrian safety and falls prevention (https://www.safeguilford.com/).

Appendix A – Reference List

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2019
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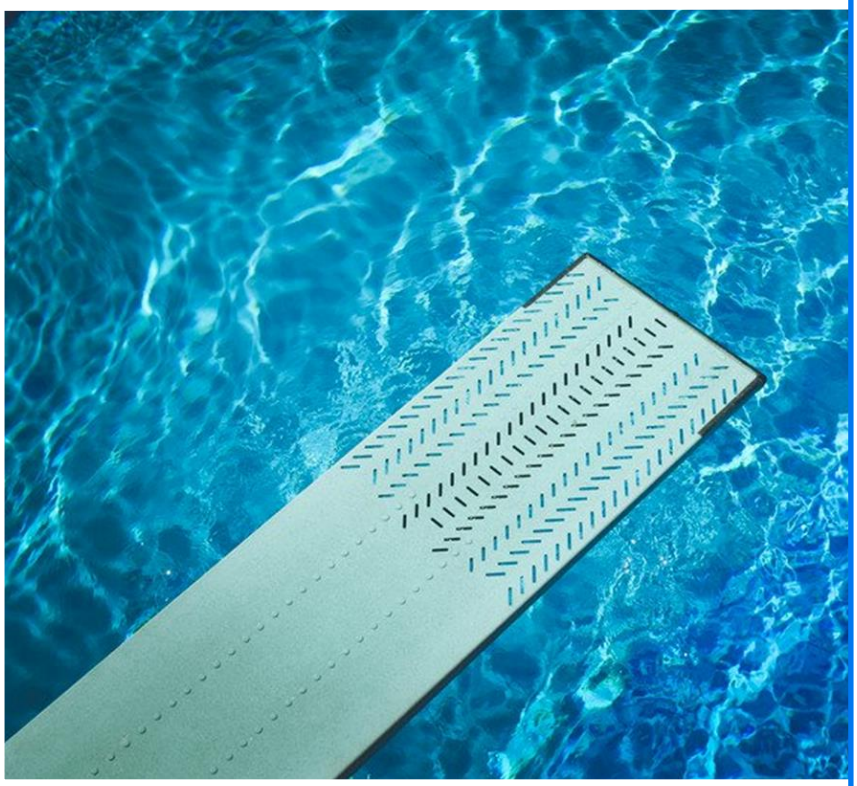
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