Guilford County Department of Public Health

| 2012 - 2013 |

Community Health Assessment

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Acknowledgements

First and foremost, the Guilford County Department of Public Health (GCDPH) would like to thank the residents of Guilford County and neighboring counties for making this joint Community Health Assessment/Community Health Needs Assessment (CHA/CHNA) possible. Special thanks go to the community residents of Guilford County for providing their input on county health needs and priorities through community meetings, focus group meetings and other assessment activities. Their critical opinions and information provided great insights that helped shape the core recommendations for actions. We would also like to thank the many community agencies and organizations who provided meeting space, helped us reach out to their constituents and advocated for their health needs and concerns. Thank you to leadership from the following partners:

Community Health Assessment Partners

Assessment Planning, Data Collection and Preparation

Special appreciation goes to UNC Greensboro's Center for Social, Community and Health Research and Evaluation (CSCHRE) for the facilitation of CHA/CHNA planning and detailed report preparation. The CSCHRE's contributions in the community health assessment were led by the Center Director, Dr. Joseph Telfair and Ms. Holly Sienkiewicz, Coordinator and Research Scientist at the CSCHRE. Ms. Aleksandra Babic, Ms. Amber Johnson, Ms. Shuying Sha and Ms. Natasha Tyson played essential roles in the collection and analysis of data and detailed report formatting. Mr. Jimmy Lee, also assisted GCDPH with the gathering and analyses of key health indicator data used in the health ranking and prioritization process.

Report Preparation

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Dr. Mark Smith, epidemiologist and head of the Health Surveillance and Analysis Unit, has extensive experience leading county-wide health assessments in Guilford County. From 1995 to 1997, Dr. Smith led a four-county health needs assessment when he was the Associate Director of the Center for Community Research at the Wake Forest University School of Medicine, Department of Public Health Sciences. Between 1999 and 2012, he helped to lead community health assessments.

Laura Mrosla, MPH, MSW

Laura Mrosla has been a community health educator with GCDPH since 1999. During that time, she has provided leadership to four community health assessments. She also serves as a Smart Girls® Training Facilitator. She earned a Master's degree in Public Health with a concentration in Maternal and Child Health and a Master's degree in Social Work from the University of North Carolina at Chapel Hill.

Map Design	Report Layout & Photography
Mark H. Smith, Ph.D.	**Laura Mrosla, MPH, MSW**

1 Background & Partners

What is Community Health Assessment?

According to the Institute of Medicine, one of the core functions of public health is "assessment." But what is community health assessment and why is it important? Community health assessment is a "process by which community members gain an understanding of the health, concerns and health care systems of the community by identifying, collecting, analyzing and disseminating information on community assets, strengths, resources and needs."[1]

The Importance of Community Health Assessment

Community health assessment:

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

Why is Community Health Assessment Important?

Every four years GCDPH conducts a community health assessment with local partners. This effort gathers important data on the local health needs and strengths. These data then inform the identification of pressing health issues and the subsequent action plan development to address these priorities. The community health assessment (CHA) process and its findings also inform the Guilford County Department of Public Health's strategic plan, fulfill local health department's requirements of the North Carolina Division of Public Health consolidated agreement and ensure that specific benchmarks are met as a part of the state accreditation process for local health departments. With passage of the Patient Protection and Affordable Care Act, each non-profit (501 (c) (3)) hospital system is also required by the IRS to conduct a community health needs assessment (CHNA) every 3 years, leading to a collaborative effort.

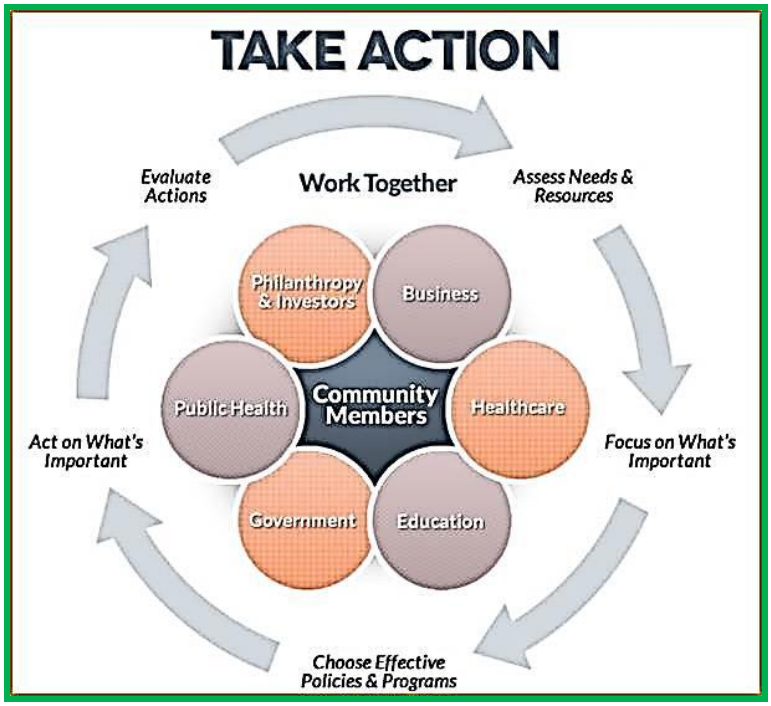
[1] North Carolina Division of Public Health. Community Health Assessment., Website: publichealth.nc.gov/lhd/cha/index.htm; Updated August 22, 2013. Accessed November 1, 2013.

Assessment Partners

Guilford County Department of Public Health
UNC Greensboro's Center for Social, Community and Health Research and Evaluation
High Point Regional Health System
Cone Health System
Cone Health Foundation

Our Local Process

In 2012 -2013, Guilford County Department of Public Health collaborated with two hospital systems, Cone Health System and High Point Regional Health System, and the Cone Health Foundation to conduct a joint CHA and CHNA process. With guidance from UNC Greensboro's Center for Social, Community and Health Research and Evaluation, partners used a participatory community-engaged approach to document community members' health status and the availability of resources in Guilford County, North Carolina. The purpose was to collect data on health needs and assets within the county, identify pressing health issues and develop recommendations for the development of action plans that address community health concerns.



Source: County Health Rankings

A steering committee with representatives from each of these partners guided the community health assessment, engaging community members, local citizens and organizational representatives throughout the process. This effort was intended to fulfill state and national reporting requirements for the health department and hospital systems. The project also collected supplementary data to gain a deeper understanding of community needs and assets and maximize the utility of the work. In doing this, each system will also have a template for future reporting needs.

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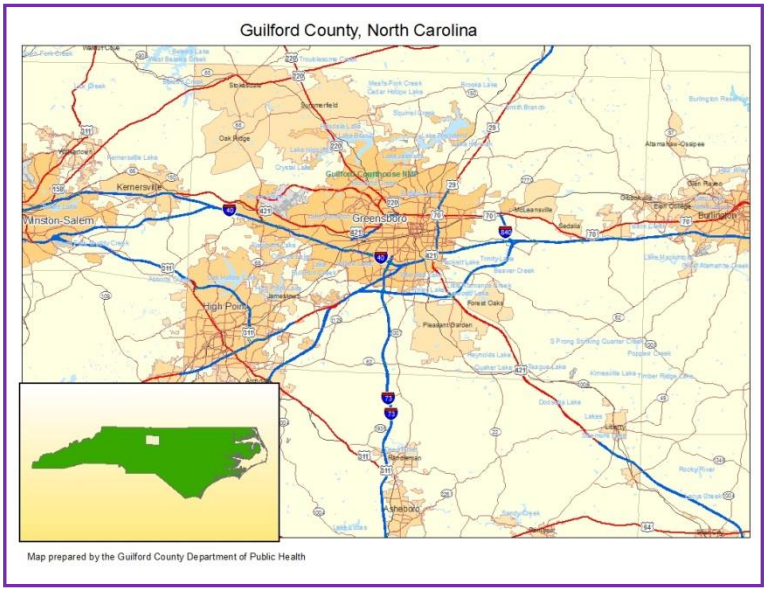
Guilford County

History & Geography

A Brief History

The north central area of North Carolina, often called the Piedmont Triad, is primarily made up of three cities—Greensboro, Winston Salem and High Point. 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. The 2012-2013 CHA/CHNA focused on the health of those who live in Guilford County and the service areas of Cone Health and High Point Regional Health System.



Guilford County is named after Francis North, the first Earl of Guilford and British Prime Minister from 1770 to 1782. Guilford County was formed in 1771 from parts of Rowan and Orange Counties to centralize the government and courts of Guilford. Three years later, the first courthouse and county jail were built in the central part of the county. During the American Revolutionary War, the Guilford Courthouse became the location of General Nathanael Greene and Lord Cornwallis' famous battle that was a turning-point in the war and which is still reenacted today. Greensboro, one of the major population centers, was originally populated by the Occaneechi and other Siouan tribes, prior to European immigration. In the mid 1700s, the Scotch-Irish, Germans, English and Welsh settled in the area.

Guilford County was home to early industrial development, most notably textiles and furniture. The first steam powered cotton mill in the state was housed in Greensboro's Mt. Hecla Cotton Mill in 1818, an innovation that 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 the presence of VF Corporation, a major denim jeans producer. Around the same time textile manufacturing was taking root in the area, the furniture business began to flourish. In 1888, High Point's first wood furniture business was established, which gradually led to the growth of many other quality furniture companies. With this growth, came North Carolina's first furniture exposition in 1905. This event has evolved into the largest furnishings trade show in the world, the High Point Furniture Market.

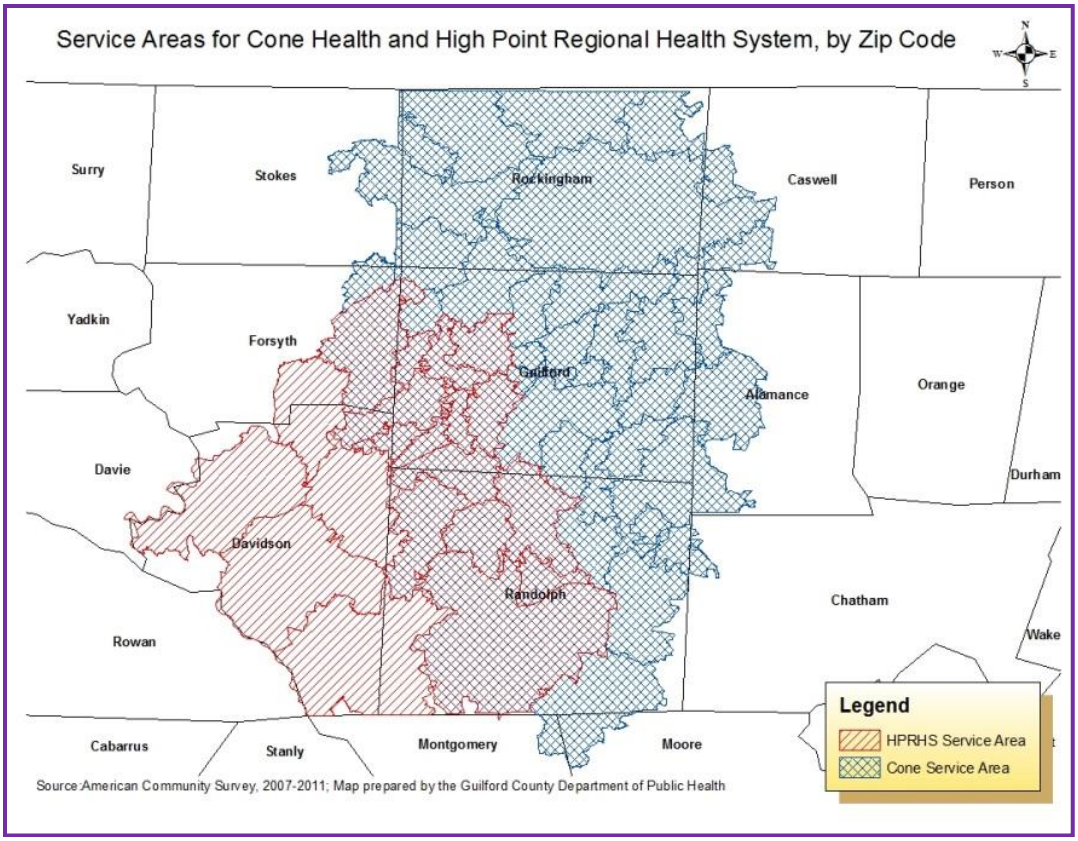
Academia also has a long history in Guilford County. The Welsh Quakers settled the western part of Guilford County, establishing a boarding school in 1837, which grew into Guilford College, the first Southern coeducational academic institution. The following year, the Methodist Church founded Greensboro College. The State Normal and Industrial School was founded in 1891, North Carolina's first and only public institution for higher learning for women. This school later became the North Carolina Women's College, a part of the University of North Carolina system, which is now the coeducational University of North Carolina at Greensboro. The Agricultural and Mechanical College for the Colored Race, also founded in 1891, is now recognized as North Carolina Agriculture & Technical University, the largest publicly funded historically black college/university (HBCU) in the state. What began as a school for seventy African American men and women in 1873 later transitioned to a women's HBCU, Bennett College, in 1926.

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, including Levi Coffin. Greensboro is also a nationally known landmark within the civil rights movement. In the 1960s, students from North Carolina A&T State University and Bennett College protested segregation through sit-ins at the then white only lunch counter at the Woolworth store in downtown Greensboro. These sit-ins ignited similar efforts across the nation that fueled the desegregation at Woolworth stores and other similar establishments. The former Woolworth store location in Greensboro is now the site of the International Civil Rights Center and Museum.

Geography

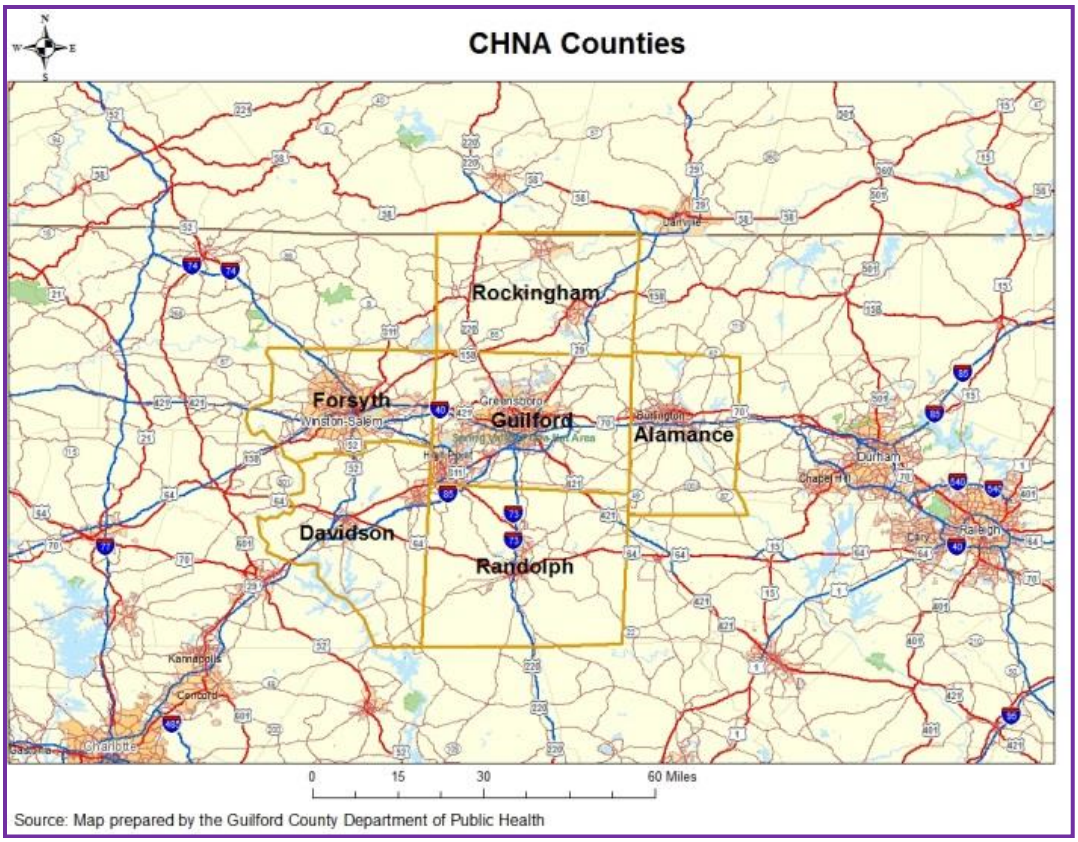
The 2012-2013 CHA/CHNA was a collaborative effort between the Guilford County Department of Public Health and Cone Health and the High Point Regional Health System. The service areas of the hospital systems extend beyond the boundaries of Guilford County to include all or substantial portions of five adjacent counties: Alamance, Davidson, Forsyth, Randolph and Rockingham (See maps below). While health data were collected and assessed for all six counties for the CHNA with Guilford as the focus within the context of the larger six-county region, this report will center on Guilford County. For more detail on the hospital services area data, go to www.conehealth.com and www.highpointregional.com.

Cone Health and High Point Regional Health System Service Areas by Zip Code



The six CHNA counties are located in central North Carolina in the Piedmont region between the coastal region to the east and the mountains in the western part of the state. The area is often referred to as the "Piedmont Triad," with the "triad" made up of the three largest cities of Greensboro (population 273,425, 2011 Census estimate), Winston-Salem (population 232,385, 2011 Census estimate) and High Point (population 105,753, 2011 Census estimate). The area comprises the third largest Metropolitan Statistical Area in North Carolina following Charlotte and Raleigh-Durham.

Community Health Needs Assessment Area



Source: Map prepared by the Guilford County Department of Public Health

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Guilford County

Demographics

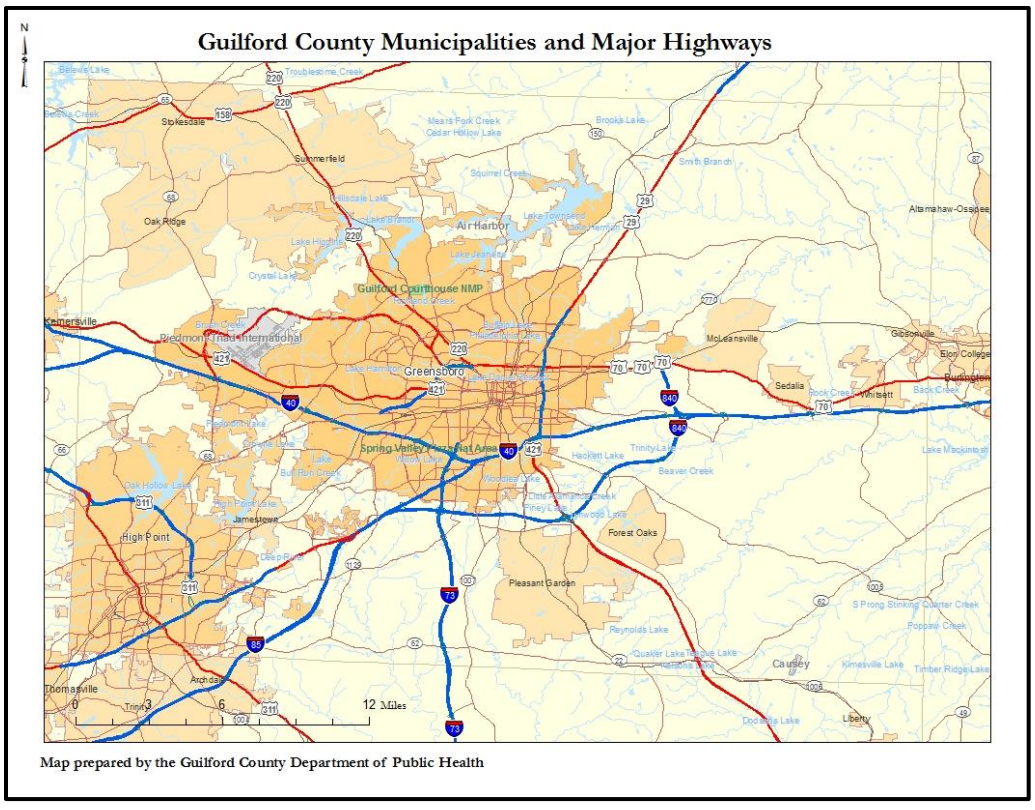
Population Trends

- The estimated 2011 population for Guilford County was 495, 279, as compared to 488, 406 in 2010.
- From 2000 to 2010, the state as a whole and Alamance, Forsyth and Guilford counties experienced population growth of over 18%.

Comparison of Population of North Carolina and CHNA Counties, 2000, 2010 and 2011 Estimate

Residence	2000	2010	Percentage Change	2011 Estimate
North Carolina	8,049,313	9,535,483	18.5%	9,752,073
Alamance	127,049	151,131	19.0%	152,801
Davidson	145,350	162,878	12.1%	163,077
Forsyth	296,118	350,670	18.4%	354,952
Guilford	407,071	488,406	19.9%	495,279
Randolph	129,109	141,752	9.8%	142,358
Rockingham	90,742	93,643	3.2%	93,329

Source: American Community Survey, U.S. Census Bureau, 2000, 2010, 2011.



Map prepared by the Guilford County Department of Public Health

Guilford County Municipalities
This table provides a comparison of the population change for select Guilford County cities and towns between 2000 and 2010.

- Oak Ridge, Stokesdale and Summerfield have seen the greatest percentage growth, at 55.1%, 54.5% and 48.4% respectively.
- Guilford County as a whole and Greensboro, High Point and Jamestown have seen moderate growth.
- Pleasant Garden and Whitsett have decreased in population and Sedalia has remained about the same.

Comparison of 2000 and 2010 Population
Guilford County Municipalities

Guilford County Municipalities	2000	2010	Percentage Growth
Guilford County	421,048	488, 406	16.0%
Greensboro	223,891	269,666	20.4%
High Point (part)	84,656	104,371	23.3%
Jamestown	3,088	3,382	9.5%
Oak Ridge	3,988	6,185	55.1%
Pleasant Garden	4,714	4,489	-4.8%
Sedalia	618	623	0.8%
Stokesdale	3,267	5,047	54.5%
Summerfield	6,894	10,232	48.4%
Whitsett	686	590	-14.0%

Source: American Community Survey, U.S. Census Bureau, 2000, 2010.

Age and Gender

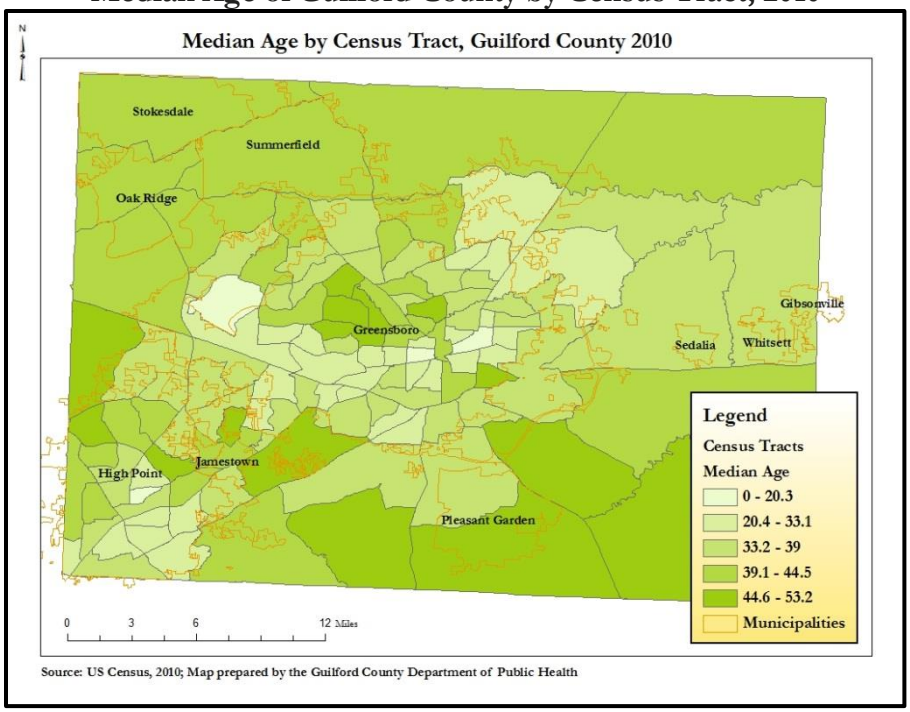
- The 2007-2011 Guilford County population has an estimated median age of 36.3 years, slightly younger than the median age of the surrounding counties.
- The gender distribution is similar in North Carolina, Guilford County and surrounding counties, with slightly more females than males.

Median Age and Gender Distribution of North Carolina and CHNA Counties

Residence	Median Age	Male		Female	
		Number	Percentage	Number	Percentage
North Carolina	37.3	4,588,579	48.7%	4,830,157	51.3%
Alamance	38.4	71,113	47.6%	78,326	52.4%
Davidson	40.0	79,474	49.1%	82,250	50.9%
Forsyth	37.2	165,135	47.5%	182,432	52.5%
Guilford	36.3	230,034	47.6%	253,047	52.4%
Randolph	39.5	69,385	49.2%	71,531	50.8%
Rockingham	42.0	45,069	48.3%	48,324	51.7%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

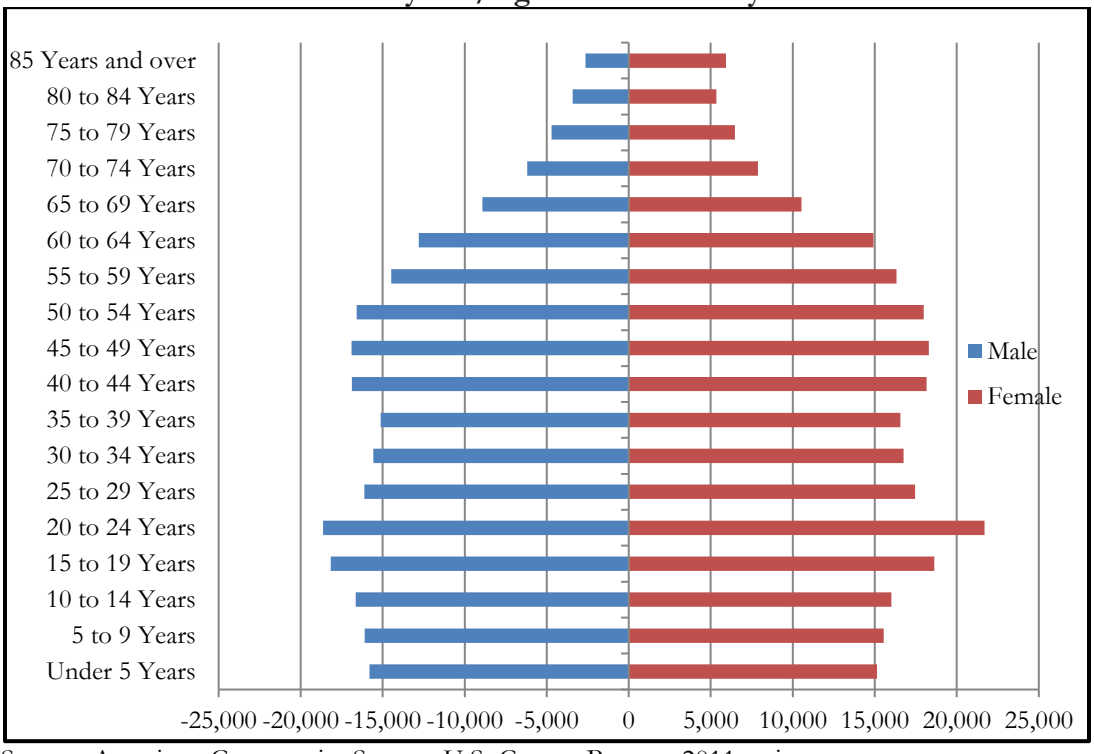
Median Age of Guilford County by Census Tract, 2010



- The map above illustrates the median age of Guilford County by census tracts. Median age exibits large variation geographically, with median ages less than age 25 in census tracts in southeast Greensboro and central High Point and up to ages 45-53 in northwest Greensboro, Jamestown and rural areas of southeast Guilford County.

- The following table below compares the 2011 estimated distribution of males and females in Guilford County within major age groups. Up to the age of 14, males predominate as a percentage of the population, but in older age groups females make up a larger proportion.

Guilford County Sex/Age Distribution Pyramid 2011



Source: American Community Survey, U.S. Census Bureau, 2011 estimates.

2011 Population Estimates by Age, Race and Gender

Guilford County 2011 Population Estimates by Age, Race and Gender enumerated on July 1, 2011 (based on the 2010 census)*							
		Race/Ethnicity				Gender	
	Total	White Non-Hispanic	African American Non-Hispanic	Other Non-Hispanic	Hispanic	Male	Female
Age	495,279	271,355	164,276	23,453	36,195	235,653	259,626
0-4	30,930	12,593	11,928	1,693	4,716	15,802	15,128
5-9	31,655	14,067	11,631	1,849	4,108	16,107	15,548
10-14	32,659	15,253	12,215	1,952	3,239	16,639	16,020
15-19	36,806	16,881	15,020	1,934	2,971	18,172	18,634
20-24	40,312	18,251	16,889	1,940	3,232	18,628	21,684
25-29	33,570	16,157	12,017	1,986	3,410	16,113	17,457
30-34	32,320	15,306	11,426	1,811	3,777	15,563	16,757
35-39	31,694	15,497	10,918	2,045	3,234	15,131	16,563
40-44	35,031	18,919	11,855	1,895	2,362	16,872	18,159
45-49	35,190	20,558	11,270	1,623	1,739	16,889	18,301
50-54	34,572	21,724	10,183	1,395	1,270	16,590	17,982
55-59	30,796	20,311	8,678	1,056	751	14,479	16,317
60-64	27,708	19,034	7,290	852	532	12,796	14,912
65-69	19,461	13,936	4,568	612	345	8,921	10,540
70-74	14,077	10,209	3,256	394	218	6,194	7,883
75-79	11,190	8,595	2,215	238	142	4,710	6,480
80-84	8,747	7,033	1,525	98	91	3,409	5,338
85+	8,561	7,031	1,392	80	58	2,638	5,923

* Based on Population files obtained from the U.S. Census Bureau in collaboration with the National Center for Health Statistics

Source: North Carolina County Health Data Book - 2013 Division of Public Health N.C. Department of Health and Human Services State Center for Health Statistics.

- The age distribution of the Guilford County population differs by race. Whites make up a higher proportion of middle aged and older residents than African-Americans or Hispanics. African-Americans have a higher proportion of children and a lower percentage of elderly than is true of Whites, but Hispanics have the youngest age distribution.

Race and Ethnicity

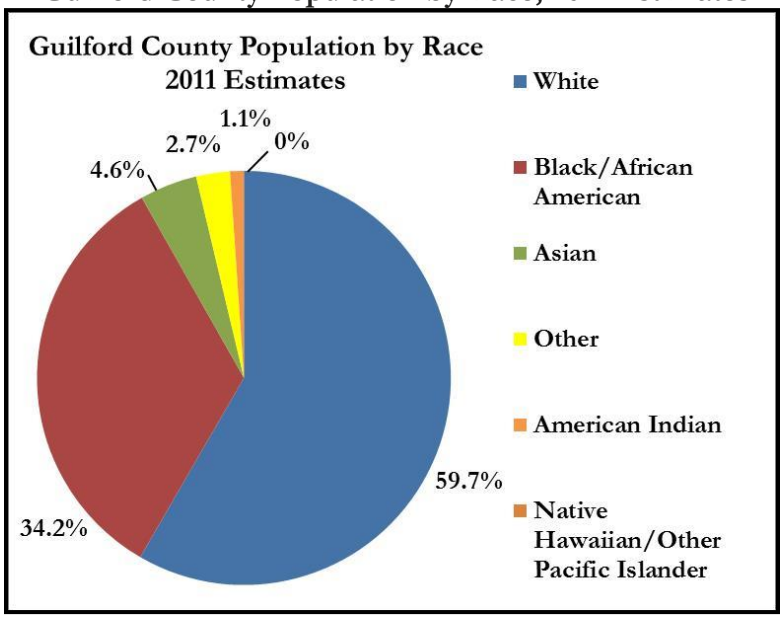
Racial Distribution of North Carolina and CHNA Counties, 2007–2011 Estimates

Residence	White		Black/African American		American Indian/ Alaska Native		Asian		Native Hawaiian/ Other Pacific Islander		Some Other Race		Two or More Races	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
North Carolina	6,560,948	69.7	2,016,228	21.4	108,960	1.2	202,815	2.2	4,725	0.05	336,670	3.6	188,390	2.0
Alamance	104,484	69.9	27,015	18.1	332	0.2	1,904	1.3	95	0.1	11,843	7.9	3,766	2.5
Davidson	138,821	85.8	14,791	9.1	738	0.5	2,282	1.4	18	0.0	3,393	2.1	1,681	1.0
Forsyth	223,621	64.3	90,561	26.1	850	0.2	6,440	1.9	233	0.1	20,417	5.9	5,445	1.6
Guilford	281,403	58.3	156,148	32.3	2,531	0.5	19,180	4.0	73	0.0	14,840	3.1	8,906	1.8
Randolph	122,214	86.7	8,025	5.7	573	0.4	1,301	0.9	5	0.0	6,809	4.8	1,989	1.4
Rockingham	70,776	75.8	17,577	18.8	247	0.3	371	0.4	27	0.0	2,659	2.8	1,736	1.9

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- Whites make up 69.7% of the population of North Carolina. Regionally, there was variability across counties, with percentages of Whites highest in Davidson, Randolph and Rockingham counties and lowest in Guilford and Forsyth counties.
- Guilford and Forsyth counties had the highest percentage of those who identified as Black/African American, 32.3% and 26.1%, respectively. Randolph County had the lowest percentage at 5.7%.
- In Guilford County, 4.0% of the population identified as Asian, higher than North Carolina and other CHNA counties.

Guilford County Population by Race, 2011 Estimates



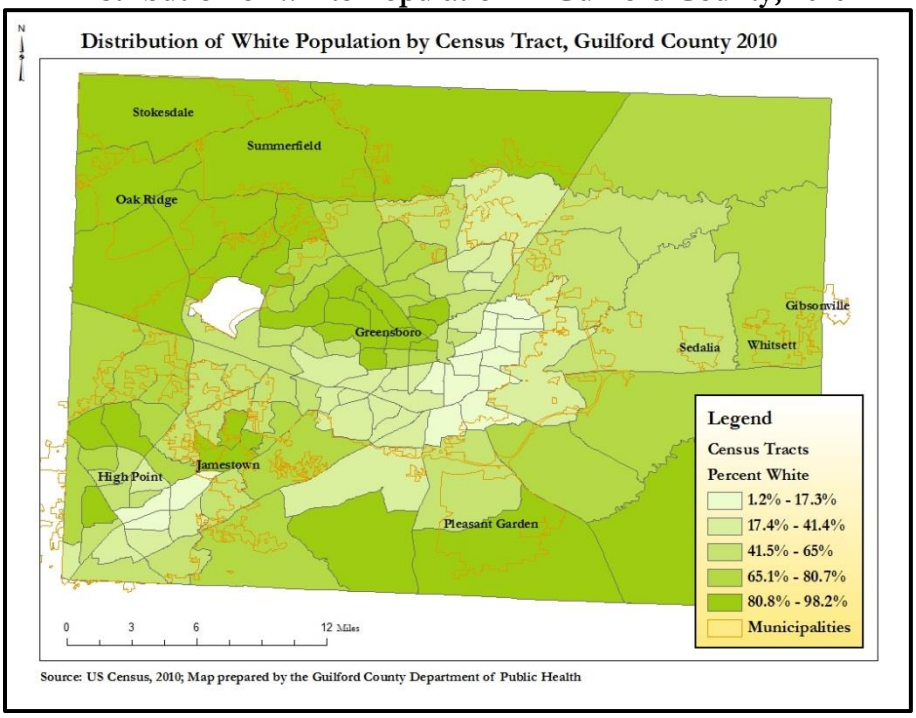
Source: American Community Survey, U.S. Census Bureau, 2011 estimates.

- Of the estimated 495, 279 individuals living in Guilford County in 2011, approximately 59.7% were White, 34.2% were African American, 4.1% were Asian and 1.1% were American Indian/Alaskan Native. The Latino population (of any race) was estimated at 7.3%.

Geographic Distribution

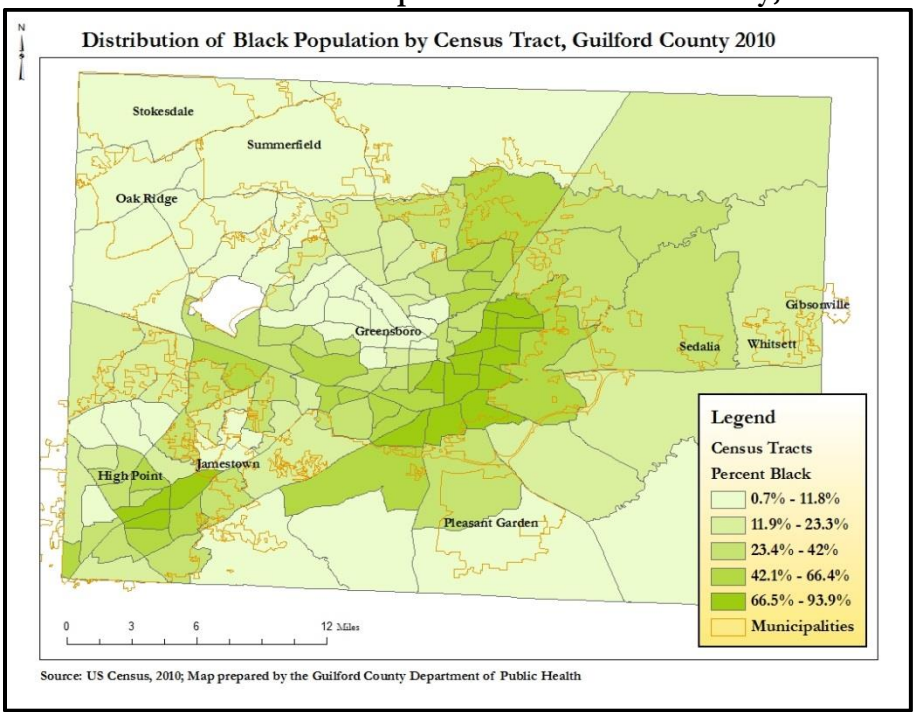
- The following maps illustrate the racial and ethnic distribution of those who call Guilford County home.
- The percentage of Whites by census tract varies from as low as 1.2-17.3% in Southeast Greensboro and Central High Point to as high as 82.8-98.2% in northwest Greensboro, and northwest and southeast Guilford rural areas.

Distribution of White Population in Guilford County, 2010

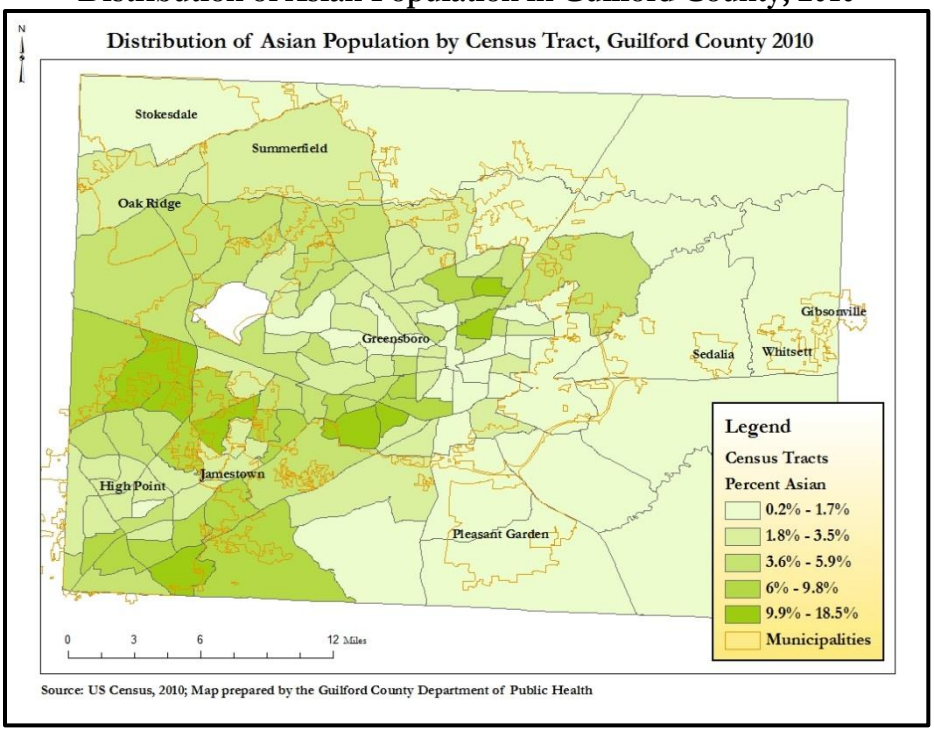


- The Black/African-American population is concentrated in census tracts in southeast Greensboro and central High Point, where the percentage ranges from 68.9-93.9%.

Distribution of Black Population in Guilford County, 2010



Distribution of Asian Population in Guilford County, 2010



- While the Asian population comprises just under 4.6% of the county as a whole, in some tracts in South, West and East Greensboro and South High Point, the county's Asian residents makes up as high as 9.9-18.5% of tract populations.

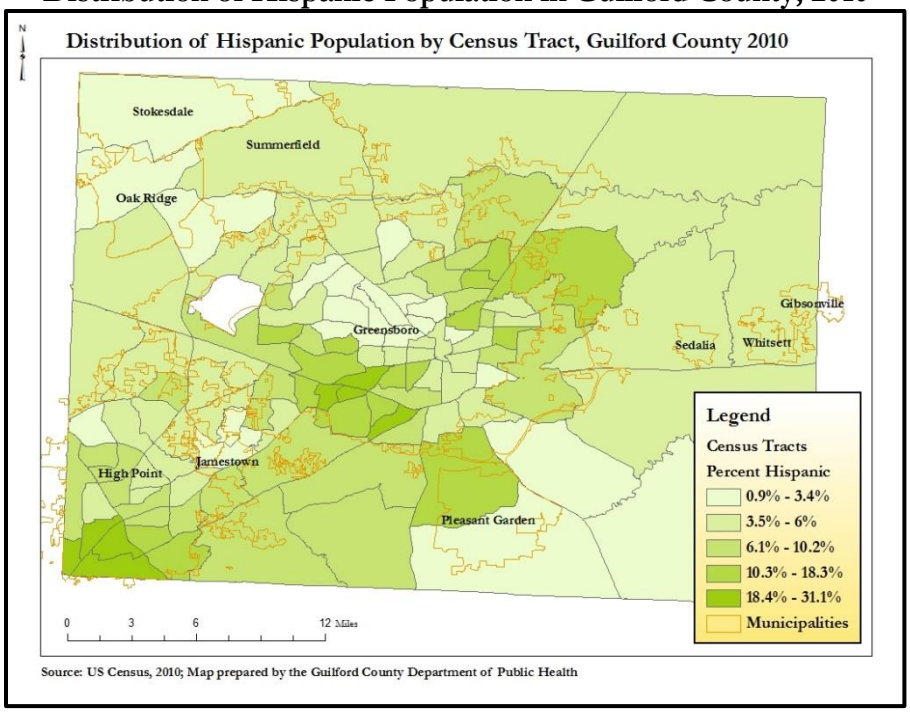
- According to Census Bureau population estimates, 8.1% of North Carolina population identified as Hispanic.
- There was some Hispanic variability across CHNA counties, with percentages highest in Alamance, Forsyth and Randolph counties (10-11%) and lowest in Davidson, Guilford and Rockingham counties (5-7%).
- Hispanic residents make up 6.9% of Guilford County as a whole, but make up as high as 25.8-53.4% in several census tracts in South Greensboro and South High Point.

Hispanic Distribution of North Carolina and CHNA Counties

Residence	Number	Percentage
North Carolina	764,707	8.1%
Alamance	16,106	10.8%
Davidson	10,040	6.2%
Forsyth	39,628	11.4%
Guilford	22,316	6.9%
Randolph	14,330	10.2%
Rockingham	4,2340	5.3%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

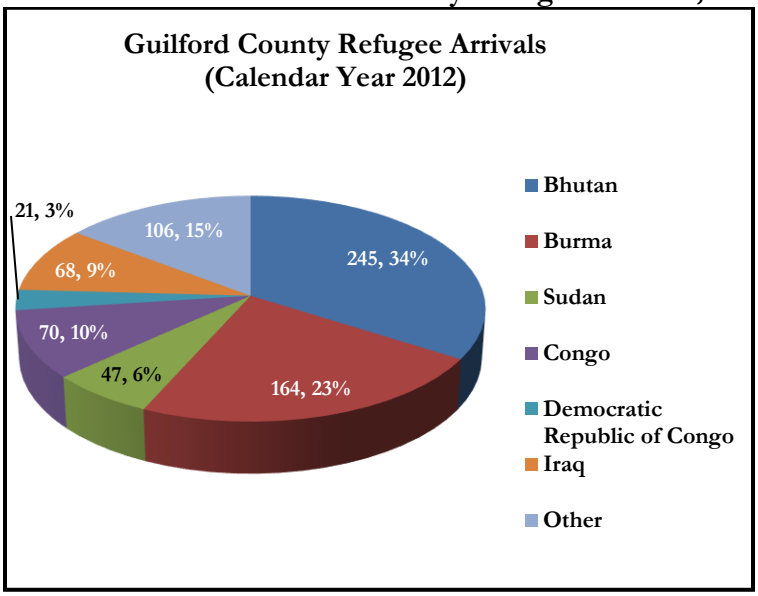
Distribution of Hispanic Population in Guilford County, 2010



New Arrivals

- Guilford County is a refugee resettlement area and has hosted thousands of refugees from Asia, Africa and South and Central America.
- According to the three refugee resettlement agencies in Guilford County (African Services Coalition, Church World Services and World Relief Refugee Services), there were 721 new refugee arrivals in Guilford County in 2012. Of those new arrivals, over 50% were from either Bhutan or Burma.
- 10% were from Congo, 9% from Iraq, 6% from Sudan and 3% from the Democratic Republic of Congo.

Distribution of Guilford County Refugee Arrivals, 2012



* Groups comprising "other" include countries of origin with less than 20 people arriving in Guilford County. These countries include: Afghanistan (n=3), Cuba (n=17), Ivory Coast (n=2), Somalia (n=6), Liberia (n=2), Tanzania (n=5), Ethiopia (n=18), Libya (n=7), Nepal (n=13), Eritrea (n=7), Moldova (n=4), Ukraine (n=11), Vietnam (n=2), and Iran (n=9).

** This data represents refugee arrivals from January 1, 2012 through November 30, 2012.

Households and Families

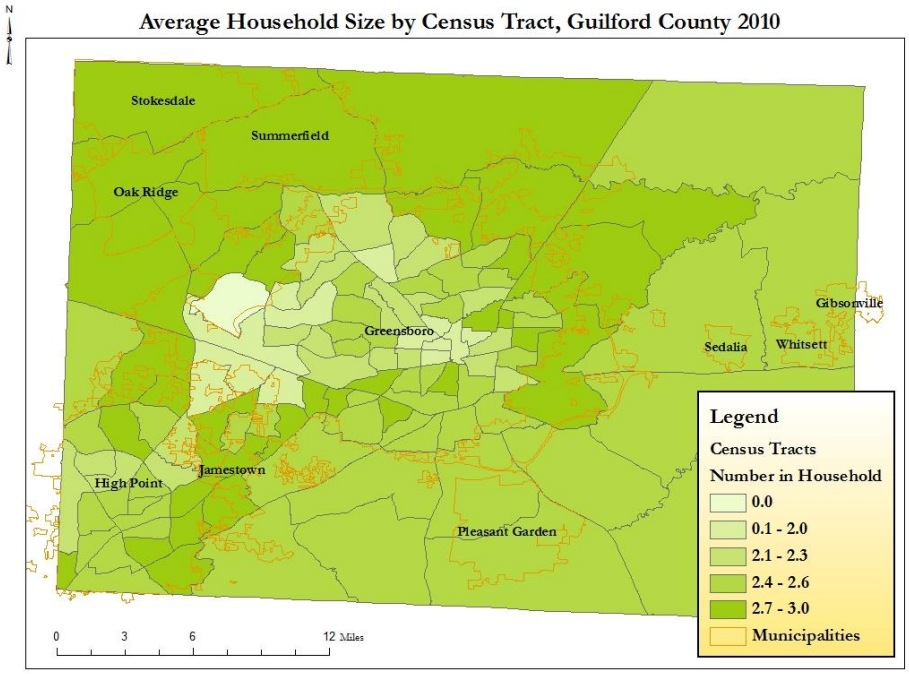
Number of Households and Average Household Size in North Carolina and Guilford County

Residence	Total Number of Households	Average Household Size
North Carolina	3,664,119	3.06
Guilford	192,064	2.44

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- A household includes all the persons who occupy a housing unit as their usual place of residence. The average household size in North Carolina is 3.06 persons, slightly higher than the 2.44 average in Guilford County.
- The tracts with the lowest average household size are located in suburban tracts in northwest and west Greensboro. The highest average household size is found in tracts in exurban and rural tracts bordering on Greensboro and some urban and suburban High Point tracts.

Average Household Size in Guilford County, 2010



Source: US Census, 2010; Map prepared by the Guilford County Department of Public Health

Family Households in North Carolina and Guilford County

Residence	Family Households							
	Total		Married Couple		Male Householder (no wife present)		Female Householder (no husband present)	
	Number	%	Number	%	Number	%	Number	%
North Carolina	2,448,907	66.8%	1,810,499	49.4%	155,092	4.2%	483,316	13.2%
Guilford	119,849	62.4%	83,483	43.5%	8.941	4.7%	27,425	14.3%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- There were an estimated 3,664,119 total households in North Carolina according to 2007-2011 estimates, with about 67% identified as family households.
- Guilford County had a slightly lower proportion of family households at 62.4%. Of the family households, the majority were married couples (43.5%), followed by female householders with no husband present (14.3%) and male householders with no wife present (4.7%).

Other Households in North Carolina and Guilford County

Other Households						
Residence	Total		Householder living alone		65 years and older	
	Number	%	Number	%	Number	%
North Carolina	1,215,212	33.2%	1,012	27.6%	854,689	9.1%
Guilford	72,215	37.6%	59,714	31.1%	16,976	8.8%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- Of the other households in North Carolina, the majority were householders who lived alone. Guilford County had slightly higher percentages of householders who lived alone compared to North Carolina and surrounding counties.
- Approximately 9% of all households were householders 65 years of age and older.

Types of Households with Children under Age 18 in North Carolina and Guilford County

Residence	Households with own children under 18							
	Total		Married Couple		Male Householder, no wife present		Female householder, no husband present	
	Number	%	Number	%	Number	%	Number	%
North Carolina	1,093,337	29.8%	725,918	19.8%	79,734	2.2%	287,685	7.9%
Guilford	56,645	29.5%	35,178	18.3%	4,764	2.5%	16,703	8.7%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- There were an estimated 1,093,337 households with their own children under the age of 18 in North Carolina according to 2007-2011 estimates, or about 30% of all households. Guilford County had a similar breakdown.
- Married couples with their own children under age 18 made up about 20% of all households.
- Households with male head of household without a wife present and with children under age 18 made up about 2.5% of all households and householders without a husband present and with children under age 18 made up about 9% of all households.

Language

Population Estimates (5 years of age and older) of those who Speak a Language Other than English at Home, North Carolina and CHNA Counties

Residence	Language Other Than English at Home		Spanish		Other Indo-European Languages		Asian & Pacific Islander Languages		Other Languages	
	Number	%	Number	%	Number	%	Number	%	Number	%
North Carolina	929,658	10.6%	624,448	7.1%	143,786	1.6%	123,104	1.4%	38,320	0.4%
Alamance	16,070	11.5%	13,256	9.5%	1,414	1.0%	1,213	0.9%	187	0.1%
Davidson	11,411	7.5%	8,563	5.6%	942	0.6%	1,503	1.0%	403	0.3%
Forsyth	44,145	13.6%	33,519	10.4%	5,666	1.8%	3,752	1.2%	1,208	0.4%
Guilford	53,748	11.9%	27,213	6.0%	10,242	2.3%	11,681	2.6%	4,612	1.0%
Randolph	13,924	10.6%	11,900	9.0%	1,108	0.8%	747	1.6%	169	0.1%
Rockingham	4,726	5.4%	4,115	4.7%	358	0.4%	241	0.3%	12	0.0%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- Approximately 11% of the North Carolina population speaks a language other than English at home.
- Alamance, Forsyth, Guilford and Randolph counties reflect or slightly exceed this state trend.
- Approximately 5-8% of the population in Davidson and Rockingham counties speak a language other than English at home.
- Of those over age 5 living in Guilford County in 2007-2011, an estimated 11.9% spoke a language other than English at home.
- Of those speaking a language other than English at home, 6.0% spoke Spanish, 2.3% spoke another Indo-European language, 2.6% spoke an Asian and Pacific Islander language and 1.0% spoke some other language.

Veteran Status

Estimates of the Civilian Veteran Population for North Carolina and Guilford County

Residence	Civilian Veterans	
	Number	Percentage
North Carolina	743,377	10.5%
Guilford	33,758	9.1%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- Guilford County reflects the estimated civilian veteran population of the state, about 10%.

Grandparents Living with and Responsible for Grandchildren under age 18 in North Carolina and Guilford County

Residence	Number of Grandparents Living with Grandchildren	Percentage of Grandparents Responsible for Grandchildren
North Carolina	98,634	50.2%
Guilford	8,570	50.8%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- In North Carolina, an estimated 50.2% of the grandparents living with their grandchildren under age 18 are responsible for those grandchildren.
- Guilford County is similar, with 50.8% of the grandparents living with their grandchildren are responsible for those children.

4

Data Collection

Assessing the health of the Guilford County involved collecting and considering of a wide range of health and health-related measures, including data on morbidity and mortality, health behaviors, clinical care, social and economic factors and environmental factors. Assessment data included primary and secondary data collected from a variety of sources. Both quantitative and qualitative data were collected and assessed. Whenever available, quantitative data were assessed at the count -level and sub-county geographic levels of census tract and zip code. Primary data collection included participation in the Behavior Risk Factor Surveillance Systerm (BRFSS) and Youth Risk Behavior Survey (YRBS), focus groups and surveys conducted through community meetings and online. Secondary data were integrated throughout the process.

Community Engagement

Throughout the community health assessment process, multiple methods sought out engagement from the community, inclusive of providers, patients and community members at large. These methods included community meetings, key informant interviews, focus groups and an online prioritization survey.

Methods of Primary Data Collection

- Participation in the NC BRFSS
- Local Administration of the Youth Risk Behavior Survey
- Community Meetings
- Key Informant Interviews
- Focus Groups
- Online Health Issue Prioritization Survey
- Connect-the-Dots Community Meeting

Community-wide meetings were advertised in the newspaper and on the local news, and attendance was open to the public at large. At these meetings, GCDPH staff presented secondary data and *County Health Rankings* data. Participants were then asked to rank the health issues and note any additional factors they felt impacted them or their communities, using the Health Issue Prioritization Survey. Hospital Service Area Community Meetings were held in the same format but solicited participation from persons within that hospital's service area outside Guilford County. The community meetings began in October 2012 and lasted through the end of January 2013.

Beginning around the same time as the community meetings, UNC Greensboro's CSCHRE staff conducted focus groups with administrative personnel, medical doctors, nurses, case managers and healthcare consumers and patients. Focus groups took place at service provision sites and participants were strategically sampled and solicited for responses regarding a number of health and service delivery issues. Respondents were prompted about issues that arise during service provision, including frequently occurring health issues, hindrances to service provision and needs, and current effective service strategies that should continue to be supported.

Health and service providers were asked about access to care issues experienced by their patients as well as any services that they were unable to provide due to various funding and logistical constraints. They were also asked about the existing and needed resources in their service sector as well as their current and desired partnerships toward improved service provision. Women's health and mental health providers were asked to address issues specifically related to their service provision. Healthcare consumers were asked to provide information about access to care issues and resources as well as issues specific to their needs. Consumers included low-income persons, immigrants and refugees and persons receiving mental health services.

County Health Rankings

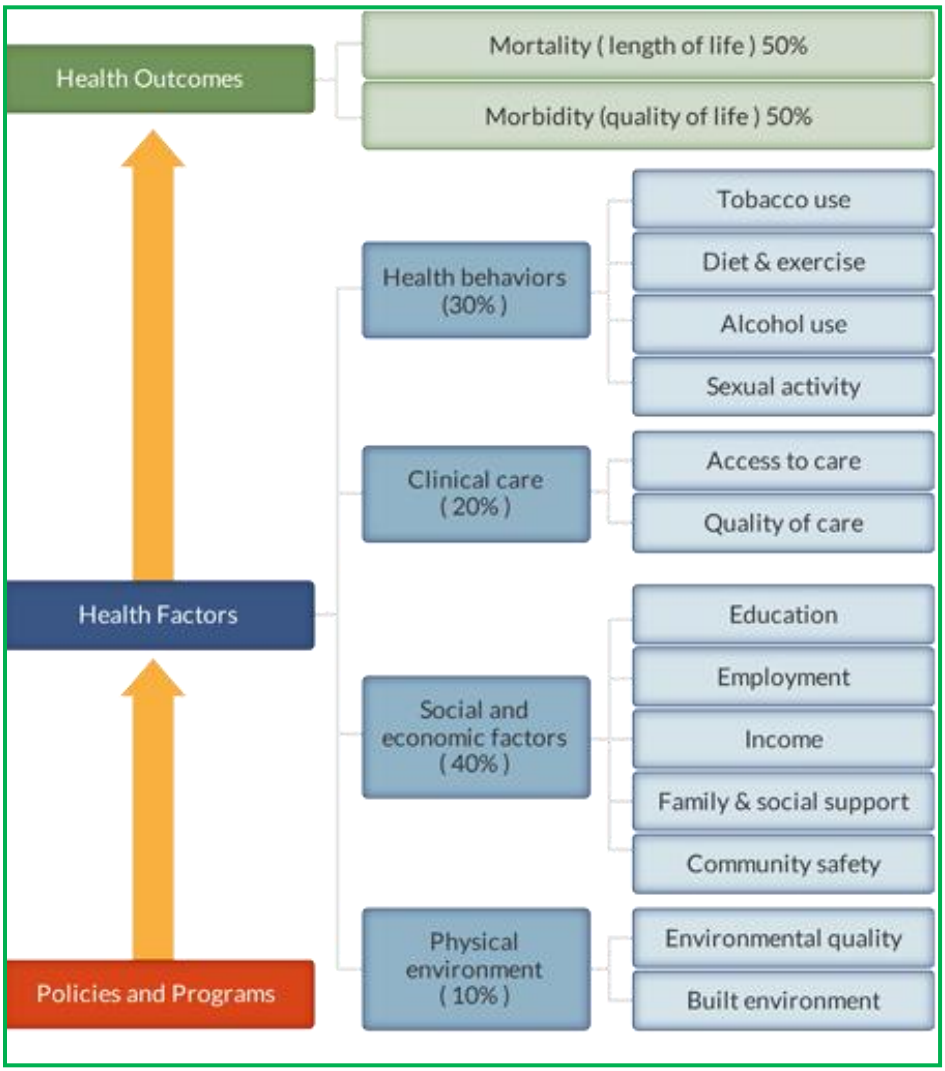
Each year, the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation collaborate to publish the County Health Rankings for all counties in the United States. The *County Health Rankings* help us to understand what influences our community's health and the health of its residents. These rankings recognize that our health outcomes, such as how long we live and how healthy we feel, are influenced by our own health behaviors, our access to and experience with clinical care, social and economic factors and the physical environment in which we live, work and play. Local, state and federal policies and programs can also influence health outcomes through impact on health factors.

This *County Health Rankings'* research-based model of health provides an instructive way to frame an understanding of community health needs and a framework for organizing the assessment of health data. As a result, the County Health Rankings were integrated into the assessment process of the 2012-2013 Community Health Assessment.

The *County Health Rankings* uses a model of community health that represents health outcomes—morbidity and mortality—as functions of several health factors:

- The first health factor, health behaviors, consists of indicators of tobacco use, diet and exercise, alcohol use, and sexual activity. Health behaviors comprise 30% of variation in health outcomes.
- The second health factor, clinical care, includes indicators for access to care and quality of care. Clinical care makes up 20% of variation in health outcomes.
- The third health factor, social and economic factors, includes measures of education, employment, income, family and social support and community safety. Social and economic factors make up 40% of variation in health outcomes.
- The last health factor, physical environment, includes measures of environmental quality and the built environment, including air quality, access to exercise facilities and access to healthy food. Physical environment makes up 10% of variability in health outcomes.

County Health Rankings Model



Source: County Health Rankings Model ©2012 University of Wisconsin Population Health Institute.

The following table provides Guilford County's 2013 County Health Rankings as compared to North Carolina, and Alamance, Forsyth, Randolph, Rockingham counties

	North Carolina	Guilford (GU)	Alamance (AL)	Forsyth (FO)	Randolph (RA)	Rockingham (RC)
Health Outcomes		**9**	**23**	**25**	**35**	**78**
Mortality		16	18	30	33	81
Premature death	7,961	7,345	7,481	7,938	8,171	10,226
Morbidity		11	41	28	34	53
Poor or fair health	18%	13%	19%	14%	20%	19%
Poor physical health days	3.6	2.9	3.6	3.1	3.8	3.6
Poor mental health days	3.4	3.2	3.5	3.2	3.5	4.0
Low birthweight	9.1%	9.3%	9.1%	10.2%	8.1%	9.6%
Health Factors		**24**	**47**	**21**	**42**	**90**
Health Behaviors		**16**	**55**	**22**	**40**	**98**
Adult smoking	22%	18%	24%	21%	24%	31%
Adult obesity	29%	28%	34%	26%	30%	33%
Physical inactivity	25%	23%	28%	21%	30%	31%
Excessive drinking	13%	13%	11%	13%	11%	16%
Motor vehicle crash death rate	19	14	15	13	21	28
Sexually transmitted infections	445	577	372	884	192	358
Teen birth rate	50	36	49	50	57	60
Clinical Care		**12**	**24**	**7**	**68**	**74**
Uninsured	18%	19%	19%	17%	21%	18%
Primary care physicians	1,135:1	1,015:1	1,557:1	625:1	1,985:1	2,047:1
Preventable hospital stays	64	49	58	61	68	95
Diabetic screening	87%	88%	89%	88%	87%	87%
Mammography screening	70%	73%	75%	67%	65%	66%
Social & Economic Factors		**39**	**58**	**33**	**40**	**78**
High school graduation	78%	87%	79%	82%	84%	74%
Some college	61%	65%	56%	62%	45%	48%
Unemployment	10.6%	10.9%	11.4%	9.9%	10.8%	12.9%
Children in poverty	25%	27%	29%	24%	27%	27%
Inadequate social support	21%	19%	20%	18%	21%	25%
Children in single-parent households	34%	39%	39%	37%	31%	38%
Violent crime rate	448	655	459	661	180	355
Physical Environment		**90**	**49**	**75**	**54**	**82**
Air pollution-particulate matter days	1	2	0	1	0	1
Air pollution-ozone days	6	10	2	10	1	3
Access to recreational facilities	11	13	10	15	9	12
Limited access to healthy foods	10%	9%	16%	11%	22%	29%
Fast food restaurants	49%	48%	50%	47%	49%	47%

Source: County Health Rankings

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Oversampling of the Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is randomized telephone survey of adult state residents developed by the Centers for Disease Control and Prevention (CDC) and conducted in collaboration with state health departments. Through the financial support of the Cone Health Foundation, a CHA partner, Guilford County participates in over-sampling of adult county residents conducted by North Carolina Division of Public Health. In 2010 the NC State Center for Health Statistics surveyed 691 county residents. This primary data collection oversampling allows for sub-group analysis and makes the BRFSS data more useful for conducting community health assessment. The BRFSS sample has higher proportions of females and whites than the county population (see comparison table below).

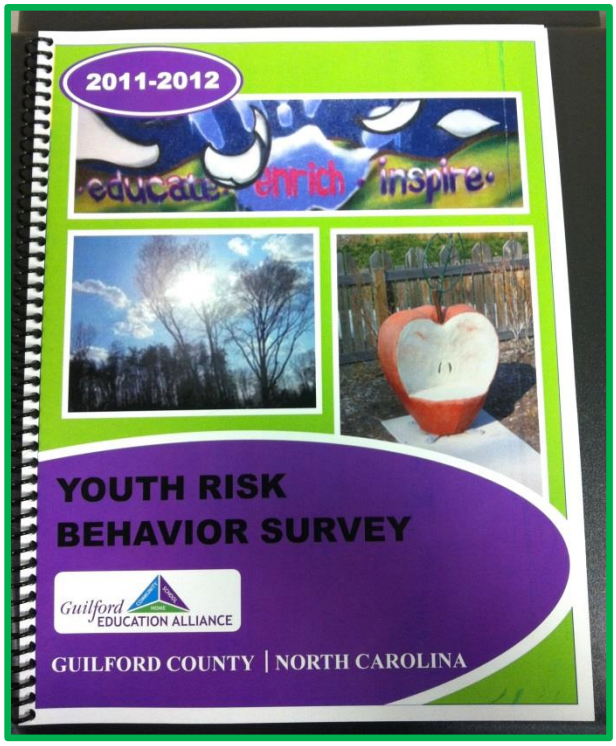
Comparison of Oversampled BRFSS Sample and Guilford County Demographics

Category	BRFSS, 2010		Guilford County, 2010 Census	
	Number	Percent	Number	Percent
Male	258	37.4%	232,483	47.6%
Female	432	62.5%	255,923	52.4%
White	514	74.5%	278,525	57%
Other Races	169	24.5%	209,881	43%
Total	690	100%	488,406	100%

Guilford County Youth Risk Behavior Survey

In 2011, Guilford County Department of Public Health partnered with Guilford Education Alliance, Guilford County Schools and UNC Greensboro's Department of Public Health Education to locally administer and report upon the Youth Risk Behavior Survey (YRBS) in Guilford County. The YRBS is a national survey developed by the CDC to assess the risk behaviors of our middle and high school students through an anonymously answered survey.

The survey asks questions about important health and safety topics, including: physical activity, nutrition, body weight, safety, bullying, violence related behaviors, tobacco use, alcohol and other drug use, sexual education and behavior, mental health and asthma. These data help us better understand the behaviors of our youth and inform the development of stronger prevention and intervention programs that support healthy youth development.

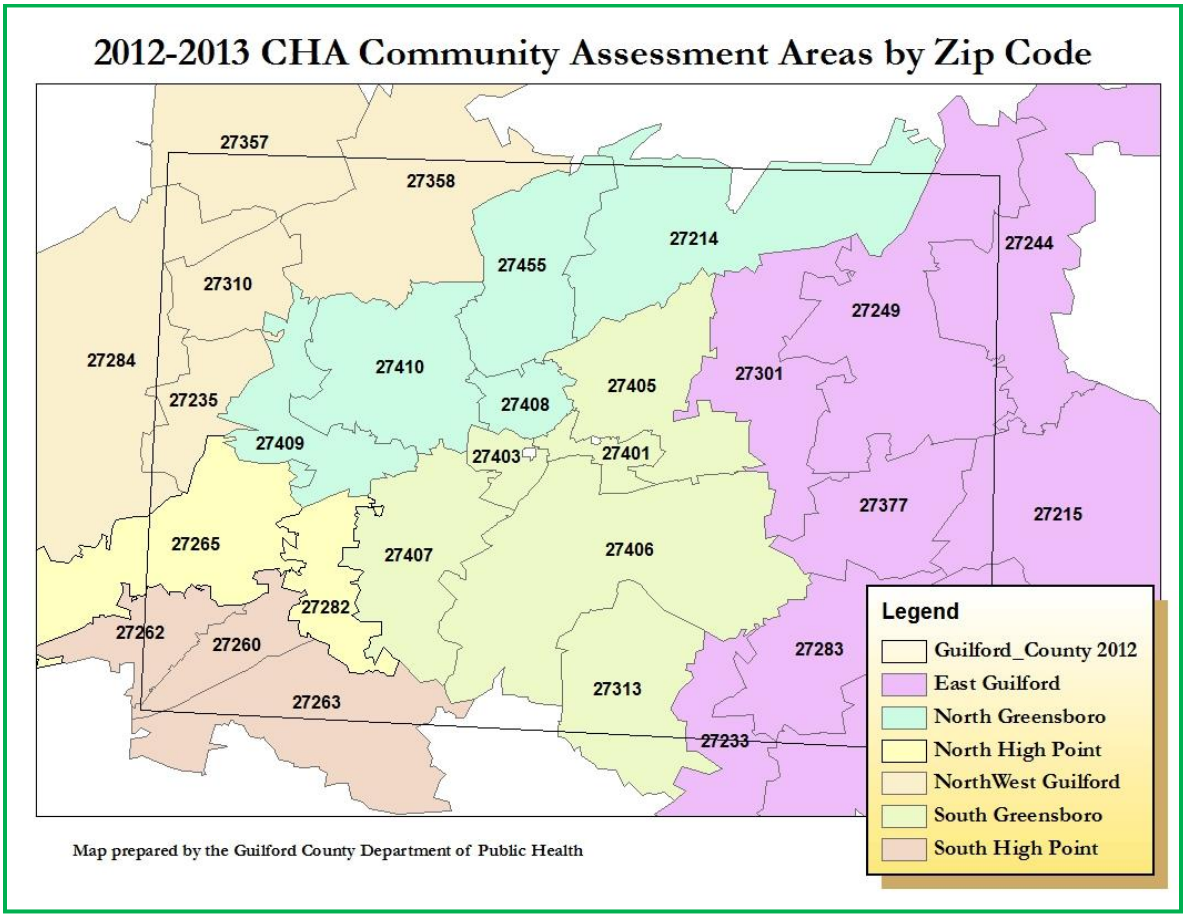


This is the third time the YRBS has been administered locally to students within Guilford County Schools with involvement from Guilford County Department of Public Health. Consequently, we can compare these results with 2003 and 2008 Guilford County data as well as the North Carolina findings from the Department of Public Instruction's administration. This data collection and report were made possible with a grant from Cone Health Foundation and additional in-kind support from the Guilford County Department of Public Health staff, faculty and graduate students from UNC Greensboro's Department of Public Health Education and Health & Human Sciences Office of Research and staff of Guilford Education Alliance. The full Guilford County YRBS Report is included in the Appendices.

Guilford County Community Meetings

To gauge public opinion regarding the pressing health issues facing Guilford County, a series of six meetings were scheduled during October and November of 2012. GCDPH staff shared recent county and sub-county, community-specific health data based on the indicators in the 2012 *County Health Rankings* at these meetings. Attendees shared their views about health issues and health needs in their communities. All meetings were open to the public and anyone could attend any or all of the meetings. Meetings were publicized through a press release to all print and electronic media as well as through the Guilford County and Department of Public Health websites. Cone Health and High Point Regional also assisted in publicizing these meetings.

Zip Code Groupings for Guilford County Community Meetings



To support participation from all areas of the county and to facilitate identification of health issues specific to particular areas of the county, Guilford County was divided into six different regions, representing a range of two to eight zip codes. Whenever possible, central meeting locations were chosen within the different geographic areas and publicized within those specific regions. The map above reflects the zip code groupings that were used to organize the community meetings. To further encourage participation, a region-specific announcement was developed and distributed to local contacts.

In total, almost 100 community members participated in the community meetings. At each meeting, participants reviewed a data presentation highlighting local data on the *County Health Rankings'* thirty indicators in comparison to state and national data. When available, these data were augmented with zip code specific data synthesized by MPH students from Dr. Robert Aronson's Community Assessment class at UNCG's Department of Public Health Education. Participants then ranked the importance of each health indicator using a Likert scale questionnaire, choosing a response on a scale of 1 through 5, where 1 represents "little importance" and 5 represents "extremely important" (see prioritization questionnaire in Chapter 5). Data collected from community meeting participants were used to identify pressing health issues. Meeting participants also identified resources, assets and barriers to improvement for each health factor area as well as regional or county-wide unmet needs.

Hospital Service Area Community Meetings

Hospital service areas of Cone Health and High Point Regional Health System extend beyond Guilford County to include all or parts of Alamance, Rockingham, Forsyth, Davidson and Randolph counties. As a part of the CHNA, additional community meetings were held in the Archdale area of Randolph County and Reidsville in Rockingham County in early December 2012. Attendees learned about county and community-specific health data and shared their views about health issues and health needs in their communities and identified the most important issues in their communities. Forsyth County and Alamance County meetings were cancelled due to low attendance.

Focus Groups

Qualitative data collection for the Community Health Assessment occurred sequentially. Key informant interviews with executives at each hospital took place prior to the focus group discussions at corresponding hospitals. This sequential ordering allowed for each focus group topic guide to be tailored based on the suggestions and feedback of the key informant for each respective hospital. Key informants helped frame the topic guides for each focus group. The topic guides for the focus groups were specifically related to the knowledge and opinions of the key informants. As with the key informant interviews, several topics were general and asked of all focus groups whereas there were also specific topics discussed that were unique to each site.

Members of UNC Greensboro's Center for Social, Community and Health Research and Evaluation facilitated both the key informant interviews and the focus group discussions. Key informant interview participants were provided with a consent form at the beginning of the interview. CSCHRE staff pointed out the main components of the consent form and then allowed time for the participant to read the form. Participants were then asked if they had any questions prior to starting the interview. The signature requirement was waived for key informant interview participants. A copy of the consent form was left with all participants.

Focus group participants were also provided with a consent form at the beginning of the discussion. CSCHRE staff pointed out the main components of the consent form and then allowed time for participants to read the form. Participants were asked if they have any questions prior to beginning the discussion. The signature requirement was waived for focus group participants. A copy of the consent form was left with all participants. Focus group discussions were recorded. Notes were also taken by another CSCHRE staff member in the room. Recordings of all focus group discussions were transcribed verbatim.

Key informant interviews were reviewed and broad categories created that encompassed the nature of each response. This was done for all participants (in which focus groups are being conducted at their institution) across all questions. Similar categories were collapsed where necessary. The frequency of each category determined the nature of the questions asked in all focus groups and those which would be institution-specific. The response categories were assigned a number in chronological order of responses. The numbers representing each category was recorded in a table denoting response patterns across institutions representing the key informants and across the entire interview conducted with a specific key informant. The summary columns showed all responses with the most frequent listed first and the least frequent last. While frequency counts in qualitative accounts are not the norm, this strategy was utilized to help determine the issues that the focus group topics cover and the order in which they were discussed.

The research team developed a-priori codes (a list of pre-set categories of information) for the focus groups and analyzed the transcripts by reading and re-reading the content. One researcher coded each transcript and a fellow researcher verified those codes. Discrepancies in coding were discussed and revised until an agreement was reached. Finalized codes were reviewed for frequency and context for each transcript. Transcripts were then compared to one another so as to identify common themes. Research team members continued to compare and discuss findings with one another to ensure inter-coder reliability. Findings from the transcripts were triangulated with quantitative data components analyzed for the larger CHA project.

Focus groups primarily took place in settings familiar to participants. Focus groups that addressed general health care issues were held with providers from Moses Cone Hospital at Cone Health in the Cone Health Administrative offices. Similarly, focus groups were held at High Point Regional with their staff and local service providers working for non-profit organizations. In the same setting, low-income clients also participated in their own focus group. An additional focus group with low-income/Medicaid clients took place at Triad Adult and Pediatric Medicine. Another focus group was held with service providers associated with Cone Health Foundation.

Three focus groups addressed special healthcare topics including mental health and women's health issues. One group was held with Behavioral Health Hospital social workers, administrative staff and congregational nurses in addition to providers from the Mental Health Association of Greensboro. This focus group took place at the Behavioral Health Administrative offices. The second group addressing mental health was with clients from the Mental Health Association of Greensboro. A number of providers, primarily physicians from the Women's Hospital, also participated in a third focus group held at the Cone Health Administrative Offices.

Three focus groups were conducted with immigrants and refugees currently living in Guilford County. The first group was held with French-speaking African refugees at Ashton Woods Community Development Center. The second group was held with Nepali-speaking Bhutanese refugees at Glen Haven Community Development Center. Lastly, a Spanish-speaking focus group took place at St. Mary's church where most of the participants were also a part of the congregation.

Guilford County Online Health Issue Prioritization Survey

To supplement community input from the Guilford County Community Meetings, GCDPH conducted an online survey regarding the pressing health issues facing residents of Guilford County. This online survey allowed for additional community input from those who may not have had an opportunity to attend one of the scheduled community meetings. This survey presented data from the 2012 County Health Rankings and respondents ranked each health indicator on a Likert scale of 1 through 5, where 1 represents "little importance" and 5 represents "extremely important." The survey was available online between mid-January 2013 and March 1, 2013. During that time, 51 persons completed the survey. Links to the survey were provided on the Guilford County website. The public was also informed of the survey via a press release that went to all county media outlets and which also included the web link to the survey.

Guilford County CHA "Connecting the Dots" Meeting

In early March 2013, GCDPH and CHA partners hosted a half-day community health assessment "Connecting the Dots" meeting. This meeting informed community partners about the community health assessment and engaged these partners in identifying potential community assets and best practice strategies for improvement to address six potential outcome areas as outlined below based on priorities identified at community assessment meetings. Participants at community meetings were invited and additional participants were identified and invited because of their particular interests, expertise and/or leadership regarding the session topic areas.

Session 1 breakout topics:

- **Healthy Mothers and Babies**
- **Sexually Transmitted Infection**
- **Chronic Disease and Premature Death**

Session 2 breakout topics:

- **Clinical Care – Primary and Preventive Care**
- **Social and Economic Factors**
- **Environmental Factors – Access to Healthy Food**

Participants attended two separate breakout sessions. For each of the six breakout sessions, participants received content area data sheets that featured key data points for that given content area. Staff from GCDPH and the CSCHRE facilitated the breakout sessions with support from student volunteers. Participants reviewed and discussed a summary sheet that highlighted best practice interventions addressing the given topic area. Participants then ranked and expanded upon these potential strategies.

Secondary Data

GCDPH's Health Surveillance and Analysis Unit (HSAU) collects and maintains a variety of secondary health data on the citizens of the county and regularly makes these data available to keep community members, health providers, policy makers and community organizations up to date on health trends. HSAU provided select secondary data, including leading causes of death and indicators related to communicable disease, chronic disease, maternal and infant health and injury mortality to inform the CHA process. Additional data for mortality, birth outcomes, communicable disease and other factors were obtained from the North Carolina State Center for Health Statistics.

The Patient Protection and Affordable Care Act (PPACA) also provides a list of required and optional hospital level measures identified by the US Department of Health and Human Services. Data on these indicators, which are regularly tracked by Cone Health and High Point Regional Health System, were synthesized by the GCDPH. Additional measures, such as diagnosis-related groups (DRGs) that had the greatest number of hospitalizations were also collected.

Data Collection Limitations

Data collection efforts stemming from the CHA/CHNA process were subject to quantitative and qualitative study limitations. Limitations in general were due to the multiple sources of data collection used throughout the assessment period. Quantitative data limitations stem primarily from some of the challenges associated with the collection and use of secondary data. Many of the larger behavioral health surveys are conducted via telephone surveys that utilize random digit dialing. One limitation of a telephone survey is the lack of coverage of persons who live in households without a listed, landline telephone number. Households without this type of connection are more likely to be younger, racial and ethnic minorities with a lower income. Therefore, many of the results of the health behaviors measured are likely to understate the true level of risk in the total population. Additionally, many of these surveys are based on self-reported data. It is expected that respondents tend to under-report health risk behaviors—especially those that are illegal or socially unacceptable. Lastly, the Youth Risk Behavior Survey is a school-based survey administered to youth attending middle and high school. This survey, therefore, is not representative of all persons in this age group and does not account for youth that may have dropped out of school or be home-schooled. Youths not attending school are more likely to engage in health risk behaviors. Additionally, local parental permission procedures are not consistent across school-based survey sites.

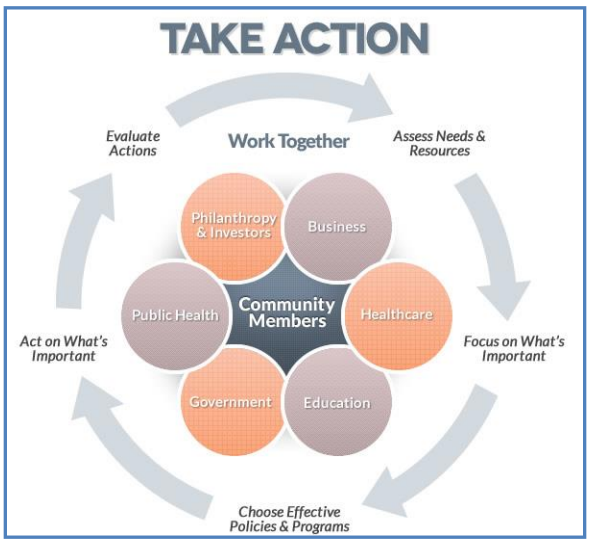
There were several limitations with the survey distributed at community meetings. While community meetings were held across diverse geographic locations across the county, not all meetings were well attended and thus, not always representative of residents living in that area. GCDPH implemented an online version of the prioritization survey in effort to address some of the limitations resulting from community meetings with low attendance.

Qualitative limitations also exist. Approximately half of the focus group sample was recommended and recruited by key stakeholders at each hospital site and the Cone Foundation (i.e., presidents and vice presidents). This sample included physicians, hospital staff and representatives of organizations working directly with community members. Though these participants were informed that their responses were strictly confidential, we cannot rule out the possibility that participants may have felt restricted in the responses that they provided. Health care consumer samples consisted of primary care patients and behavioral health clients that were in the networks of key stakeholders. Therefore, while important, their experiences may not apply universally to all primary care patients or behavioral health clients. Generalizations of participants' responses are further limited by the inability to account for the experiences of residents who cannot access care.

Immigrant and refugee populations were recruited through service providers and local churches. Therefore, our study may be limited to immigrants and refugees who attend church and/or have access to health care or social services. Among immigrant and refugee populations, participants were limited to Spanish-speaking immigrants, Nepali-speaking Bhutanese and French-speaking Africans. Large immigrant and refugee populations from East and North Africa, Vietnam and Burmese refugees reside within Guilford County but were not included in this study. Immigrant and refugee responses were expressed through the lens of an trained interpreter.

5

Priority Setting Process



The process of ranking pressing health issues for the Community Health Assessment involved several steps. Community members participated in the ranking priorities through community meetings and an online prioritization survey. A panel of public health professionals, academic researchers and graduate students were also assembled to prioritize data using the Hanlon prioritization method.

Community Ranking of Health Issues

The first step included a community ranking process. Participants at Guilford County community meetings, two meetings outside of Guilford County but within the hospital partner service areas (Reidsville in Rockingham County and Archdale/Trinity and Randolph County) as well as participants in an online survey reviewed data on a set of indicators of Morbidity and Mortality, Health Behaviors, Clinical Care, Social and Economic Factors and Environmental Factors.

Health Issues
Guilford County Residents Ranked

Morbidity and Mortality
1. Premature death
2. Chronic disease mortality
3. Poor or fair health
4. Poor physical health days
5. Poor mental health days
6. Low birth weight babies
Health Behaviors
7. Adult smoking
8. Adult obesity
9. Physical inactivity
10. Excessive drinking
11. Sexually transmitted infections
12. Motor vehicle crash death rate
13. Teen birth rate
Clinical Care
14. Uninsured
15. Primary care physicians
16. Preventive hospital stays
17. Diabetic screening
18. Mammography screening
Social and Economic Factors
19. High school graduation
20. Completed some college
21. Unemployment
22. Children in poverty
23. Inadequate social support
24. Children in single-parent families
25. Violent crime rate
Environmental Factors
26. Air pollution particulate matter days
27. Air pollution ozone days
28. Access to recreational facilities
29. Limited access to healthy food
30. Fast food restaurants

The form reproduced here was utilized for the community meetings to rank health issues.

2012 Community Health Assessment Health Issue Prioritization

2012 Community Health Assessment Health Issue Prioritization

Your input is needed in order to help identify health-related issues that are of greatest importance to the health of community residents. Pressing health issues will be addressed through a community action planning process. For each of the following health issues please circle a number from 1-5, where 1 = little importance and 5 = extremely important.

Health Issues	Little Importance	Somewhat Important	Moderate Importance	Very Important	Extremely Important
Morbidity and Mortality					
1. Premature death	1	2	3	4	5
2. Chronic disease mortality	1	2	3	4	5
3. Poor or fair health	1	2	3	4	5
4. Poor physical health days	1	2	3	4	5
5. Poor mental health days	1	2	3	4	5
6. Low birth weight babies	1	2	3	4	5
Health Behaviors					
7. Adult smoking	1	2	3	4	5
8. Adult obesity	1	2	3	4	5
9. Physical inactivity	1	2	3	4	5
10. Excessive drinking	1	2	3	4	5
11. Sexually transmitted infections	1	2	3	4	5
12. Motor vehicle crash death rate	1	2	3	4	5
13. Teen birth rate	1	2	3	4	5
Clinical Care					
14. Uninsured	1	2	3	4	5
15. Primary care physicians	1	2	3	4	5
16. Preventive hospital stays	1	2	3	4	5
17. Diabetic screening	1	2	3	4	5
18. Mammography screening	1	2	3	4	5
Social and Economic Factors					
19. High school graduation	1	2	3	4	5
20. Completed some college	1	2	3	4	5
21. Unemployment	1	2	3	4	5
22. Children in poverty	1	2	3	4	5
23. Inadequate social support	1	2	3	4	5
24. Children in single-parent families	1	2	3	4	5
25. Violent crime rate	1	2	3	4	5
Physical Environment					
26. Air pollution particulate matter days	1	2	3	4	5
27. Air pollution ozone days	1	2	3	4	5
28. Access to recreational facilities	1	2	3	4	5
29. Limited access to healthy food	1	2	3	4	5
30. Fast food restaurants	1	2	3	4	5

The results of the community ranking are as follows (Overall N = 158):

Community Ranking Results

Health-Related Issue	Average Score	Rank
Child poverty	4.61	1
Unemployment	4.52	2
Adult obesity	4.48	3
Lack of health insurance	4.42	4
Low access to healthy food	4.39	5
Chronic disease	4.36	6
Violent crime	4.29	7
Lack of physical activity	4.23	8
High school graduation	4.22	9
Sexually transmitted infections	4.18	10
Low birth weight	4.12	11
Primary care physicians	4.11	12
Teen births	4.1	13
Adult smoking	4.04	14
No social support	4.02	15
Fair or poor self-rated health	3.97	16
Premature mortality	3.95	17
Fast food restaurants	3.93	18
Diabetic screening	3.9	19
Air quality ozone days	3.89	20
Excessive drinking	3.88	21
Mammography screening	3.87	22
Preventable hospital stays	3.79	23
Poor self-rated mental health days	3.77	24
Recreation	3.76	25
Single-parent households	3.75	26
Air quality particulate matter days	3.7	27
Poor self-rated physical health days	3.67	28
Completed some college	3.59	29
Motor vehicle mortality	3.59	30

Hanlon Prioritization

To gain additional perspective on the health issues, an additional prioritization approach was utilized. On Friday, April 12, 2013, an expert panel of 11 public health professionals from the Guilford County Department of Public Health and academic researchers and graduate students met to rank health issues using the Hanlon Prioritization method. The Hanlon method is a respected approach to health issue prioritization that takes into account the size or magnitude of a health issue, the severity of the health issue and the feasibility of addressing the issue.

Developed by J.J. Hanlon, the *Hanlon Method for Prioritizing Health Problems* is a commonly-used assessment technique which takes into consideration explicitly defined criteria and feasibility factors. The Hanlon Method is advantageous when the desired outcome is an objective list of health priorities based on baseline data and numerical values. The Hanlon approach compares health indicators against specified criteria. Participants are asked to rank, on a scale of from 0 through 10, each health problem or issue on the criteria of 1) size of problem, 2) magnitude of health problem and 3) effectiveness of potential interventions. The seriousness of the health problem is multiplied by two because it is weighted as being twice as important as the size of the problem. Based on the priority scores calculated, ranks are assigned to health problems. Below is an example of the form used for the Hanlon prioritization meeting.

Hanlon Method for Prioritizing Health Problems

Health Problem/Indicator	A Size	B Seriousness	C Effectiveness of Intervention	D Priority Score (A+2B)C	Rank
Morbidity and Mortality					
Chronic disease (Includes heart disease, cancer, diabetes, asthma)					
Sexually transmitted diseases (includes HIV, syphilis, gonorrhea and chlamydia)					
Poor birth outcomes (includes infant mortality, low and very low birth weight, and premature birth)					
Health Behaviors					
Obesity, nutrition and physical inactivity					
Tobacco use					
Teen pregnancy					
Clinical Care					
Access to clinical care, including physical and mental health (includes insurance coverage, number of providers, transportation, care coordination/navigation, health education)					
Social and Economic Determinants of Health					
Poverty and unemployment					
Violent crime					
Educational attainment (increase % completing high school, increase % completing college and higher)					
Physical Environment					
Limited access to healthy food (includes problems of food deserts, food insecurity)					

The two tables below provide a comparison of the top ten health-related issues for the community prioritization ranking and the Hanlon Prioritization ranking.

Community Ranking

Community Ranking Top Ten Issues	
Health-Related Issue	**Rank**
Child poverty	1
Unemployment	2
Adult obesity	3
Lack of health insurance	4
Low access to healthy food	5
Chronic disease	6
Violent crime	7
Lack of physical activity	8
High school graduation	9
Sexually transmitted infections	10

Hanlon Ranking

Hanlon Ranking Top Ten Issues	
Health-Related Issue	**Rank**
Chronic disease	1
Teen pregnancy	2
Obesity, nutrition and physical inactivity	3
Sexually transmitted infections	4
Tobacco use	5
Access to healthy food	6
Poor birth outcomes	7
Access to clinical care	8
Violent crime	9
Poverty and unemployment	10

Synthesizing Community Rankings and Hanlon Rankings

Community Ranking (Top Ten Issues)	Hanlon Ranking (Top Ten Issues)
Health Outcomes: Morbidity and Mortality	
(6) Chronic Disease	(1) Chronic Disease
(10) Sexually Transmitted Infections	(4) Sexually Transmitted Infections
	(7) Poor Birth Outcomes
Health Behaviors	
(3) Obesity	(3) Obesity, Nutrition and Physical Activity
(8) Physical Activity	(2) Teen Pregnancy
	(5) Tobacco Use
Clinical Care	
(4) Lack of Insurance	(8) Access to Clinical Care (includes physical and mental health and lack of insurance)
Social and Economic Factors	
(1) Poverty	(10) Poverty and Unemployment
(2) Unemployment	
(7) Violent Crime	(9) Violent Crime
(9) Education Attainment	
Environmental Factors	
(5) Access to Healthy Food	(6) Access to Healthy Food

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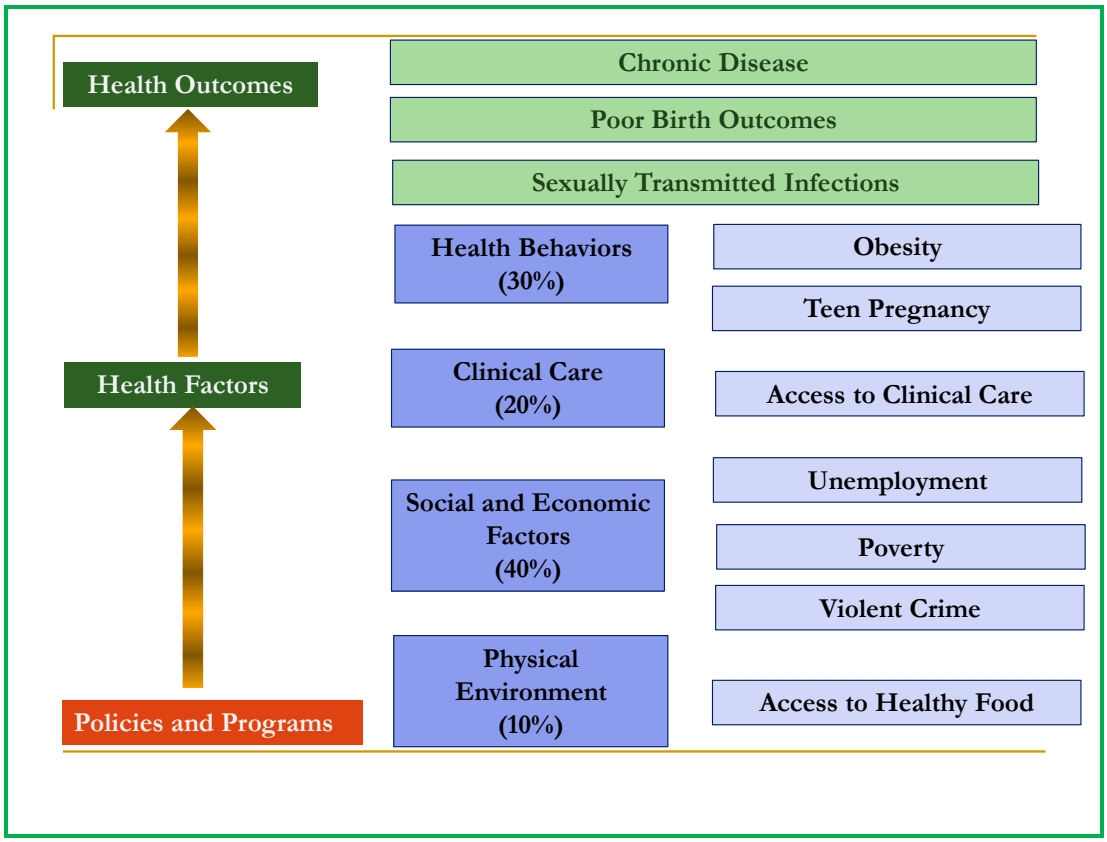
Guilford County Health Concerns

Based upon our priority setting process, Guilford County's pressing health concerns are:

- Chronic Disease Prevention and Management
- Poor Birth Outcomes
- Sexually Transmitted Infections
- Childhood and Adult Obesity Prevention
- Teen Pregnancy
- Access to Clinical Care
- Poverty and Unemployment
- Violent Crime
- Access to Healthy Food

When local data were available, relevant Healthy North Carolina 2020 Objectives have been included, along with North Carolina and Guilford County data.



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Health Concern

Chronic Disease

The leading causes of mortality and years of potential life lost in Guilford County are chronic diseases, especially cancer and heart disease. Chronic diseases are health conditions that 1) develop over a long period of time; 2) are characterized by progressive impairment, degeneration or loss of function; 3) Often have multiple causal factors; and 4) are not typically amenable to straightforward medical "cures" and are thus considered "chronic." About two-thirds of all deaths in Guilford County are due to chronic diseases.

Cancer has overtaken heart disease as the leading cause of death but cardiovascular disease results in far higher medical costs. In 2011, residents of Guilford County incurred hospital charges of $238,788,385 for cardiovascular disease diagnoses, out of total hospital costs of $1,122,030,551 (NCSCHS, 2011). Risk factors for chronic disease include obesity, physical inactivity and diet and nutrition. Assessment data show significant disparities in chronic disease obesity, physical inactivity and diet by race, sex, education, income and geography.

HEALTHY NORTH CAROLINA 2020
CHRONIC DISEASE

Objective: *Reduce the cardiovascular disease mortality rate (per 100,000 population).*

Rationale for selection: Heart disease is the second leading cause of death for men and women in North Carolina. The risk for heart disease increases as a person ages. In addition to behavioral risk factors, obesity, high blood pressure, high cholesterol, and diabetes are other known risk factors for heart disease.

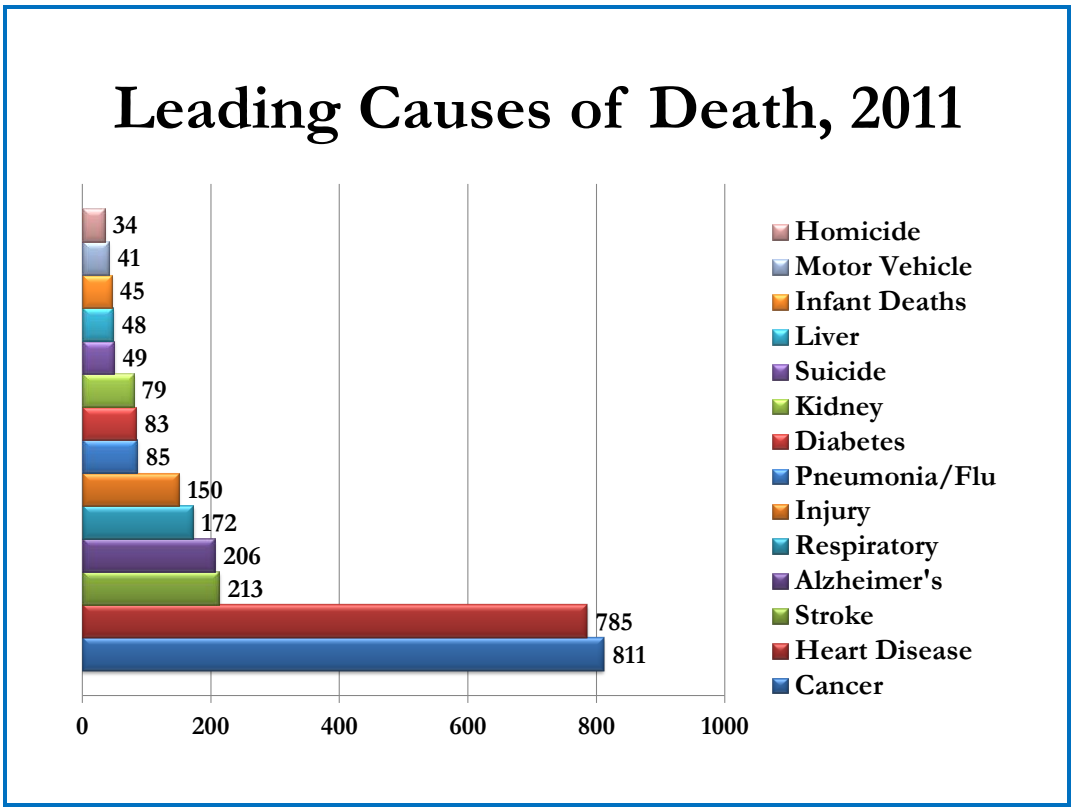
NC BASELINE (2009):	**256.6**
2020 TARGET:	**161.5**
GUILFORD (SCHS 2010):	**175.6**

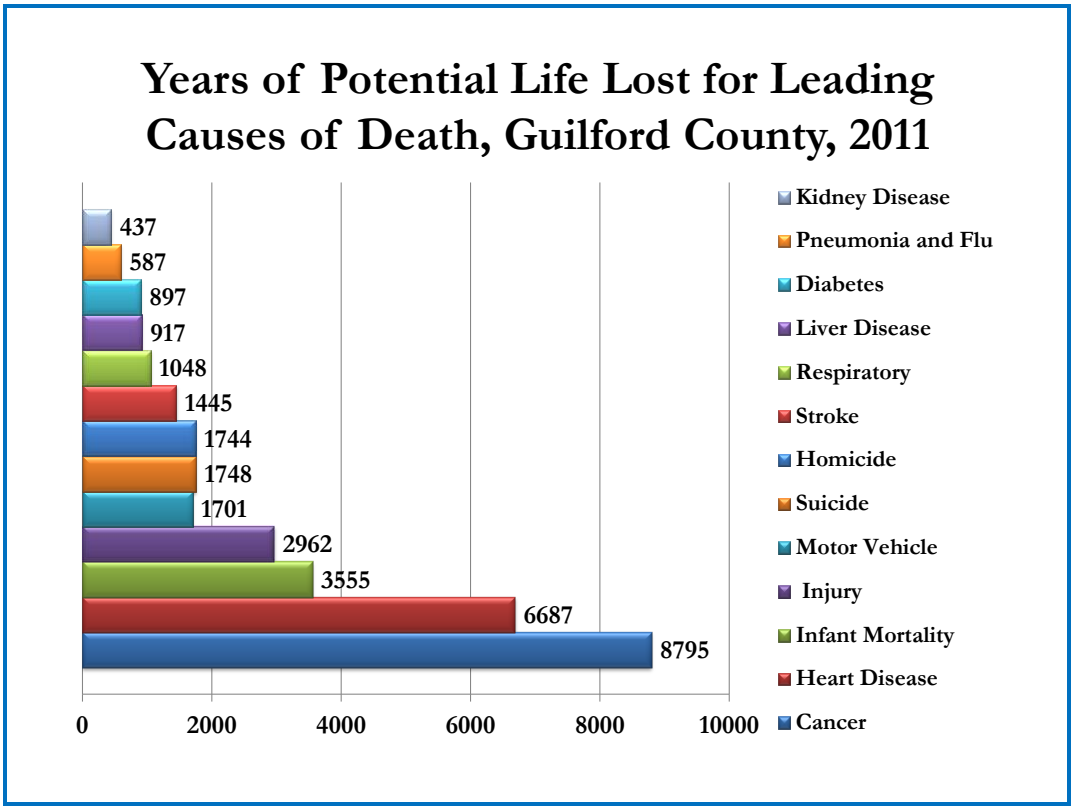
http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Data Highlights

- In 2011, the leading cause of chronic disease mortality in Guilford County was cancer (all causes), followed by heart disease.
- The leading causes of cancer mortality were lung cancer, breast cancer among women and prostate cancer among men.
- Across the CHNA assessment region, the largest component of cancer mortality is made up of deaths due to cancer of the lungs and bronchus and Davidson had the highest county rate among counties in the region.
- The highest rates of breast cancer and prostate cancers were found in Guilford.
- Men have higher rates of chronic disease mortality with the exception of cerebrovascular disease.
- African-American residents tend to have higher age-adjusted chronic disease death rates than Whites, with especially large disparities in mortality due to diabetes and prostate cancer.
- Heart disease mortality rates have declined gradually and steadily for the last two decades and Guilford County heart disease mortality rates are lower than the state as a whole.
- Diabetes mortality rates rose somewhat during 2011 after a period of decline.

Inside this Chapter





- In 2011, cancer and heart disease were the top leading causes of death in Guilford County, followed by stroke, Alzheimer's disease, chronic respiratory disease and diabetes.
- Years of Potential Life Lost (YPLL) provides a measure of the social cost of mortality prior to a defined cutoff point, typically 65 or 75 years. This table shows YPLL prior to age 80. Cancer and heart disease still made up the majority of years of potential life lost, but other causes of death such as infant mortality and suicide also have a significant impact.

Regional Variations in Chronic Disease

2005-2009 Cancer Incidence Rates by County for Selected Sites per 100,000 Population Age-Adjusted to the 2000 US Census

	Colon/Rectum		Lung/Bronchus		Female Breast		Prostate		All Cancers	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
North Carolina	21,383	45.5	35,748	75.9	39,779	154.5	34,120	158.3	236,301	500.1
Alamance	387	47.7	673	82.2	677	155.1	628	179.0	4,361	542.1
Davidson	436	49.7	797	89.8	665	140.9	516	127.7	4,330	494.0
Forsyth	707	38.4	1,355	74.0	1,626	160.3	1,357	165.6	9,295	505.6
Guilford	1,129	47.8	1,809	76.7	2,169	165.4	2,130	203.9	13,070	550.8
Randolph	330	43.1	661	84.1	589	142.0	533	153.0	3,823	495.9
Rockingham	312	54.6	579	100.4	459	149.8	367	141.2	3,000	529.0

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

- Across the CHNA assessment region, the largest component of cancer mortality is made up of deaths due to cancer of the lungs and bronchus and Davidson had the highest county rage among counties in the region. The highest rates of breast cancer and prostate cancers were found in Guilford.

Diseases of the Heart
2007-2011 NC Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates per 100,000 Population

	White, Non-Hispanic	Black, Non-Hispanic	Male	Female	Overall
North Carolina	176.2	209.3	229.4	141.6	179.3
Guilford	151.0	189.1	203.1	126.7	157.8
Alamance	174.8	213.8	250.5	127.8	178.3
Davidson	212.4	209.8	267.7	162.8	209.3
Forsyth	128.3	196.3	187.7	107.3	140.8
Randolph	182.0	215.1	222.4	141.8	179.7
Rockingham	200.6	224.4	258.5	162.1	202.8

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

- Regionally, the lowest heart disease mortality rates were in Forsyth County, with Guilford the next lowest. Both Rockingham and Davidson counties experienced heart disease mortality rates significantly higher than the state as a whole.
- In NC as a whole, and in all counties in the region with the exception of Davidson County, Black/African-Americans had higher heart disease mortality rates than Whites.

2007-2011 Guilford County Resident Race and Sex-Specific Age-Adjusted* Chronic Disease Mortality Rates**

Cause of Death	White, non-Hispanic				African-American, non-Hispanic				Hispanic					
	Male		Female		Male		Female		Male		Female		Overall	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
All Causes	6,267	862.5	7,214	631.8	2,394	1101.8	2,452	758.6	119	273.7	70	174.0	18,737	758.5
Diseases of Heart	1,421	194.8	1,442	120.0	525	252.4	482	150.3	15	N/A	7	N/A	3,932	157.8
Acute Myocardial Infarction	320	44.0	383	31.8	100	53.4	99	32.1	4	N/A	0	N/A	912	36.6
Other Ischemic Heart Disease	634	85.2	447	38.0	216	104.3	148	46.7	8	N/A	6	N/A	1,477	59.3
Cerebrovascular Disease	270	37.8	495	40.7	109	50.6	171	53.6	3	N/A	0	N/A	1,068	43.3
Cancer	1,531	201.0	1,449	138.7	569	263.5	505	152.7	15	N/A	8	N/A	4,141	167.3
Colon, Rectum and Anus	109	14.3	124	11.6	57	25.6	44	13.8	1	N/A	3	N/A	343	13.9
Pancreas	104	13.4	101	9.4	29	11.4	32	10.0	1	N/A	0	N/A	268	10.9
Trachea, Bronchus and Lung	518	66.7	403	38.9	171	77.7	115	35.0	4	N/A	1	N/A	1,234	49.8
Breast	2	N/A	203	20.1	1	N/A	97	28.4	0	N/A	1	N/A	307	21.7
Prostate	141	19.7	0	N/A	82	50.3	0	N/A	0	N/A	0	N/A	226	24.6
Diabetes Mellitus	115	15.1	109	10.0	72	33.1	86	27.6	0	N/A	3	N/A	387	15.6
Chronic Lower Respiratory Diseases	348	47.4	441	39.4	64	35.8	62	19.4	3	N/A	2	N/A	925	38.1
Chronic Liver Disease and Cirrhosis	96	12.1	45	5.0	26	10.2	23	6.3	7	N/A	0	N/A	201	7.9

***Standard = Year 2000 U.S. Population; **Rates per 100,000 Population**

Source: NC State Center for Health Statistics, 2013 County Health Databook.
Technical Note: Rates based on fewer than 20 cases (indicated by "N/A") are unreliable and have been suppressed; Rates for Breast and Prostate Cancers have sex-specific denominators (female and male, respectively).

- The leading causes of cancer mortality were lung cancer, breast cancer among women and prostate cancer among men.
- Men have higher rates of chronic disease mortality with the exception of cerebrovascular disease.
- African-American residents tend to have higher age-adjusted chronic disease death rates than Whites, with especially large disparities in mortality due to diabetes and prostate cancer.

The following pages that follow highlight race/ethnicity-specific and sex-specific age adjusted mortality rates for the leading causes of chronic disease death for Guilford County, Forsyth County and North Carolina for the years 2007-2011.

2007-2011 Guilford County Race/Ethnicity-Specific and Sex-Specific Age-Adjusted* Death Rates**

Cause of Death:	White, non-Hispanic		African American, non-Hispanic		Other Races, non-Hispanic		Hispanic		Male		Female		Overall	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
All Causes	13,481	731.9	4,846	895.4	221	397.1	189	225.7	8,904	896.3	9,833	655.0	18,737	758.5
Diseases of Heart	2,863	151.0	1,007	189.1	40	75.2	22	38.7	1,987	203.1	1,945	126.7	3,932	157.8
Acute Myocardial Infarction	703	36.8	199	39.9	6	N/A	4	N/A	430	45.0	482	30.9	912	36.6
Other Ischemic Heart Disease	1,081	57.7	364	68.6	18	N/A	14	N/A	870	87.1	607	39.9	1,477	59.3
Cerebrovascular Disease	765	39.9	280	53.2	20	49.1	3	N/A	391	41.1	677	44.0	1,068	43.3
Cancer	2,980	164.0	1,074	194.7	64	105.4	23	39.0	2,147	208.7	1,994	139.1	4,141	167.3
Colon, Rectum, and Anus	233	12.8	101	18.8	5	N/A	4	N/A	168	16.3	175	11.9	343	13.9
Pancreas	205	11.2	61	10.8	1	N/A	1	N/A	135	12.8	133	9.3	268	10.9
Trachea, Bronchus and Lung	921	50.7	286	51.2	22	34.6	5	N/A	700	66.8	534	37.5	1,234	49.8
Breast	205	20.3	98	28.6	3	N/A	1	N/A	3	N/A	304	21.5	307	21.7
Prostate	141	19.7	82	50.3	3	N/A	0	N/A	226	24.6	0	N/A	226	24.6
Diabetes Mellitus	224	12.2	158	30.0	2	N/A	3	N/A	188	18.0	199	13.8	387	15.6
Chronic Lower Respiratory Diseases	789	42.3	126	25.3	5	N/A	5	N/A	417	44.2	508	34.5	925	38.1
Chronic Liver Disease and Cirrhosis	141	8.2	*49	7.9	4	N/A	7	N/A	133	11.6	68	5.0	201	7.9
Nephritis, Nephrotic Syndrome and Nephrosis	265	14.0	170	34.8	4	N/A	1	N/A	197	20.8	243	16.1	440	17.9

***Standard = Year 2000 U.S. Population; **Rates per 100,000 Population**

Source: NC State Center for Health Statistics, 2013 County Health Databook.
Technical Note: Rates based on fewer than 20 cases (indicated by "N/A") are unreliable and have been suppressed; Rates for Breast and Prostate Cancers have sex-specific denominators (female and male, respectively).

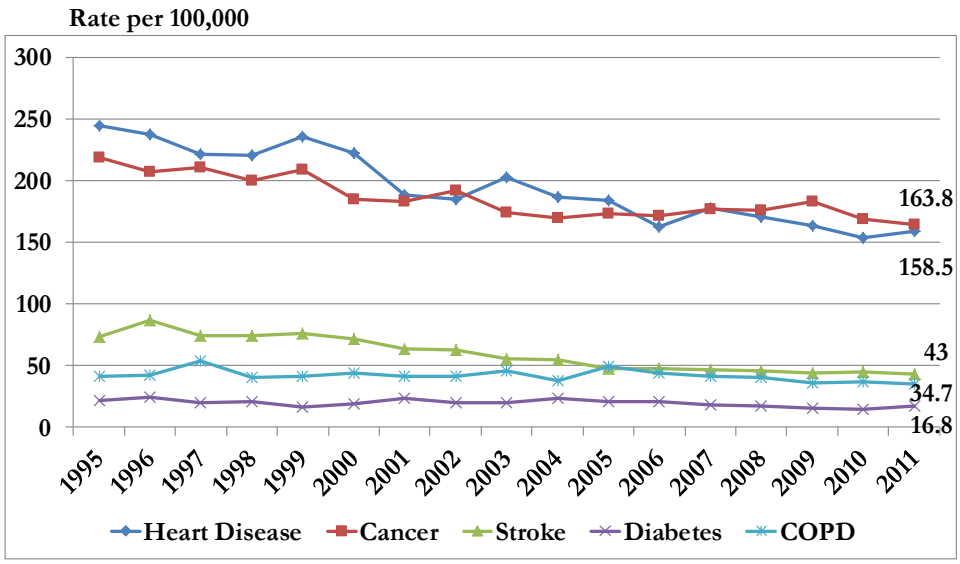
2007-2011 North Carolina Race/Ethnicity-Specific and Sex-Specific Age-Adjusted* Death Rates**

	White, non-Hispanic		African American, non-Hispanic		Other Races, non-Hispanic		Hispanic		Male		Female		Overall	
Cause of Death:	**Deaths**	**Rate**	**Deaths**	**Rate**	**Deaths**	**Rate**	**Deaths**	**Rate**	**Deaths**	**Rate**	**Deaths**	**Rate**	**Deaths**	**Rate**
All Causes	299,176	791.4	79,246	956.1	5,428	553.6	4,242	273.3	192,457	969.2	195,635	684.0	388,092	808.4
Diseases of Heart	67,605	176.2	16,965	209.3	1,070	118.6	459	46.1	44,630	229.4	41,469	141.6	86,099	179.3
Acute Myocardial Infarction	14,536	37.7	3,312	41.6	259	27.9	82	8.7	9,908	50.0	8,281	28.4	18,189	37.7
Other Ischemic Heart Disease	28,558	74.1	6,570	81.1	467	52.3	187	21.4	20,412	104.0	15,370	52.3	35,782	74.2
Cerebrovascular Disease	16,418	43.0	4,933	62.4	280	32.6	143	15.1	8,730	46.8	13,044	44.5	21,774	46.0
Cancer	68,577	176.8	17,982	211.4	1,240	120.7	719	65.1	47,193	227.4	41,325	147.5	88,518	179.7
Colon, Rectum, and Anus	5,604	14.5	1,851	22.1	96	9.6	63	6.3	3,964	19.0	3,650	12.9	7,614	15.5
Pancreas	3,925	10.0	1,152	13.9	66	6.8	41	4.0	2,519	11.8	2,665	9.4	5,184	10.5
Trachea, Bronchus, and Lung	21,946	55.9	4,667	54.1	369	35.4	110	11.9	15,876	74.4	11,216	40.0	27,092	54.5
Breast	4,679	21.8	1,596	30.3	79	12.0	60	8.5	56	N/A	6,358	22.8	6,414	23.0
Prostate	2,882	19.6	1,416	55.6	51	17.3	36	12.0	4,385	24.3	0	N/A	4,385	24.3
Diabetes Mellitus	6,745	17.5	3,681	44.8	217	23.6	90	8.8	5,399	26.0	5,334	18.8	10,733	22.0
Pneumonia and Influenza	6,930	18.2	1,377	17.8	83	10.2	65	6.2	3,711	20.9	4,744	16.1	8,455	17.9
Chronic Lower Respiratory Diseases	19,755	51.3	2,287	28.9	176	20.3	56	7.8	10,447	54.9	11,827	41.7	22,274	46.6
Chronic Liver Disease and Cirrhosis	3,829	9.9	737	7.5	82	6.6	75	5.0	3,122	13.2	1,601	5.9	4,723	9.3
Nephritis, Nephrotic Syndrome, and Nephrosis	5,739	15.0	2,921	36.8	143	17.3	57	6.1	4,269	22.7	4,591	16.0	8,860	18.6

***Standard = Year 2000 U.S. Population; **Rates per 100,000 Population**

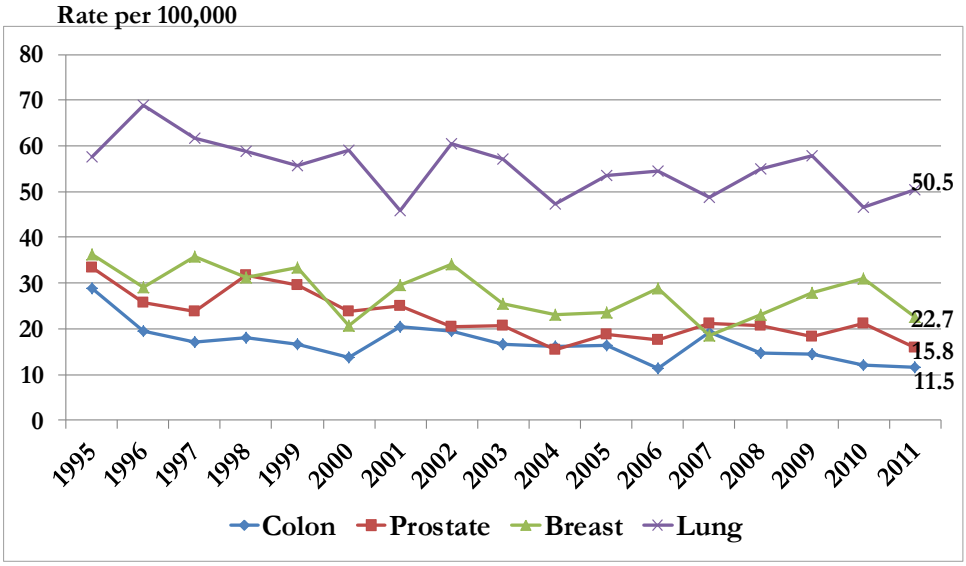
Source: NC State Center for Health Statistics, 2013 County Health Databook.
Technical Note: Rates based on fewer than 20 cases (indicated by "N/A") are unreliable and have been suppressed; Rates for Breast and Prostate Cancers have sex-specific denominators (female and male, respectively).

Leading Causes of Death: Chronic Diseases
Guilford County, 1995-2011



Note: COPD is Chronic Obstructive Pulmonary Disease, also known as Chronic Lower Respiratory Disease.
Source: Data provided by the NC State Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

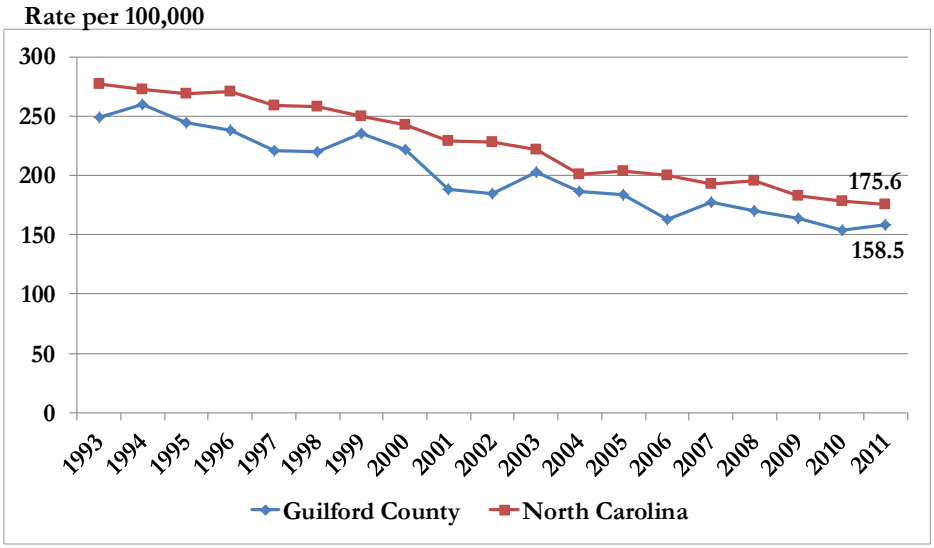
Leading Causes of Death: Cancer Types
Guilford County, 1995-2011



Source: Data provided by the NC State Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

- While heart disease, cancer and stroke death rates have gradually declined in the past 15 years, they continue to be the leading causes of death in Guilford County.
- There has been little change in COPD and diabetes death rates.
- Lung cancer continues to be the leading cause of cancer death, followed by breast, prostate and colon cancer.

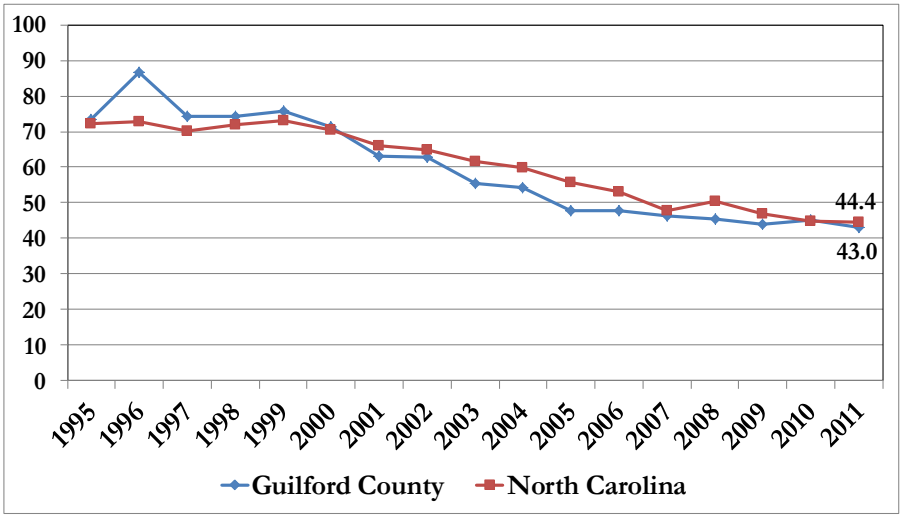
Heart Disease Mortality
Guilford County and NC, 1993-2011



Source: NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

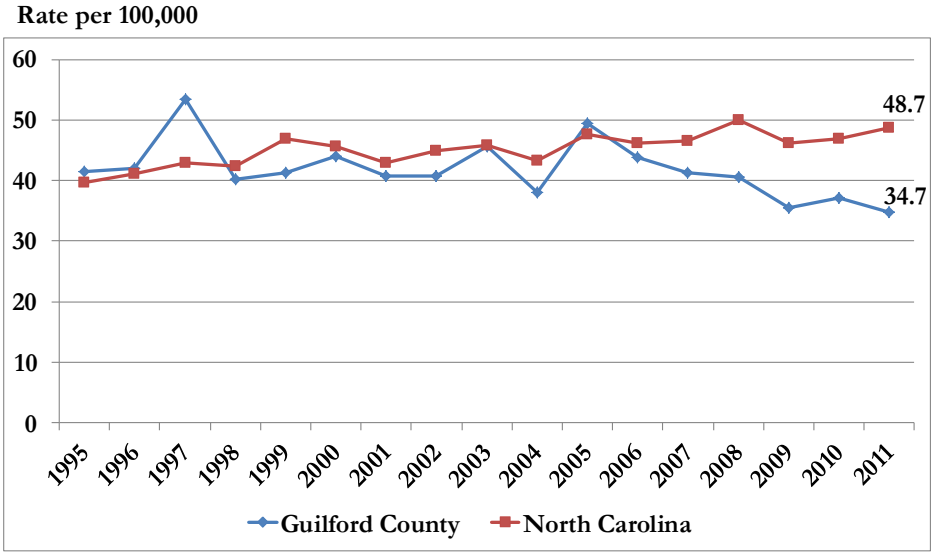
- Heart disease mortality has gradually declined in Guilford County and the state of North Carolina overall over the last 20 years. Guilford's crude mortality rate is consistently lower than that of the state as a whole, but significant racial disparities remain a cause for concern. The crude mortality rate is the number of deaths during a period of time divided by the total population during the same period of time.

Cerebrovascular (Stroke) Disease Mortality, 1995-2011



Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

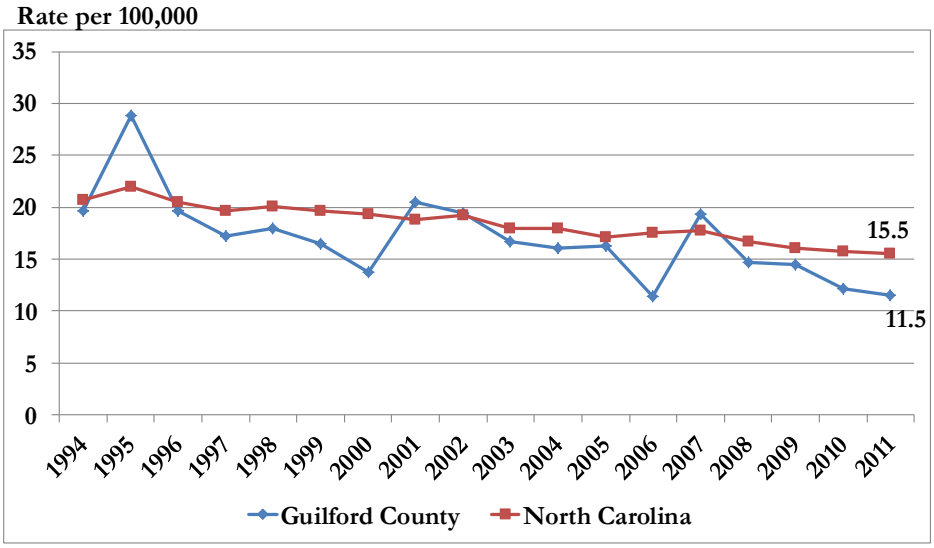
Trends in Mortality Rates Chronic Lower Respiratory Disease, 1995-2011



Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

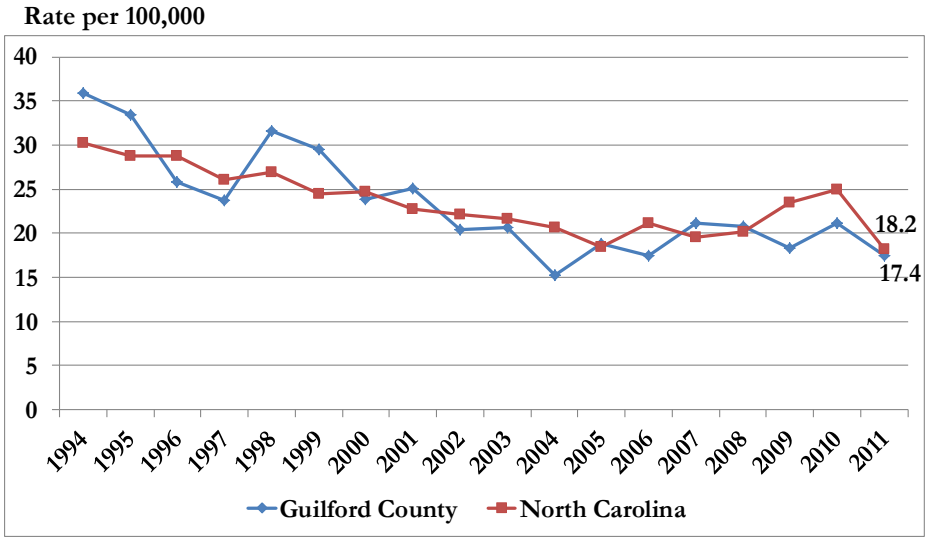
- Both Guilford County and North Carolina have seen declines in stroke death rates over time.
- Guilford County has seen a modest decline in chronic lower respiratory diease death rates, while North Carolina's have increased.

Trends in Mortality Rates
Colorectal Cancer, 1994-2011



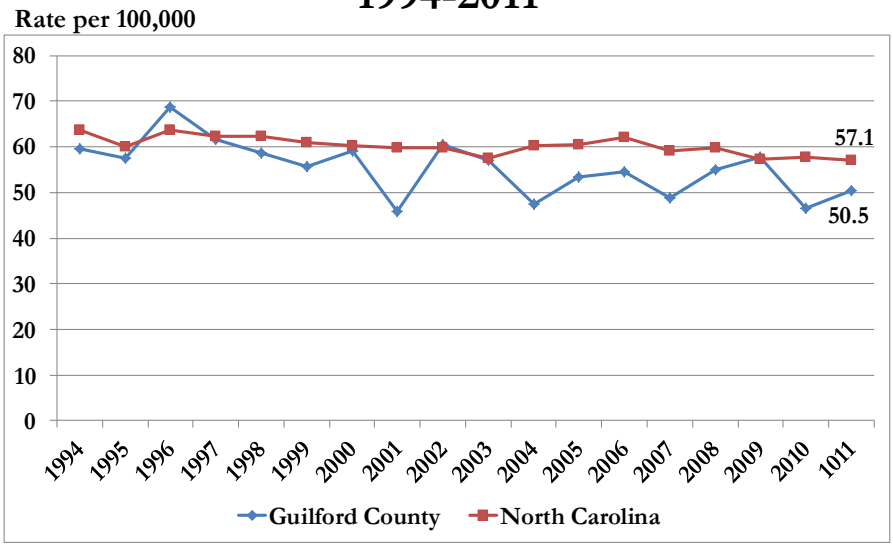
Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Trends in Mortality Rates
Prostate Cancer, 1994-2011



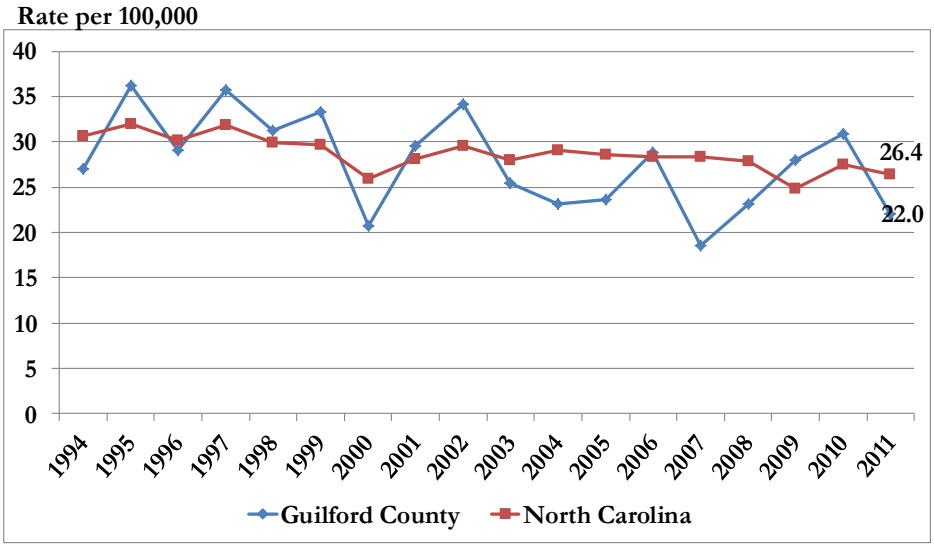
Source: Data provided by the NC State Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Trends in Mortality Rates
Cancers of Lung, Trachea and Bronchus, 1994-2011



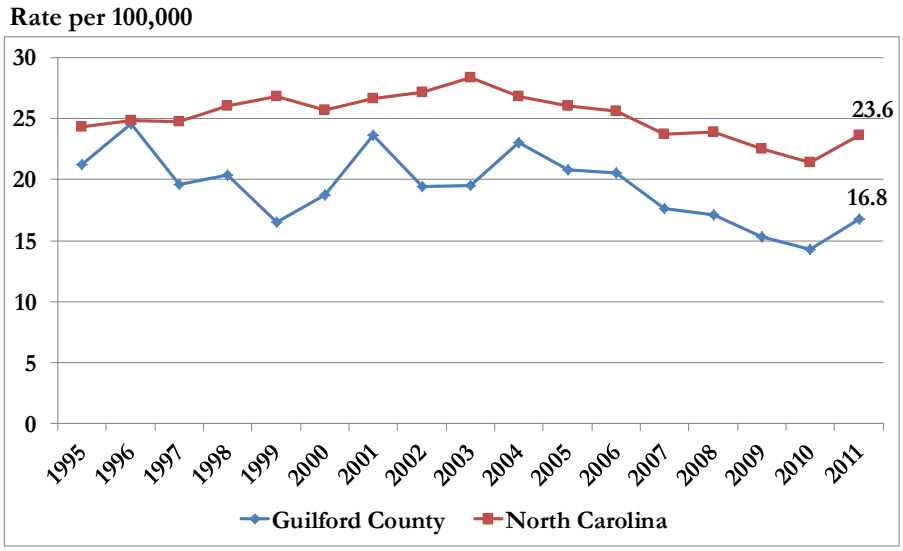
Source: Data provided by the NC State Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Trends in Mortality Rates
Breast Cancer, 1994-2011



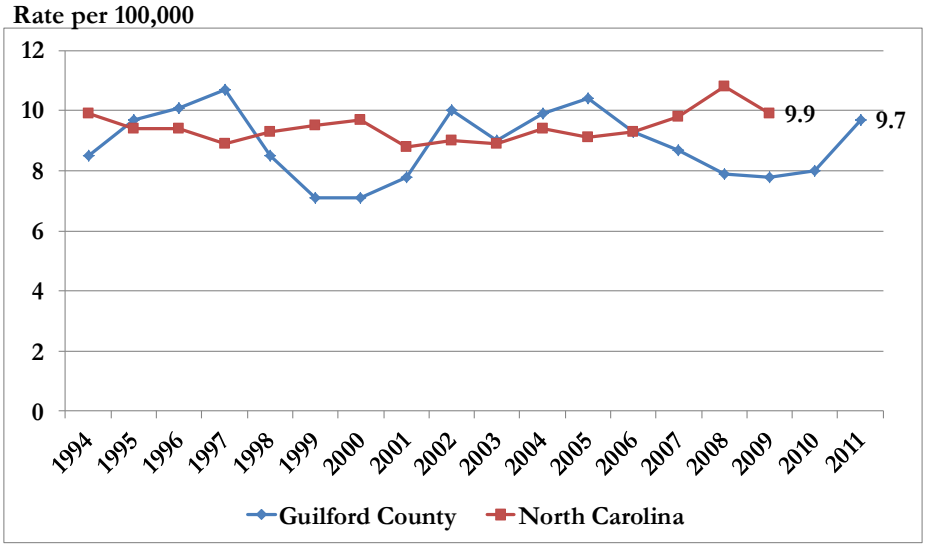
Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Trends in Mortality Rates
Diabetes, 1995-2011



Source: Data provided by the NC State Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Trends in Mortality Rates
Chronic Liver Disease, Cirrhosis, 1994-2011



Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.
Note: 2010 and 2011 NC data not available.

- While Guilford County is doing slightly better than North Carolina with regard to diabetes mortality, there has not been significant change for either over the past 15 years.
- While there has been more variability in death rates due to chronic liver disease and cirrhosis in Guilford County than in North Carolina, there has not been any major change over time.

Asthma Incidence

2012 Hospital Discharges with a Primary Diagnosis of Asthma
Numbers and Rates per 100,000 by County of Residence
All Ages and Ages 0-14

Residence	Total Number	Total Rate	Number Ages 0-14	Rate Ages 0-14
North Carolina	9,786	100.3	3,128	163.7
Alamance	120	78.0	58	196.5
Durham	311	111.2	146	268.3
Forsyth	332	92.7	81	112.3
Guilford	403	80.5	125	130.2
Mecklenburg	1,102	113.7	445	216.2
Wake	779	81.8	324	158.5

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

- The rate of asthma hospital discharges for all ages was lower in Guilford County than in the state as a whole and lower than comparison counties except for Alamance County in 2012.

- The Guilford County asthma discharge rate for children ages 0-14 was lower than the state as a whole and lower than all comparison counties except for Forsyth County in 2012.

Highlights from Focus Groups

- Community members feel that heart disease among women needs more attention.
- Breast and cervical cancer programs are offered through the clinic. Those services can be promoted for those who do not have insurance or are underinsured. Women's Hospital could possibly play a bigger role in preventing heart disease among women.
- Similar to the free Pap smear screening, a different participant was told about a program offering free mammograms at Women's Hospital. This woman made an appointment and went to her free mammogram; however, she later received two bills for the visit. The participant felt like she had been misled and expressed that she is not likely to sign up for another "free" program.
- Spanish-speaking residents spoke of free screening programs offered within the county. One initiative specifically offered free Pap smears. A resident called the number wanting to learn more information about the program. When she called, she was asked if she had a doctor. The resident responded that she did not and that was why she was calling to inquire about the free program. The resident was told to call back when she had a doctor and not given any further information as to why she was denied this service. Programs often want clients to have a primary care physician in the event of an abnormal screening; however, it appears that this clause may deny services to residents most in need. Furthermore, residents need to be made aware of these conditions in the event they are denied services.
- Chronic disease was acutely apparent within immigrant and refugee populations residing within Guilford County. High blood pressure and diabetes were the conditions most frequently reported. The majority of individuals with these conditions were taking medication.
- Refugee residents were typically enrolled in Medicaid or had access to the Orange Card, an card issued to receive medical care if eligible. The situation was different for Spanish-speaking immigrants as many of their insurance cards had expired. Wal-Mart was cited as the only pharmacy that would refill medications if insurance cards were expired, and it would only be filled if there were refills left on the prescription. The documentation challenges associated with some Spanish-speaking participants were additional barriers to overcome when treating chronic disease in this population.

Medicaid coverage was also indicated as a challenge in reference to chronic disease and premature mortality.

Refugee residents with Medicaid were thankful that the government provided them with some type of health insurance; however, they all noted that individuals with Medicaid receive only partial care. Medicaid coverage does not allow for the complete care of many health problems and consequently, the root causes of health problems are often not addressed nor is comprehensive care provided.

An example of this that came up in several discussions was related to vision coverage. Medicaid will cover the cost of an eye exam for newly arrived refugee residents but will not cover the cost of contact lenses or eyeglasses. Not being able to see clearly hinders one's ability to excel in English language classes and further narrows already limited employment options.

8

Health Concern

Poor Birth Outcomes

Birth outcomes describe health at birth and entail both maternal exposure to health risk and a child's current and future morbidity, whether a child has a healthy start in life. Children born preterm and low birth weight are at risk for developmental problems, neurological impairments, higher risk of heart problems and respiratory problems later in life as well as educational and social impairments [1-5]

Poor births outcomes are a significant problem for Guilford County, with rates of infant mortality and low birth weight considerably higher than national benchmarks and objectives. Preconception health and healthy lifestyle during pregnancy are important factors influencing birth outcomes. Major disparities exist for birth outcomes. African-Americans experience preterm birth, low and very low birth weight and infant mortality at substantially higher rates than whites. Low birth weight and preterm births as well as teen pregnancies occur at higher rates in areas of the county characterized by higher rates of poverty and unemployment, and low educational attainment.

Data Highlights

- Overall infant mortality rates in the county declined between 2009 and 2012.
- Though "only" 45 babies died before their first birthday in 2011, looking at these data in terms of Years of Potential Life Lost reveals that Infant Mortality is the third leading cause of premature mortality.
- Significant racial disparities in birth outcomes persist, but African-American infant mortality rates improved from 18.6 per 1,000 live births in 2009 to a rate of 10.7 in 2012.
- Based on the new 2010 birth certificate measure of entry into prenatal care, 23.7% of pregnant women entered into prenatal care after the first trimester in 2012.
- The five-year (2007 to 2011) average percentage of low and very low birth weight in Guilford County is higher than in the state as a whole.
- Percentages of low and very low birth weight for 2007 to 2011 were about twice as high for African American births as for White births, but Hispanic rates were similar to Whites.
- Preterm births and low birth weight births tend to be concentrated in SE and East Greensboro and Central High Point, areas with lower average incomes and higher proportions of minority residents.
- Minority births as a percentage of all births increased to 58.6% in 2012 from 56.4% in 2011.

Inside this Chapter

Infant Deaths and Rates per 1,000 Live Births
Guilford County, by Race/Ethnicity, 2000-2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of Infant Deaths											
Guilford County All Races	55	46	60	57	65	60	63	64	57	45	49
White	18	15	16	20	31	21	26	17	25	10	16
African American								45	31	30	26
Hispanic									9	5	5
Infant Mortality Rate per 1,000 Live Births											
Guilford County All Races	9.4	7.8	10.2	9.5	10.6	9.5	9.9	10.4	9.5	7.4	7.9
White	5.1	4.2	4.6	5.8	8.8	5.9	7.4	5.1	6.4	3.9	6.5
African American								18.6	13.2	12.7	10.7
Hispanic									11.8	6.7	6.4
Number of Live Births											
Guilford County All Races	5,831	5,885	5,861	6,000	6,119	6,296	6,381	6,150	6,003	6,049	6,164
White	3,505	3,540	3,445	3,462	3,513	3.548	3,563	3,349	3,013	2,549	2,460
African American								2,418	2,341	2,367	2,429
Hispanic									759	741	790

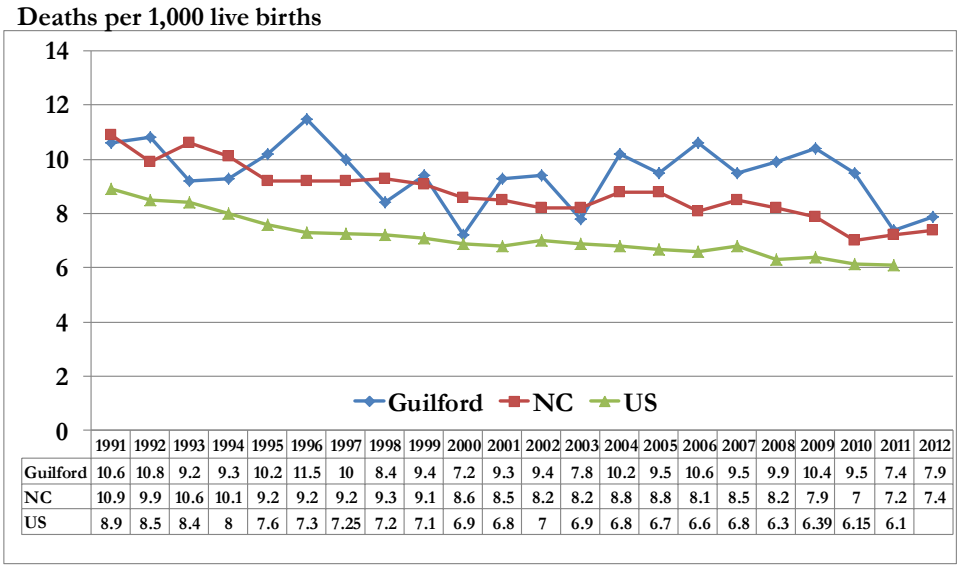
Source: NC Live Birth File: NC Center for Health Statistics.

NC Resident 2007-2011 Infant (<1 Year) Death Rates per 1,000 Live Births, by County

	Total Infant Deaths	Total Infant Death Rate	White Infant Death Rate	African American Infant Death Rate	Hispanic Infant Death Rate	Non-Hispanic Minority Infant Death rate
North Carolina	4,899	7.9	5.7	14.3	5.8	6.2
Alamance	66	7.0	6.4	10.6	4.1	17.8
Davidson	73	7.9	6.9	15.6	7.2	9.3
Forsyth	248	10.2	6.8	20.2	5.9	3.2
Guilford	289	9.4	5.6	14.6	8.1	4.6
Randolph	61	7.0	7.4	12.4	5.0	0
Rockingham	47	9.3	7.3	19.8	3.5	16.9

Source: County Health Data Book, 2013, NC State Center for Health Statistics.

Infant Mortality Rate
Guilford County, NC and US, 1991-2012



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Guilford	10.6	10.8	9.2	9.3	10.2	11.5	10	8.4	9.4	7.2	9.3	9.4	7.8	10.2	9.5	10.6	9.5	9.9	10.4	9.5	7.4	7.9
NC	10.9	9.9	10.6	10.1	9.2	9.2	9.2	9.3	9.1	8.6	8.5	8.2	8.2	8.8	8.8	8.1	8.5	8.2	7.9	7	7.2	7.4
US	8.9	8.5	8.4	8	7.6	7.3	7.25	7.2	7.1	6.9	6.8	7	6.9	6.8	6.7	6.6	6.8	6.3	6.39	6.15	6.1	

Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

- Infant mortality rates in North Carolina are at historically low levels, as they are nationwide, but major racial disparities persist.
- Among area counties, five-year infant mortality rates are highest in Forsyth, Guilford and Rockingham counties.

HEALTHY NORTH CAROLINA 2020
MATERNAL AND INFANT HEALTH

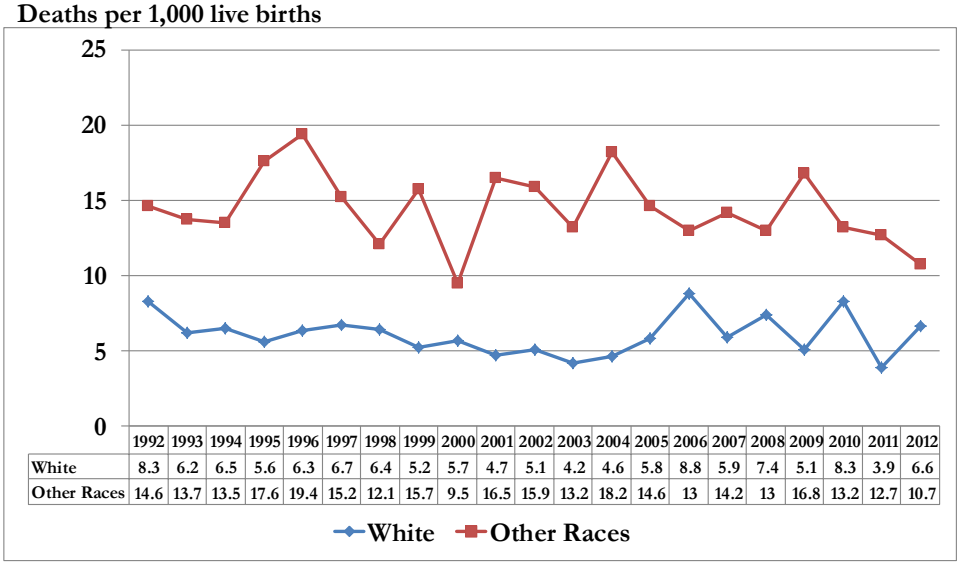
Objective: *Reduce the infant mortality rate (per 1,000 live births)*

Rationale for selection: Over 1,000 babies (under age 1) died in 2009 in North Carolina. The most prevalent causes of infant mortality are birth defects, prematurity, low birth weight, and Sudden Infant Death Syndrome (SIDS).

NC BASELINE (2009): 8.2
2020 TARGET: 6.3
GUILFORD (NC-SCHS 2007-2011): 9.4

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Infant Mortality Rates, by Race, 1992-2012



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
White	8.3	6.2	6.5	5.6	6.3	6.7	6.4	5.2	5.7	4.7	5.1	4.2	4.6	5.8	8.8	5.9	7.4	5.1	8.3	3.9	6.6
Other Races	14.6	13.7	13.5	17.6	19.4	15.2	12.1	15.7	9.5	16.5	15.9	13.2	18.2	14.6	13	14.2	13	16.8	13.2	12.7	10.7

Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

- African American rates are highest in Forsyth and Rockingham counties.
- Hispanic rates tend to be comparable to that of whites.

HEALTHY NORTH CAROLINA 2020
MATERNAL AND INFANT HEALTH

Objective: *Reduce the infant mortality racial disparity between whites African-Americans.*

Rationale for selection: Racial and ethnic disparities in infant mortality in North Carolina persist. The death rate of African-American babies is nearly 2.5 times the death rate of white babies. Of all infant mortality racial/ethnic disparities in the state, this is the greatest.

NC BASELINE (2009): 2.45
2020 TARGET: 1.92
GUILFORD (NC-SCHS 2007-2011): 2.61

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Trimester Prenatal Care Begun, Guilford County, 2001-2012

Number of Births by Trimester of Care Begun											
Care Began	2002	2003	2004	2005	2006	2007	2008	2009	2010*	2011**	2012**
1st Trimester	5,005	4,988	4,943	5,114	5,070	5,146	5,277	5,214	N/A	4,466	4,468
2nd Trimester	638	695	725	712	843	939	835	733	N/A	1,134	1,149
3rd Trimester	107	127	116	94	132	135	131	109	N/A	244	248
None	50	63	60	59	63	57	57	64	N/A	83	66
Unknown	0	12	17	21	11	19	81	30	N/A	122	233
Total Number	5,800	5,885	5,861	6,000	6,119	6,296	6,381	6,150	N/A	6,049	6,164
Percent of Births by Trimester of Care Begun											
1st Trimester	86.3	84.8	84.3	85.2	82.9	81.7	82.7	84.8	N/A	73.8	72.5
2nd Trimester	11	11.8	12.4	11.9	13.8	14.9	13.1	11.9	N/A	18.7	18.6
3rd Trimester	1.8	2.2	1.9	1.6	2.2	2.1	2.1	1.8	N/A	4.0	4.0
None	0.8	1.1	1.0	1.0	1.0	0.9	0.9	1.0	N/A	1.4%	1.1
Unknown	0.0	0.2	0.3	0.4	0.2	0.3	1.3	.5	N/A	2.0%	3.8
Late (after 1st Trimester) or No Prenatal Care											
Number	897	918	918	865	1,038	1,131	1,104	906	N/A	1,461	1,696
Percent	15.2	15.7	15.7	14.4	17.0	18.0	17.3	14.7	N/A	24.1	23.7

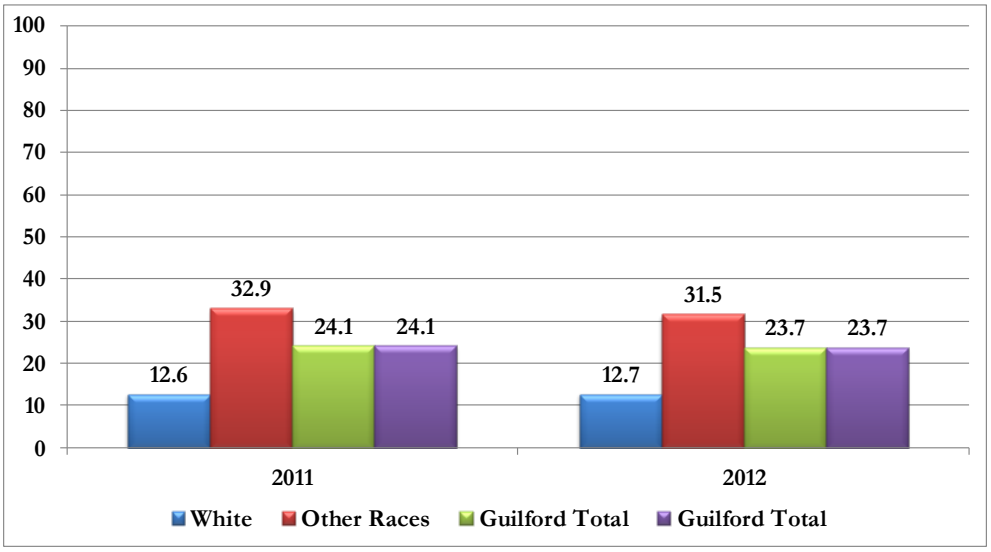
Source: NC Center for Health Statistics; North Carolina Birth Certificate File.

*****In 2010 the question asking month of entry into prenatal care was removed from the birth certificate, so data are not available (indicated by N/A).

******A new measure of entry into prenatal care was added in 2011 based on date of first prenatal care visit and date of last menses. This measure is thought to be more accurate than the previous measure, but is not comparable.

Pregnant Women Receiving Prenatal Care after First Trimester or No Prenatal Care, by Race, 2011-2012

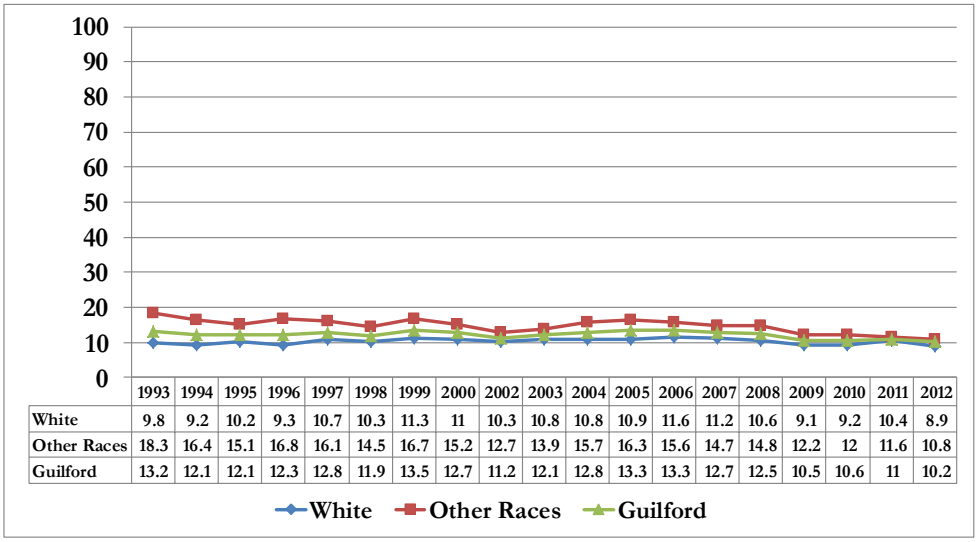
Percent



Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Percent of Births Preterm (Less than 37 Weeks Gestation) By Race, Guilford County, 1993-2012

Percent



	1993	1994	1995	1996	1997	1998	1999	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
White	9.8	9.2	10.2	9.3	10.7	10.3	11.3	11	10.3	10.8	10.8	10.9	11.6	11.2	10.6	9.1	9.2	10.4	8.9
Other Races	18.3	16.4	15.1	16.8	16.1	14.5	16.7	15.2	12.7	13.9	15.7	16.3	15.6	14.7	14.8	12.2	12	11.6	10.8
Guilford	13.2	12.1	12.1	12.3	12.8	11.9	13.5	12.7	11.2	12.1	12.8	13.3	13.3	12.7	12.5	10.5	10.6	11	10.2

Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

Completed Weeks of Gestation, All Births
Guilford County, 2002-2012

Number of Births by Completed Weeks of Gestation											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
25 Weeks or Less	33	39	37	38	55	48	37	52	49	44	40
26-30 Weeks	68	57	77	74	65	81	60	78	56	80	59
31-36 Weeks	551	614	639	688	694	671	697	519	530	545	517
37 Weeks or More	5,159	5,172	5,108	5,194	5,302	5,494	5,581	5,501	5,365	5,380	5,537
Total Number	5,811	5,885	5,861	6,000	6,119	6,296	6,381	6,150	6,003	6,049	6,164
Percent of Births by Completed Weeks of Gestation											
25 Weeks or Less	0.6	0.7	0.6	0.6	0.9	0.8	0.6	0.8	0.8	0.7	0.6
26-30 Weeks	1.2	1.0	1.3	1.2	1.1	1.2	0.9	1.3	0.9	1.3	1.0
31-36 Weeks	9.5	10.4	10.9	11.5	11.3	10.7	10.9	8.4	8.8	9.0	8.4
37 Weeks or More	88.8	88.0	87.2	86.6	86.7	87.3	87.5	89.4	89.4	8.9	89.8
Premature Births - Less than 37 Weeks Gestation											
Number	652	710	753	800	814	802	794	649	635	669	627
Percent	11.2	12.1	12.8	13.3	13.3	12.7	12.5	10.5	10.6	11.0	10.2

Source: NC Center for Health Statistics; North Carolina Birth Certificate File.

- Premature births are a leading factor in low birth weight births and infant mortality.
- The problem of preterm births is greatest among African Americans, but the disparity has been reduced in recent years.
- Infant mortality rates have tended to be higher in Guilford County than in the state as a whole, but in 2011 almost reached state levels.

Birth Weights in Guilford County, 2000-2012

Number of Births by Birth Weight Category											
Birth Weights	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
1500 grams and under	101	101	135	121	123	144	122	146	111	143	107
1501-2500 grams	422	461	392	441	450	476	473	446	453	451	466
2501+ grams	5,288	5,318	5,334	5,435	5,546	5,676	5,786	5,558	5,439	5,455	5,588
Total Births	5,811	5,885	5,861	6,000	6,119	6,296	6,381	6,150	6,003	6,049	6,164
Percent of Births by Birth Weight Category											
1500 grams and under	2.0	1.7	2.3	2.0	2.0	2.3	1.9	2.4-	1.8	2.4	1.7
1501-2500 grams	7	7.3	6.7	7.4	7.4	7.6	7.4	7.3	7.5	7.5	7.6
2501+ grams	91	91	91.0	90.6	90.6	90.2	90.7	90.4	90.6	90.2	90.7
Low Birth Weight Births - Under 2,500 Grams											
Number	559	523	527	562	573	620	595	592	564	594	573
Percent	9	9.0	9.0	9.4	9.4	9.8	9.3	9.7	9.4	9.8	9.7

Source: NC Center for Health Statistics; North Carolina Birth Certificate File.
Note: Birth weights under 2,500 grams (five pounds eight ounces) are classified as low birth weight; Birth weights under 1,500 grams (three pounds five ounces) are classified as very low birth weight.

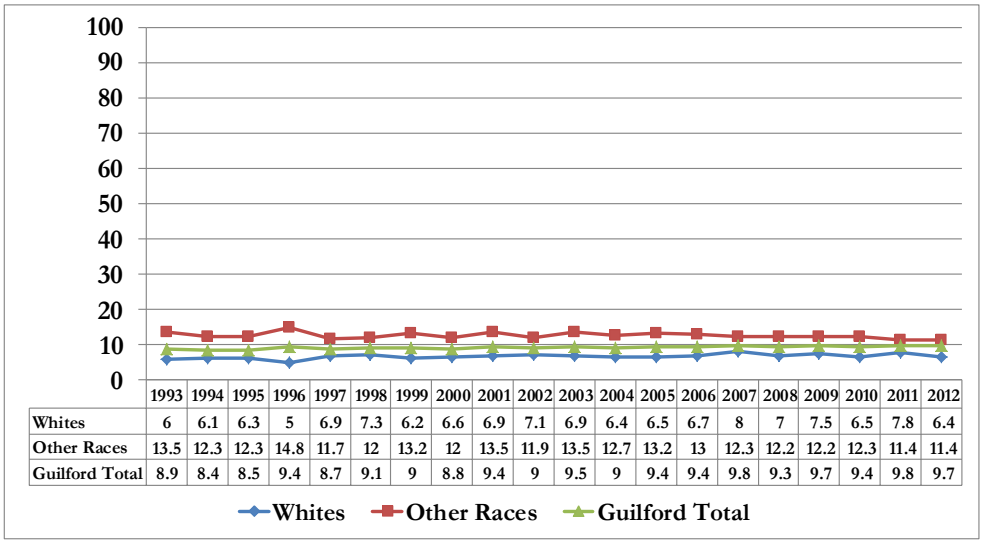
Number and Percent of Low (Less Than or Equal to 2,500 grams) and Very Low (Less Than or Equal to 1,500 grams) Weight Births by Race and Ethnicity, Guilford County and North Carolina, 2007-2012

	Birth Weight	**Total**		**White**		**Black**		**Hispanic**	
		Births	**Percent**	**Births**	**Percent**	**Births**	**Percent**	**Births**	**Percent**
North Carolina	Low	57,000	9.1	26,816	7.6	21,411	14.3	6,506	6.5
	Very Low	11,257	1.8	4,621	1.3	4,991	3.3	1,192	1.2
Guilford County	Low	2,964	9.6	957	7.5	1,518	12.8	290	6.9
	Very Low	666	2.2	183	1.4	382	3.2	77	1.8

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

Percent of Births Low Birthweight* by Race Guilford County, 1993-2012

Percent

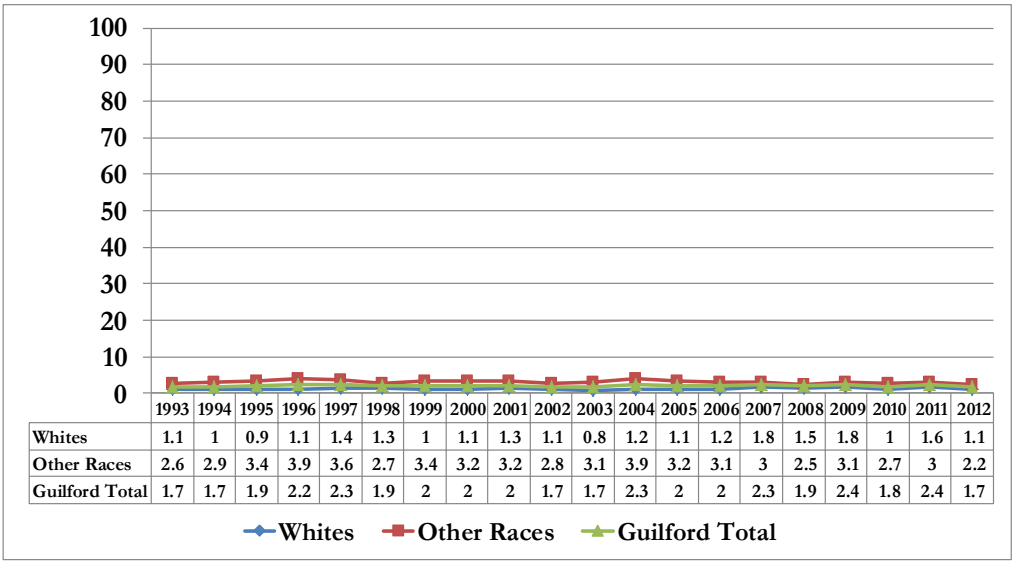


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Whites	6	6.1	6.3	5	6.9	7.3	6.2	6.6	6.9	7.1	6.9	6.4	6.5	6.7	8	7	7.5	6.5	7.8	6.4
Other Races	13.5	12.3	12.3	14.8	11.7	12	13.2	12	13.5	11.9	13.5	12.7	13.2	13	12.3	12.2	12.2	12.3	11.4	11.4
Guilford Total	8.9	8.4	8.5	9.4	8.7	9.1	9	8.8	9.4	9	9.5	9	9.4	9.4	9.8	9.3	9.7	9.4	9.8	9.7

Note: *2,500 grams (about 5½ pounds) and under
Source: Data provided by the NC Center for Health Statistics;
Chart prepared by the Guilford County Department of Public Health

Percent of Births Very Low Birth Weight* by Race, Guilford County, 1992-2012

Percent



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Whites	1.1	1	0.9	1.1	1.4	1.3	1	1.1	1.3	1.1	0.8	1.2	1.1	1.2	1.8	1.5	1.8	1	1.6	1.1
Other Races	2.6	2.9	3.4	3.9	3.6	2.7	3.4	3.2	3.2	2.8	3.1	3.9	3.2	3.1	3	2.5	3.1	2.7	3	2.2
Guilford Total	1.7	1.7	1.9	2.2	2.3	1.9	2	2	2	1.7	1.7	2.3	2	2	2.3	1.9	2.4	1.8	2.4	1.7

Note: *1500 grams (about 3½ pounds) and under.
Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

NC Resident 2007-2011 Percent of Low Weight (Less than 2500 grams) Births by Race and Ethnicity, by County

Residence	Total	White, non-Hispanic	African American, non-Hispanic	Other, non-Hispanic	Hispanic
North Carolina	9.1	7.7	14.3	9.4	6.5
Alamance	9.4	8.3	14.9	14.2	6.8
Davidson	9.6	9.4	15.5	9.3	6.8
Forsyth	10.4	8.4	16.6	9.9	7.2
Guilford	9.6	7.5	12.8	10.1	6.9
Randolph	8.5	8.7	12.8	11.4	6.2
Rockingham	9.5	8.7	14.3	8.5	6.5

Source: NC County Health Data Book, 2013; NC State Center for Health Statistics.

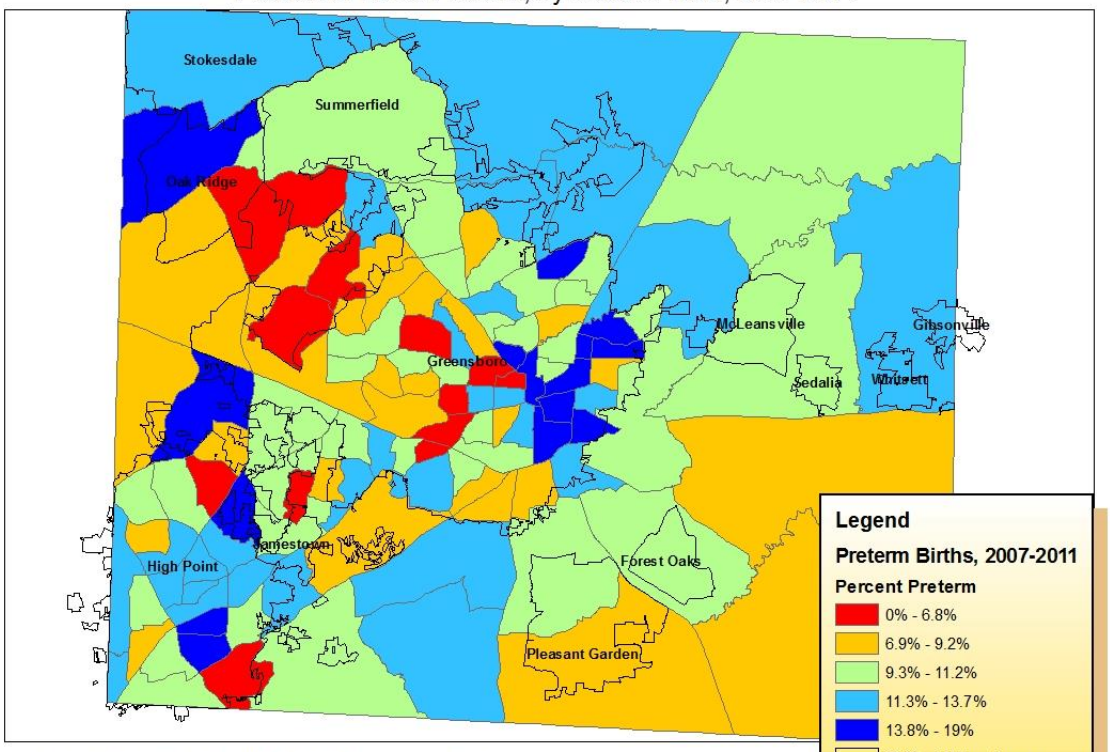
NC Resident 2007-2011 Percent Very Low Weight(Less than 1500 Grams) Births by Race and Ethnicity, by County

Residence	Total	White, non-Hispanic	African American, non-Hispanic	Other, non-Hispanic	Hispanic
North Carolina	1.8	1.3	3.3	1.5	1.2
Alamance	1.8	1.5	3.4	2.7	1.0
Davidson	1.5	1.4	3.4	0.9	1.0
Forsyth	2.2	1.4	4.2	1.1	1.6
Guilford	2.2	1.4	3.2	1.2	1.8
Randolph	1.5	1.4	2.7	1.7	1.3
Rockingham	1.9	1.7	3.1	1.7	1.0

Source: NC County Health Data Book, 2013; NC State Center for Health Statistics.

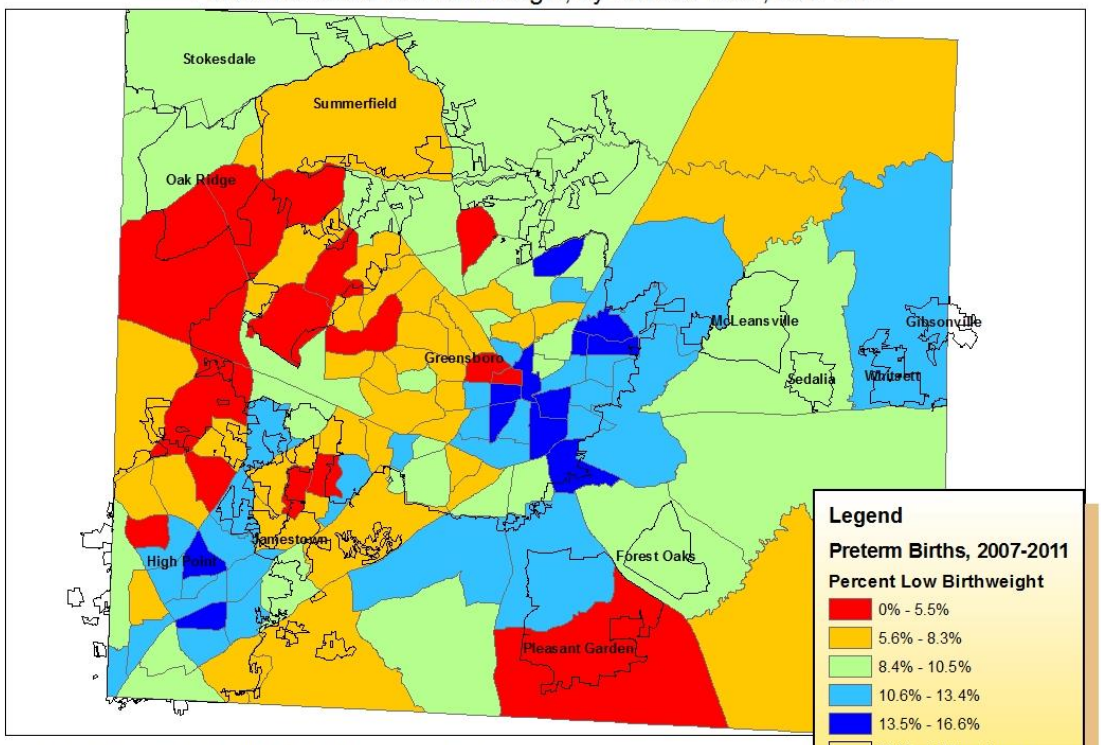
- Statewide, major African American- white racial disparities exist for both low birth weight and very low birth weight, with blacks about twice as likely to have a low or very low weight birth.
- Regionally, the highest rate of low birth weight is in Forsyth County, along with Davidson and Guilford; the highest rates among blacks are found in Forsyth and Davidson counties.
- The highest rates of very low birth weight are found among blacks in Forsyth County.

Percent of Births Preterm, by Census Tract, 2007-2011



Source: NC Center for Health Statisiics, NC Birth Certificate File

Percent of Births Low Birthweight, by Census Tract, 2007-2011



Source: NC Center for Health Statisiics, NC Birth Certificate File

Guilford County Live Births by White and Minority Race Status, 1988-2012					
Year	Total Births	White Births	White %	Minority Births	Minority %
1988	4,914	3,069	62.5%	1,845	37.5%
1989	5,289	3,285	62.1%	2,004	37.9%
1990	5,195	3,186	61.3%	2,009	38.7%
1991	5,276	3,232	61.3%	2,044	38.7%
1992	5,194	3,137	60.4%	2,057	39.6%
1993	5,110	3,066	60%	2,044	40.0%
1994	5,053	3,057	60.5%	1,996	39.5%
1995	5,171	3,186	61.6%	1,985	38.4%
1996	5,229	3,168	60.6%	2,061	39.4%
1997	5,310	3,277	61.6%	2,042	38.4%
1998	5,607	3,450	61.5%	2,157	38.5%
1999	5,724	3,434	60%	2,290	40.0%
2000	6,095	3,671	60.2%	2,424	39.8%
2001	5,918	3,609	61.0%	2,309	39.0%
2002	5,810	3,497	60.2%	2,312	39.8%
2003	5,885	3,540	60.2%	2,345	39.8%
2004	5,861	3,445	58.8%	2,416	41.2%
2005	6,000	3,462	57.7%	2,538	42.3%
2006	6,119	3,513	57.4%	2,606	42.6%
2007	6,296	3,548	56.4%	2,748	43.6%
2008	6,381	3,536	55.4%	2,845	44.6%
2009	6,150	3,349	54.4%	2,801	45.5%
2010	6,003	3,013	50.2%	2,990	49.8%
2011	6,049	2,635	43.6%	3,414	56.4%
2012	6,164	2,553	41.4%	3,611	58.6%

Source: NC Center for Health Statistics; North Carolina Birth Certificate File.

Hispanic Births in Guilford County, 1994-2012		
Year	Number of Hispanic Births	Percentage of All Births
1994	83	1.6%
1995	121	2.3%
1996	144	2.8%
1997	247	4.7%
1998	266	4.7%
1999	332	5.8%
2000	506	8.3%
2001	628	10.6%
2002	615	10.6%
2003	676	11.5%
2004	708	12.1%
2005	826	13.8%
2006	878	14.3%
2007	951	15.1%
2008	920	14.4%
2009	823	13.4%
2010	757	12.6%
2011	741	12.2%
2012	790	12.8%

Source: NC Center for Health Statistics; North Carolina Birth Certificate File.

Highlights from Focus Groups

- There is a continued need to encourage mothers to breast-feed or give breast milk to their babies. However, if the Women's hospital is promoting breastfeeding, community members believe that the hospital has a responsibility to ensure that mothers have the support needed to breastfeed after hospital discharge.
- Hospitals and community organizations should provide meeting places that are child friendly to increase mothers' participation in health classes, community meetings and health care.
- Mothers may be burdened by lack of child care and may feel more comfortable bringing their children with them while they attend classes or obtain care.
- Scheduling appointments with the Women's Clinic located at the Guilford County Department of Public Health can be challenging. If a Spanish-speaking interpreter is needed, appointments are scheduled sometimes months in advance. Women have been told to go to the Emergency Department (ED) because they will be seen quicker there; however, a visit to the ED is more costly for the patient and society as a whole. Residents also noted that they were able to get appointments more quickly if they spoke English.
- Appointments are difficult to schedule for healthy children as well. When participants can get through, they are often told to call back next month. Participants also stated that they have repeatedly been hung up on when calling the service provider to schedule a well-child check-up. Excessive wait times for appointments have the potential to negatively affect pregnant women or mothers and their children.

A Spanish-speaking resident without a medical home felt that she lost her baby for unnecessary reasons. This participant lost her baby during pregnancy as a result of an infection.

She had previously visited the emergency department multiple times and received treatment for inflammation of her abdomen, but she felt that she was not examined thoroughly.

Eventually she was seen by a private physician, and the participant ultimately had to have a hysterectomy as a result of the infection.

-Experience described by focus group participant

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[1] Knoches, AML, Doyle LW. Long-term outcomes of infants born preterm. Baillieres Clin Obstet Gynaecol. 1993:7:633-651.

[2] Hack M, Clein NK, Taylor HG. Long-term developmental outcomes of low birth weight infants. Future Child. 1995; 5:176-196.

[3] Irving RJ, Belton NR, Elton RA, Walker BR. Adult cardiovascular risk factors in premature babies. Lancet. 2000;355:2135-2136.

[4] Shenkin SD, Starr JM, Deary IJ. Birth weight and cognitive ability in childhood: A systematic review. Psychol Bull. 2004 Nov;130:989-1013.

[5] Petrou S, Petrou, S, Sach T, Davidson L. The long-term costs of preterm birth and low birth weight: Results of a systematic review. Child Care Health Dev. 2001:27:97-115.

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9

Health Concern

Sexually Transmitted Infections

Chlamydia is the most common bacterial STI in North America [1] and in Guilford County, and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease and chronic pelvic pain. [2] STIs in general are associated with significantly increased risk of morbidity and mortality, including increased risk of cervical cancer, pelvic inflammatory disease, involuntary infertility and premature death. [1] One review found that close to one-third of pregnant teens were infected with at least one STI [2]. Both STIs and unintended pregnancies can result from the improper use of, inconsistent use of or lack of use of condoms, factors exacerbated by the fact that 4 out of 5 pregnancies are unintended. [3]

STIs present significant issues for the health of residents of Guilford County. Rates of chlamydia, gonorrhea, syphilis and HIV disease are consistently higher in Guilford County than in the state as a whole and the nation. Large racial disparities exist for STIs, with African Americans experiencing rates as much as ten times that among whites. Higher rates of HIV disease are concentrated in census tracts in southeast Greensboro. Syphilis rates are higher in tracts in southeast and west Greensboro and areas of central High Point. The problem of STIs is also concentrated among teens and young adults.

HEALTHY NORTH CAROLINA 2020
SEXUALLY TRANSMITTED DISEASES

Objective: *Reduce the crate of new HIV infection diagnoses (per 100,000 population).*

Rationale for selection: An estimated 35,000 North Carolinians have HIV/AIDS (including those who are unaware of their status). Furthermore, HIV/AIDS was the seventh leading cause of death among 25 to 44 year-olds in 2007.

NC BASELINE (2009):	**24.7**
2020 TARGET:	**22.3**
GUILFORD (NC DHHS 2012):	**20.4**

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Highlights

- The most commonly occurring communicable diseases in Guilford County are sexually transmitted infections (STIs), with chlamydia contributing the largest number of cases (3,919 cases in 2012), followed by gonorrhea (1,433 cases in 2012) and non-gonococcal urethritis (NGU) (146 cases in 2012).
- Cases of HIV disease decreased from 128 cases in 2011 to 102 cases in 2012; Guilford County's HIV disease rate is higher than that of NC as a whole.
- Cases of primary and secondary syphilis decreased from 57 cases in 2011 to 45 new cases in 2012.
- Young adult men are most at risk for contracting syphilis and HIV disease.
- Substantial racial disparities are seen in incidence rates for chlamydia, gonorrhea, syphilis and HIV disease, with Blacks/African Americans experiencing higher rates than Whites.

Inside this Chapter

Selected Sexually Transmitted Infection Cases, Guilford County 2002-2012

Diseases	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Chlamydia	1,928	1,938	1,833	1,867	1,877	2,282	2,333	2,994	2,398	5,010	3,919
Gonorrhea	1,149	1,011	965	858	1,083	1,702	1,034	1,110	871	1,981	1,433
HIV Disease (includes all HIV & AIDS)	149	116	122	118	154	166	148	129	114	128	102
Syphilis (Primary & Secondary)	40	38	38	33	28	23	34	46	39	57	35
Syphilis (P & S & Early Latent)	63	80	91	68	74	45	50	68	75	115	66

Select Sexually Transmitted Infections, Rates per 100,000 Population, Guilford County 2002-2012

Diseases	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Chlamydia	445.9	439.7	418.0	422.9	412.1	490.8	492.1	623.3	499.2	1,025.8	782.1
Gonorrhea	265.7	229.4	220.1	194.4	237.8	366.1	218.1	229.0	181.3	405.6	286.0
HIV Disease (includes all HIV & AIDS)	34.2	26.3	27.1	26.9	34.3	36.0	31.6	26.2	23.3	26.2	20.4
Syphilis (Primary & Secondary)	9.2	8.6	8.7	7.4	6.1	4.9	7.2	9.6	8.0	11.7	7.0
Syphilis (P & S & Early Latent)	14.6	18.1	20.8	7.9	16.2	9.7	10.5	14.2	15.3	23.5	13.2
Population	432,412	440,793	438,520	441,428	449,071	460,784	468,439	476,038	488,406	495,231	501,058

Source: NC Center for Health Informatics and Statistics; NC DHHS HIV/STD Prevention and Care Branch; NC DHHS Communicable Disease Branch; NC DHHS Tuberculosis Control Program; NC OSBM State Demographics Branch.

Guilford County Syphilis Cases, by Race, 2012

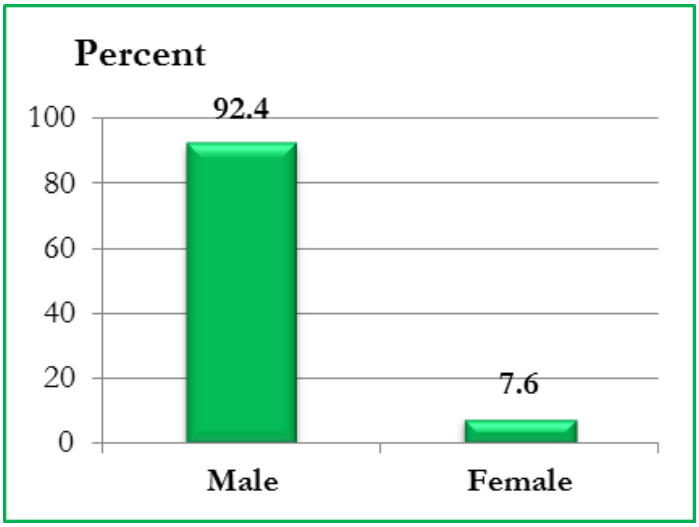
Diseases	African- American	White
Syphilis (Primary & Secondary)	31	3
Syphilis (Primary, Secondary & Early Latent)	58	7

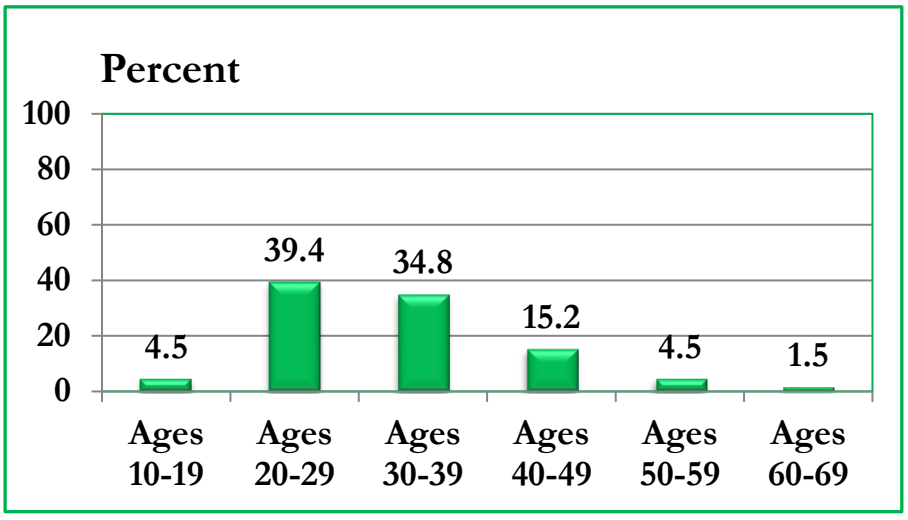
Guilford County Syphilis Rate per 100,000, by Race, 2012

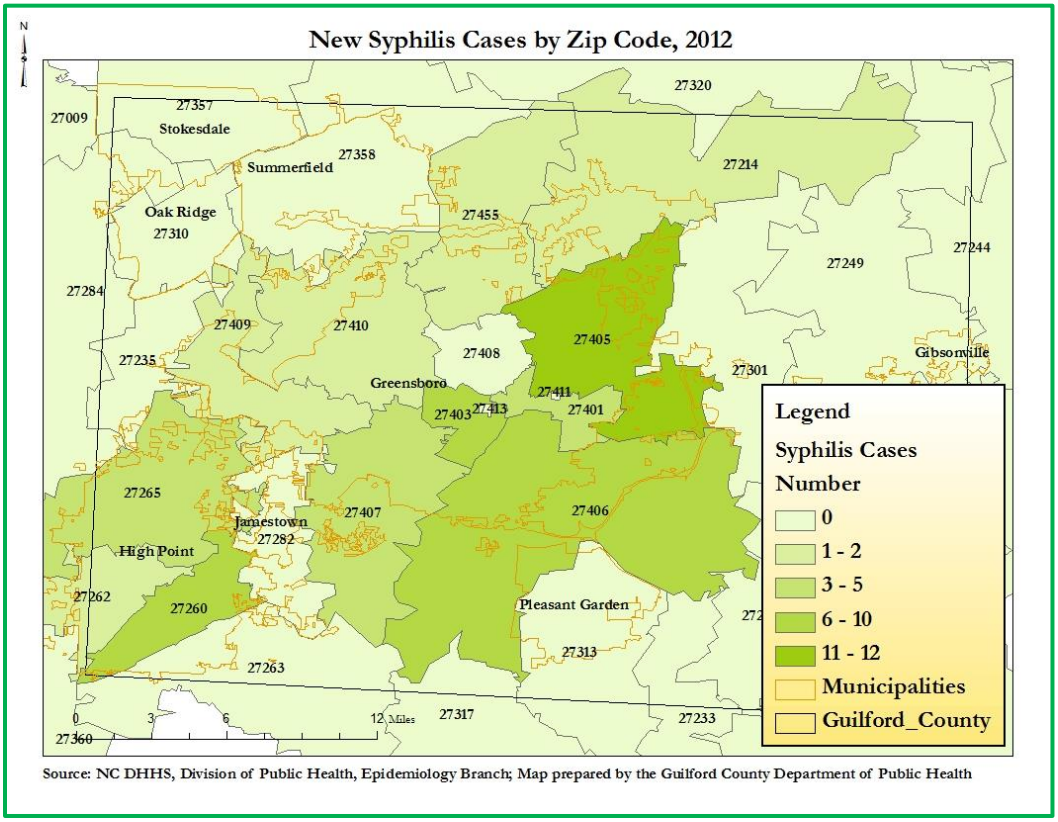
Diseases	African- American	White
Syphilis (Primary & Secondary)	18.5	1.1
Syphilis (Primary, Secondary & Early Latent)	34.6	2.3
2012 Population	167,488	296,910

Source: Communicable Disease Branch, NC Division of Public Health, NCDHHS.

Demographic Characteristics of Guilford County Syphilis Cases, 2012: Sex and Age







- Syphilis incidence rates in Guilford County are higher in census tracts with greater numbers of non-white and lower income residents.

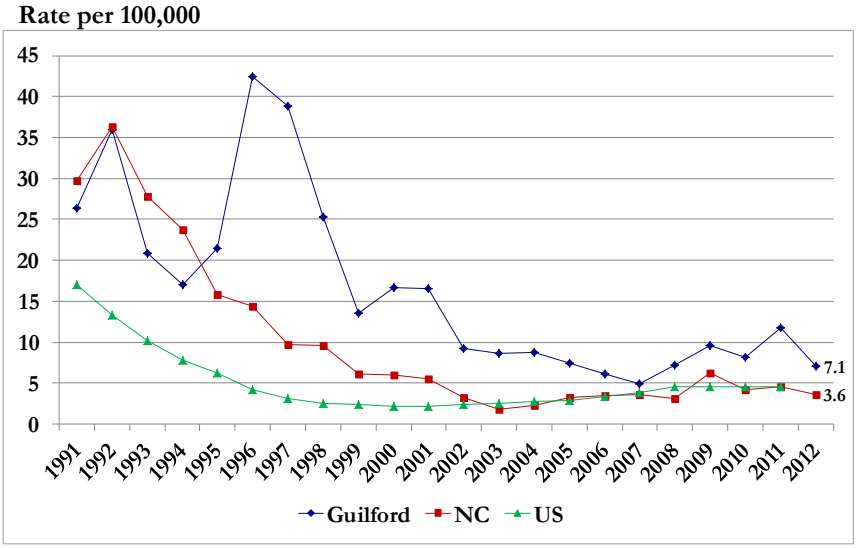
Primary and Secondary Syphilis Rates in North Carolina, Guilford County and Surrounding Counties per 100,000 Population, 2006-2010

Residence	Total	White non-Hispanic	African-American non-Hispanic	Other non-Hispanic	Hispanic
North Carolina	4.1	1.4	13.8	1.1	1.9
Alamance	2.4	1.6	6.5	0.0	1.3
Davidson	0.9	0.3	5.4	0.0	2.1
Forsyth	13.6	3.3	43.2	0.0	4.9
Guilford	7.2	2.0	18.2	4.1	1.3
Randolph	0.4	0.3	2.4	0.0	0.0
Rockingham	2.4	1.7	5.6	0.0	0.0

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

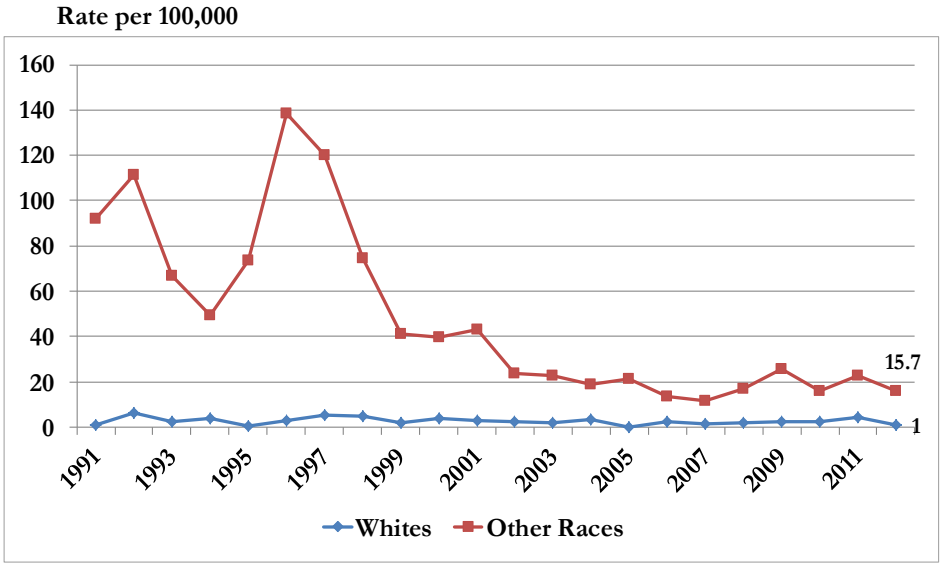
- The highest rates of syphilis in 2006-2010 were found Forsyth, followed by Guilford County. As with other sexually transmitted conditions, there is a major racial disparity, with African-American having much higher incidence rates.

Trends in Primary and Secondary Syphilis Rates Guilford County, NC and United States 1991-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS
Chart prepared by the Guilford County Department of Public Health

Trends in Primary and Secondary Syphilis Rates By Race, Guilford County 1991-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS;
Chart prepared by the Guilford County Department of Public Health

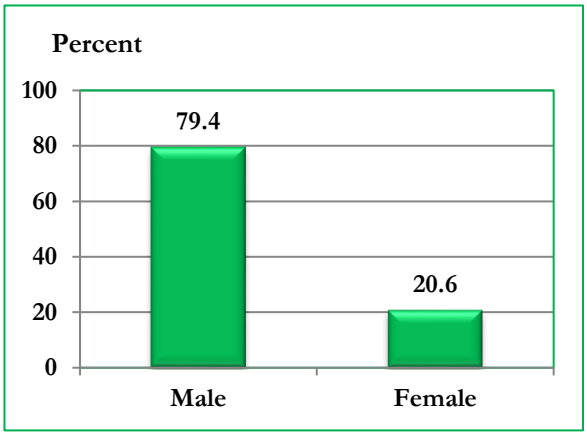
- Major disparities exist with respect to sexually transmitted diseases in Guilford County. Incidence rates for HIV Disease and syphilis are much higher for African-Americans than for whites.

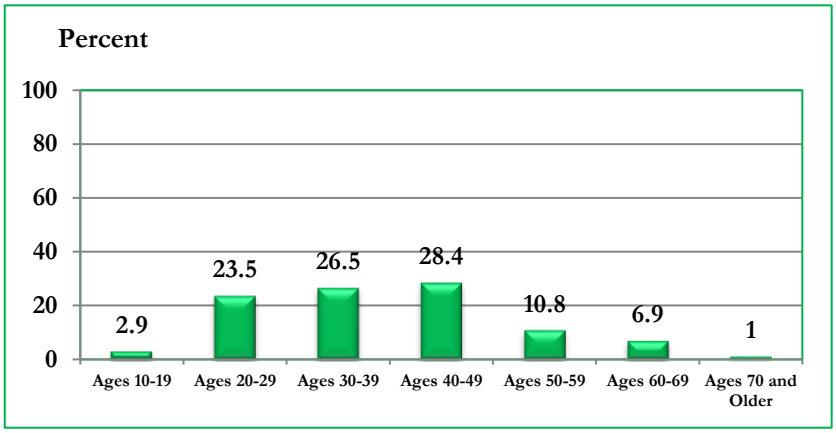
HIV Disease Cases and Rate per 100,000, by Race, 2012

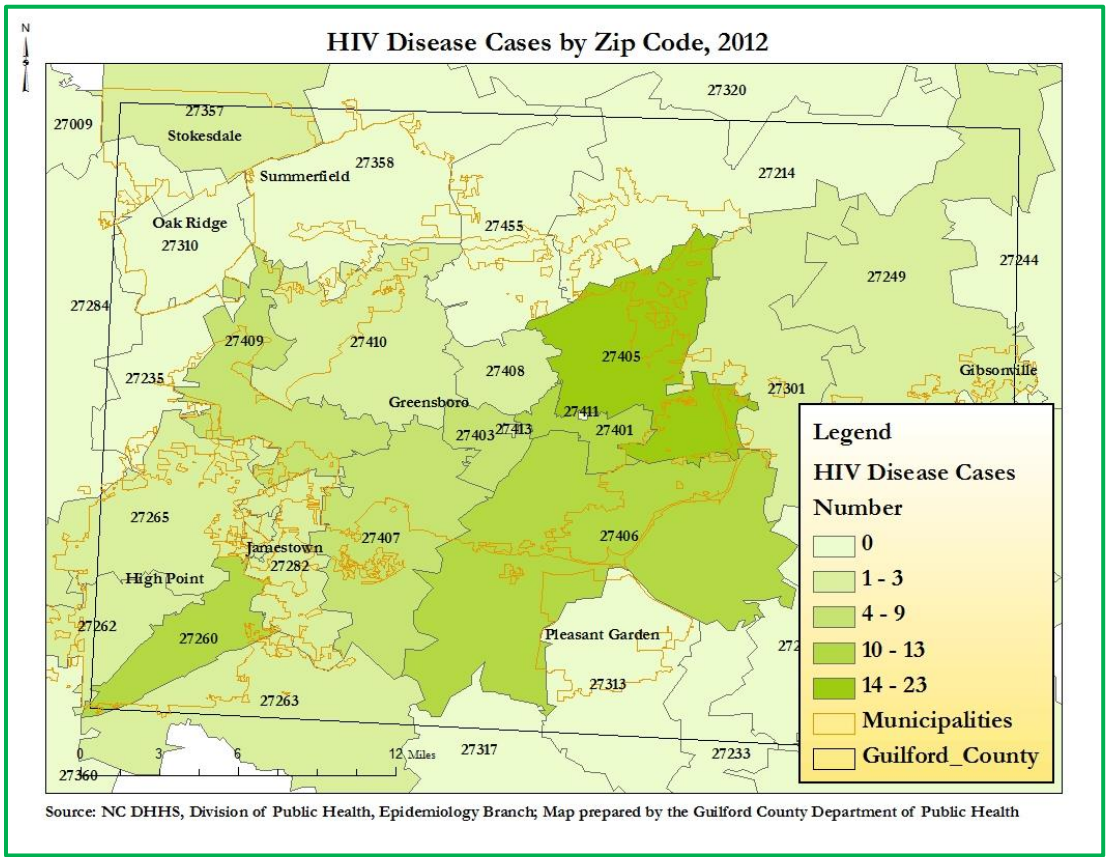
Diseases	African-American	White
New Cases	71	22
Rate per 100,000 population	42.4	7.4
2012 population	167,488	296,910

Source: Communicable Disease Branch, NC Division of Public Health, NCDHHS.

Demographic Characteristics of Guilford County HIV Disease Cases, 2012: Sex and Age

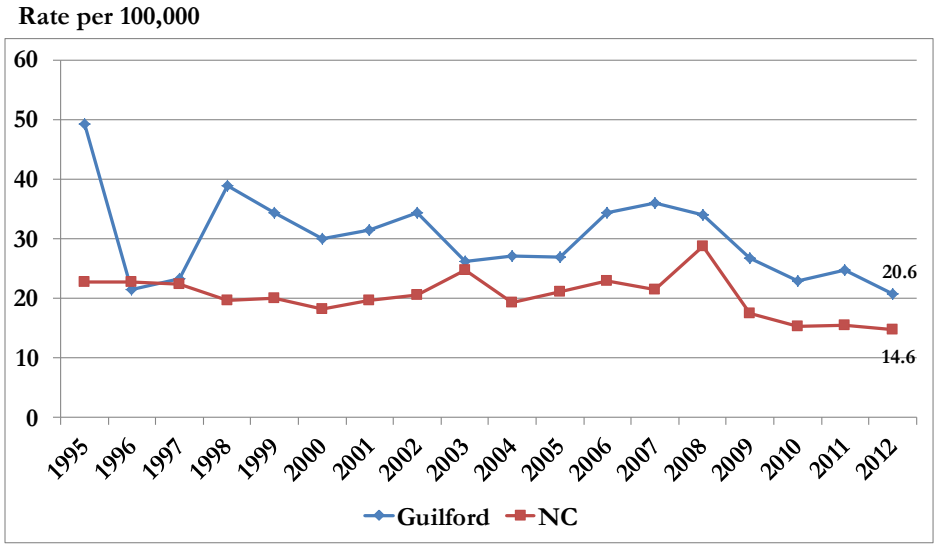






- As with syphilis, HIV incidence rates are higher in non-white, lower income census tracts, particularly in southeast Greensboro.

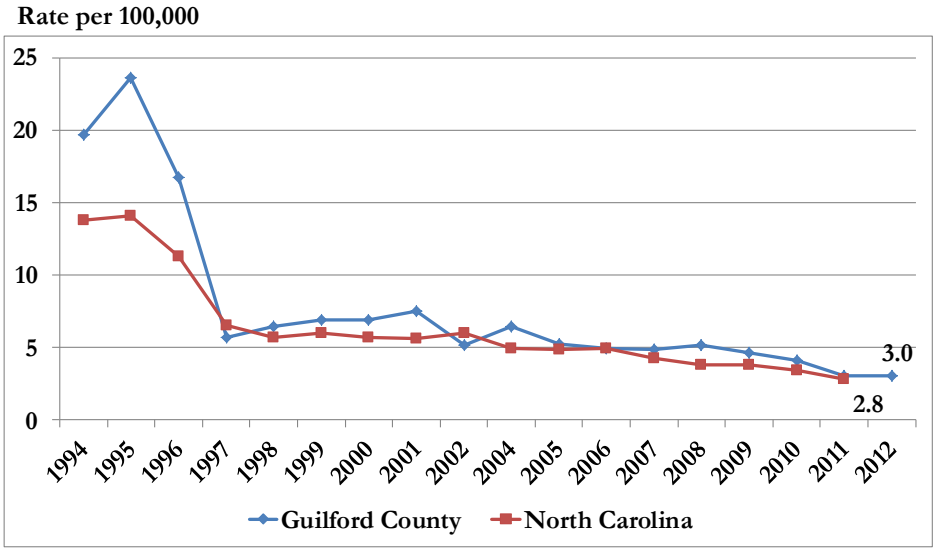
Trends in HIV Disease Incidence Rates Guilford County and North Carolina 1995-2012



Source: HIV/STD Prevention & Care Branch, Division of Public Health, NC DHHS.
Note: HIV Disease includes both new cases of HIV or AIDS
Chart prepared by the Guilford County Department of Public Health

- Guilford County HIV incidence rates still exeed North Carolina's rates.

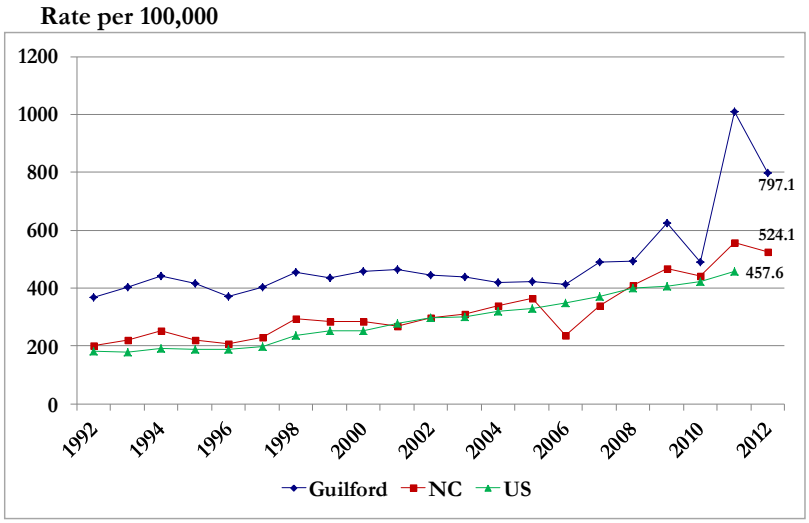
Trends in HIV Disease Mortality Rates Guilford County and NC 1994-2012



Source: NC Center for Health Statistics; Chart prepared by the Guilford County Department of Public Health
Note: HIV Disease includes all cases of HIV and AIDS

- There has been a substancial decline in HIV mortality rates in both Guilford County and North Carolina over time, but the decline in HIV incidence has not been as significant.

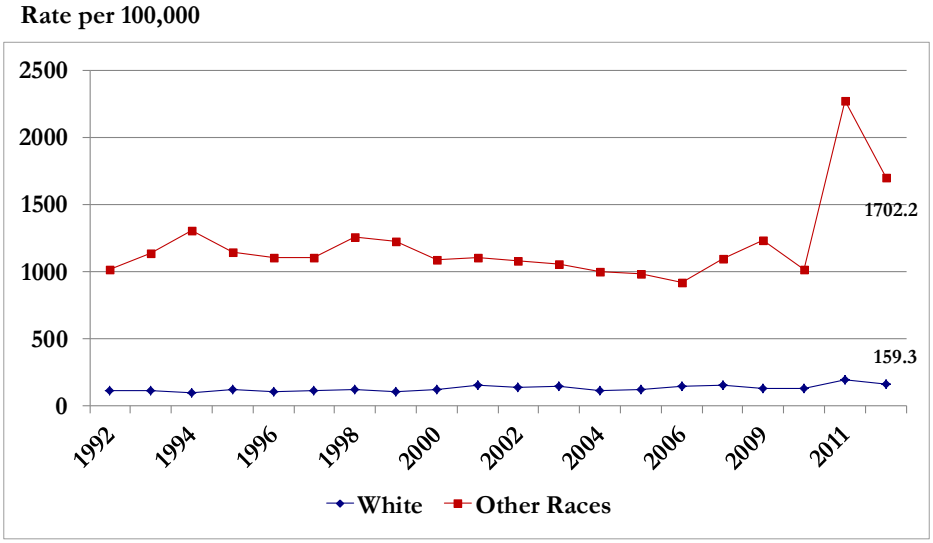
Trends in Chlamydia Incidence Rates
Guilford County, NC and United States 1992-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS
Chart prepared by the Guilford County Department of Public Health

- Chlamydia rates declined in 2012 after a significant increase in 2011.

Trends in Chlamydia Incidence Rates
By Race, Guilford County 1992-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS; North Carolina Electronic Disease Surveillance System (NCEDSS).
Chart prepared by the Guilford County Department of Public Health.

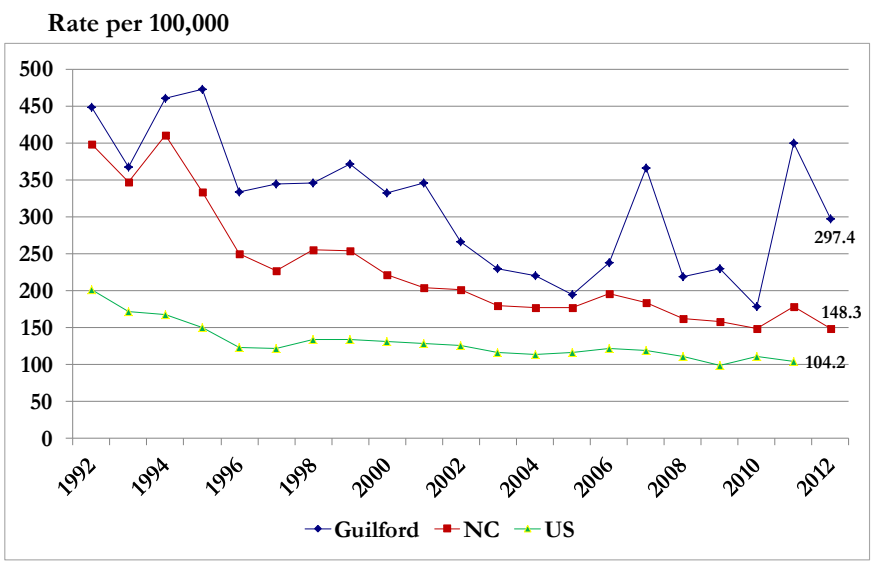
Gonorrhea Rates per 100,000 Populations, 2006-2010

County of Residence	Total	White non-Hispanic	African American, non-Hispanic	Other, non-Hispanic	Hispanic
North Carolina	168.9	52.9	581.6	96.7	54.2
Alamance	168.8	75.7	577.8	138.9	50.1
Davidson	71.1	36.9	386.2	106.9	40.4
Forsyth	226.0	68.9	686.3	79.7	57.3
Guilford	245.1	64.4	629.9	65.6	75.7
Randolph	48.0	28.5	364.0	20.4	26.2
Rockingham	115.6	52.7	384.8	26.8	33.4

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

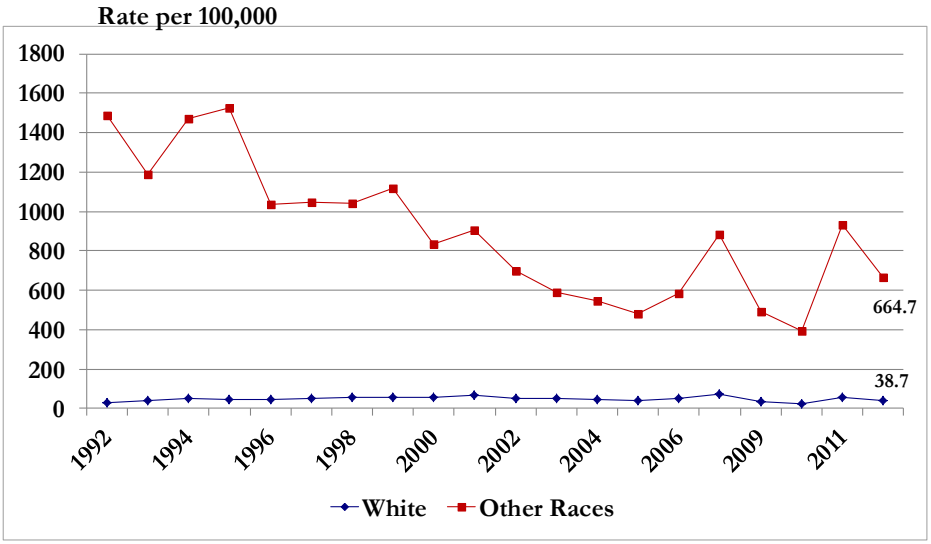
- The highest rates of gonorrhea incidence occurred in Guilford and Forsyth counties.
- Major racial disparities are seen in all assessment counties, with African-American rates as much as ten times the rates for whites. Hispanics tend to have similar rates as whites or lower.

Trends in Gonorrhea Incidence Rates Guilford County, NC and United States 1992-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS;
Chart prepared by the Guilford County Department of Public Health

Trends in Gonorrhea Incidence Rates By Race, Guilford County 1992-2012



Source: General Communicable Disease Control Branch; Division of Public Health, NC DHHS; North Carolina Electronic Disease Surveillance System (NCEDSS).
Chart prepared by the Guilford County Department of Public Health.

References:

[1] Genuis, SJ, Genuis SK. Managing the sexually transmitted disease pandemic: A time for reevaluation. Am J Obstet Gynaecol. 2004; 191:117-122.

[2] Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2010. Atlanta: U.S. Department of Health and human Services; 2011.

[3] Finer, LB, Zolna MR. Unintended pregnancy in the United States: Incidence and Disparities, 2006.Contraception, 2011 November; 84 (5) 478-485.

10

Health Concern

Obesity

The leading causes of death in Guilford County are chronic degenerative diseases, especially cancer and heart disease. These conditions also result in the highest medical costs to county residents. In 2011, residents of Guilford County incurred hospital charges of $238,788,385 for cardiovascular disease diagnoses, out of total hospital costs of $1,122,030,551. An important risk factor for chronic disease is overweight and obesity. Being overweight or obese increases the risk for coronary heart disease, type 2 diabetes, cancer, hypertension, stroke, and liver disease, as well as other conditions such as sleep apnea, respiratory problems, and osteoarthritis [1,3] An unhealthy diet and a lack of physical activity are both key contributors to rising obesity rates. [1,2] Consuming the proper amount of healthier foods and getting enough exercise is important in reducing the risk of obesity and chronic diseases as well as reducing the burden of health care costs. [4]

Data Highlights

- BRFSS survey estimates show a trend toward higher obesity rates in Guilford County for non-Whites compared to Other Races, higher rates for those over the age of 45 compared to those18-44, higher rates for those with a high school education or less compared to those with at least some college, and higher rates for those with household incomes less than $50,000 compared with those with higher incomes.
- Within Guilford County there are several disparities in physical activity, with those 45 and older more likely than younger person not to engage in leisure-time physical activity. Those with a high school education or less and those with less than a $50,000 household income are also more likely to get less exercise.
- Females in the county tend to have higher fruit and vegetable consumption compared to males, Whites have higher consumption compared to Other Races, and those with higher household incomes have higher compared to those with lower incomes.
- 9.9% of GCS high school students are overweight compared to 12.9% of NC high school students overall.
- 2 out of 5 (41.1%) of GCS middle school students and over half (55.4%) of GCS high school students did not engage in regular physical activity.
- Gender and racial disparities exist in the percentage of GCS high school students who ate vegetables other than carrots, salad and potatoes in the previous week.

Inside this Chapter

Overweight and Obesity

- Statewide close to 30% of adults have BMI scores greater than 30, or Obese; Whites statewide are less likely to be obese than other races and lower income residents are more likely than higher income residents to be obese;
- Regionally, the highest rates of obesity are in Alamance County and the lowest are in Forsyth.

HEALTHY NORTH CAROLINA 2020
CROSS-CUTTING OBJECTIVES

Objective: *Increase the percentage of adults who are neither overweight nor obese.*

Rationale for selection: Obesity increases an individual's risk for a host of chronic diseases, including heart disease, stroke, and certain cancers. It also increases the risk for premature death. The CDC calls obesity a "national health threat" and "a major public health challenge."

NC BASELINE (2009): **34.6%**
2020 TARGET: **38.1%**
GUILFORD (BRFSS 2010): **36.8%**
http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Percent of Adults with Body Mass Index Greater than 30 (Obese), By County and NC, 2010

Residence	Overall	White	Other Races	Less than $50,000	$50,000 or more
North Carolina	28.6	25.6	42.6 (Black)	36.3 (Less than $15,000)	22.0 (Greater than $75,000)
Alamance	30.1	26.2	38.3	30.9	34.8
Davidson	28.0	31.3	9.8	33.9	20.8
Forsyth	25.6	20.8	38.9	24.6	24.5
Guilford	28.3	24.2	38.6	36.9	23.7
Randolph	28.8	25.6	47.9	25.6	47.9

Source: Behavioral Risk Factor Surveillance System (BRFSS), NC State Center for Health Statistics, 2010

Body Mass Index Grouping—Underweight, Recommended Range, Overweight and Obese By Sex, Race, Age, Education and Household Income, Guilford and NC, 2010

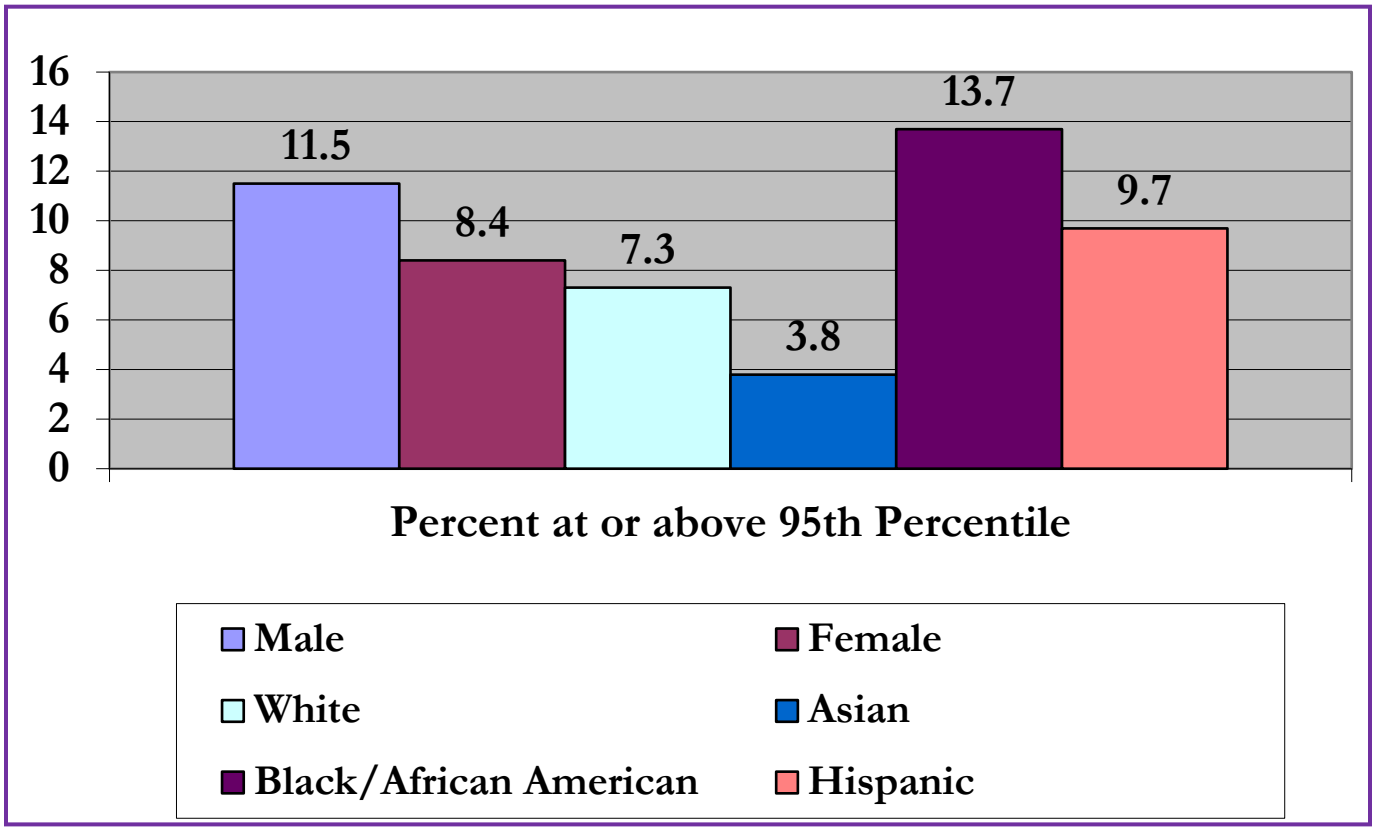
Category	Respondents	Underweight	Recommended Range	Overweight	Obese
North Carolina	11,534	1.4%	33.3%	36.7%	28.6%
Guilford County	653	1.6%	36.8%	33.2%	28.3%
Gender—Male	253	0.3%	28.0%	41.6%	30.1%
Gender—Female	400	2.8%	44.0%	26.4%	26.9%
Race—White	489	2.4%	40.3%	33.1%	24.2%
Race—Other	157	0.0%	28.2%	33.2%	38.6%
Ages 18-44	148	2.6%	42.9%	32.7%	21.8%
Ages 45+	497	0.8%	30.7%	34.3%	34.2%
High School or Less	214	0.2%	39.3%	27.0%	33.4%
Some College and More	438	2.2%	35.8%	35.6%	26.4%
Income Less than $50,000	310	0.4%	32.1%	30.6%	36.9%
Income $50,000 and Greater	269	2.7%	35.7%	37.9%	23.7%

Source: Behavioral Risk Factor Surveillance System Survey (BRFSS); NC State Center for Health Statistics.
Note: Underweight = BMI less than 18.5; Recommended Range = BMI 18.5 to 24.9; Overweight = BMI 25.0 to 29.9 and Obese = BMI greater than 30.0

- At the 95% confidence interval, obesity sub-group comparisons are not statistically significant. BRFSS survey estimates show a trend toward higher obesity rates for non-Whites compared to Other Races, higher rates for those over the age of 45 compared to those 18-44, higher rates for those with a high school education or less compared to those with at least some college, and higher rates for those with household incomes less than $50,000 compared with those with higher incomes.

Youth Overweight and Obesity

Overweight: At or Above the 95th Percentile for BMI[1], by Age and Sex[2]



Source: GCS Youth Risk Behavior Survey (YRBS) 2011-2012
N = 2,322
[1]Body Mass Index (BMI): A measure of body fat based on a person's height and weight. BMI is computed as weight in kilograms divided by height in meters squared (Kg/m2)
[2]Based on reference data from the 2000 CDC Growth Charts

- 9.9% of GCS high school students are overweight compared to 12.9% of NC high school students overall.
- Males make up a higher percentage of overweight high school students (11.5%) compared to females 98.4%);
- Asian teens have the lowest percentage of overweight at 3.8%, with Whites at 7.3%, Hispanics at 9.7% and Black/African-American high school students 13.7%,

Physical Activity

Percent of Adults with no Leisure Time Physical Activity, by County and NC 2010
(Percent answering "No" to question, "During the past month, other than your regular job, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?)

Residence	Overall	White	Other Races	Less than $50,000	$50,000 or more
North Carolina	25.7	24.8	30.1 (Black)	41.4 (LT $15,000)	13.2 (GT $75,000)
Alamance	28.6	26.6	34.6	33.1	12.5
Davidson	32.1	33.5	26.5	37.2	15.7
Forsyth	18.1	18.5	18.5	23.4	14.9
Guilford	20.7	20.3	22.2	27.9	14.1
Randolph	29.9	27.3	44.2	37.2	12.6

Source: Behavioral Risk Factor Surveillance System (BRFSS), NC State Center for Health Statistics

- Statewide about a quarter of residents do not get any leisure time physical activity;
- Statewide non-whites are more likely to say that they do not engage in leisure time physical activity and lower income residents are much more likely than higher income residents not to engage in leisure time physical activity.
- Regionally, the highest rate of physical inactivity is in Davidson County and the lowest rate of inactivity is in Forsyth, followed by Guilford.

Physical Activity and Exercise by Gender, Race, Age, Education and Household Income, Guilford County and NC, 2010
During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or waking for exercise?

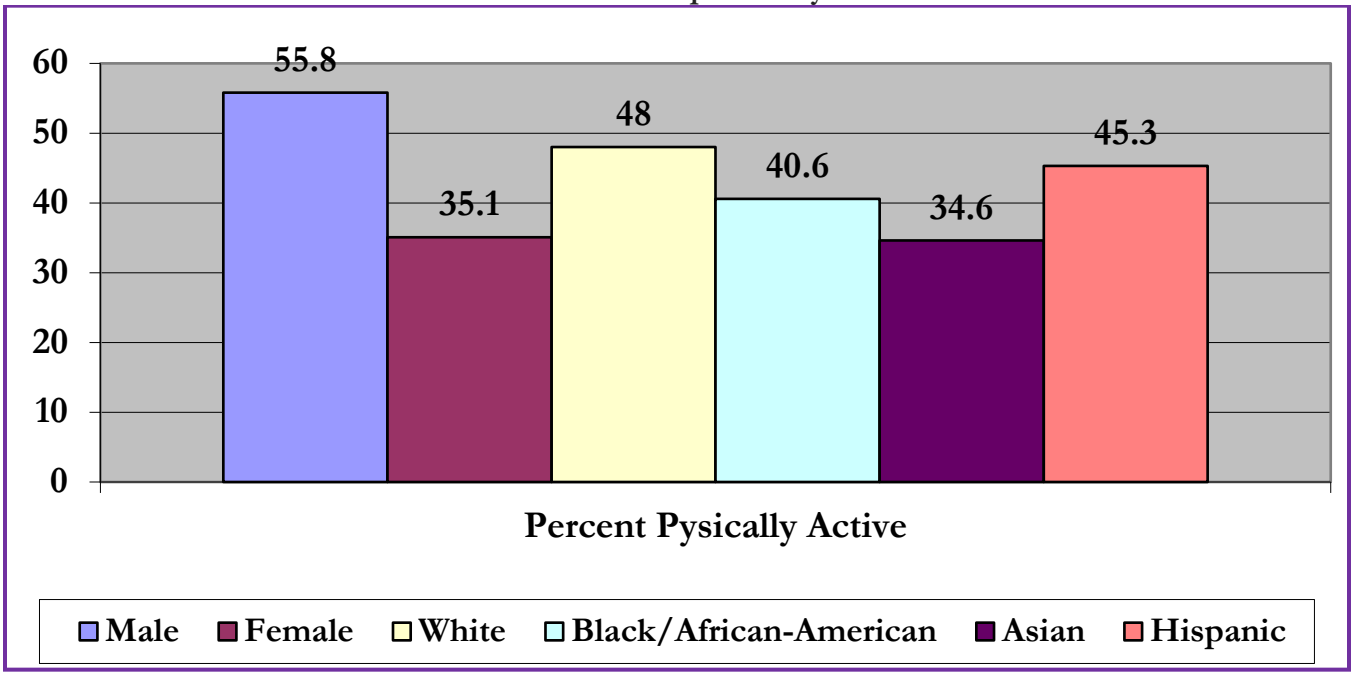
Category	Total Respondents	Yes	No
North Carolina	12,133	74.3%	25.7%
Guilford County	691	79.3%	20.7%
Gender—Male	258	84.8%	15.2%
Gender—Female	433	75.1%	24.9%
Race—White	515	79.7%	20.3%
Race—Other	169	77.8%	22.2%
Age 18-44	158	86.8%	13.2%
Age 45 and Older	523	72.9%	27.1%
High School or Less	229	60.3%	39.7%
Some College and More	461	86.7%	13.3%
Less Than $50,000	321	72.1%	27.9%
$50,000 and Over	281	85.9%	14.1%

Source: Behavioral Risk Factor Surveillance System Survey (BRFSS); NC Center for Health Statistics

- The percentage of persons in Guilford County with no leisure-time physical activity is lower than for the state as a whole.
- Within Guilford County there are several disparities in physical activity, with those 45 and older more likely than younger person not to engage in leisure-time physical activity. Those with a high school education or less and those with less than a $50,000 household income are also more likely to get less exercise.

Youth Physical Activity

GCS High School Students Physically active for a total of at least 60 minutes per day on 5+ of the past 7 days



N = 2,287
Source: GCS Youth Risk Behavior Survey (YRBS), 2011-2012

- A higher percentage of GCS middle and high school students engaged in regular physical activity in 2011 compared to 2008.
- 2 out of 5 (41.1%) of GCS middle school students and over half (55.4%) of GCS high school students did not engage in regular physical activity.
- A lower percentage of GCS high school students (44.6%) than GCS middle school students (58.9%) engaged in regular physical activity.

The Physical Activity Guidelines for Americans recommend that children and adolescents between the ages of 6 and 17 years old should have 60 minutes or more of physical activity each day. This activity should include aerobic activities, muscle-strengthening activities and bone-strengthening activities.

Source: U.S. Department of Health and Human Services. (2008). Physical Activity Guidelines for Americans. Washington, DC: U.S. Department of Health and Human Services. Available at: health.gov/paguidelines/chapter3.aspx.

Diet and Nutrition

Fruit and Vegetable Consumption
Consumed five or more servings of fruits or vegetables per day
By Gender, Race, Age, Education and Household Income, Guilford County and NC, 2009

Category	Total Respondents	No	Yes
North Carolina	12,867	79.4	20.6
Guilford County	412	79.2	20.8
Gender—Male	165	81.8	18.2
Gender—Female	247	75.9	24.1
Race—White	294	73.8	26.2
Race—Other	112	86.5	13.5
Age 18-44	93	79.1	20.9
Age 45 and Over	314	79.1	20.9
High School or Less	147	81.4	18.6
Some College and More	265	77.8	22.2
Less than $50,000	199	83.9	16.1
$50,000 and Greater	160	72.6	27.4

Source: Behavioral Risk Factor Surveillance System Survey (BRFSS); NC State Center for Health Statistics

- BRFSS survey estimates for sub-group comparisons for consumption of five or more servings of fruits or vegetables each day were not statistically significant at the 95% confidence level, but a trend was seen for higher fruit and vegetable consumption among females compared to males, for Whites compared to Other Races, and for those with higher household incomes compared to those with lower incomes.

HEALTHY NORTH CAROLINA 2020
PHYSICAL ACTIVITY AND NUTRITION

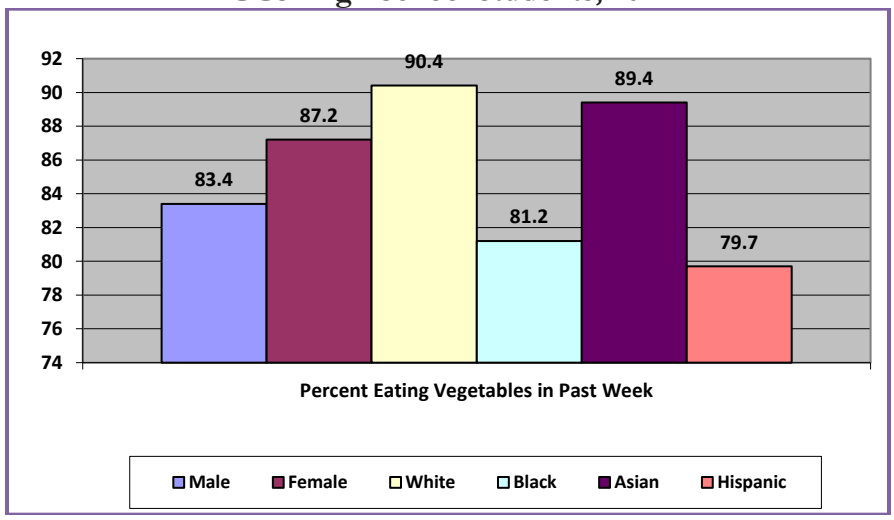
Objective: *Increase the percentage off adults who consume five or more servings of fruits and vegetables per day.*

Rationale for selection: Good nutrition is essential to good health and healthy weight. Fruits and vegetables are nutritious foods that have been shown to guard against many chronic diseases, including cardiovascular disease, type 2 diabetes, and some cancers.

NC BASELINE (2009): 20.6%
2020 TARGET: 29.3%
GUILFORD (BRFSS 2009): 20.8%

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Ate Vegetables (Not counting carrots, green salad, or potatoes) 1+ times during the past 7 days
GCS High School Students, 2011



Source: GCS Youth Risk Behavior Survey (YRBS), 2011-2012

- The majority of GCS high school students ate vegetables (not including salads, carrots or potatoes) during the previous week.
- About the same percentage of GCS high school students as NC high school students overall ate other vegetables during the previous week.
- Females have a higher percentage than do males of eating vegetables in the past week. A higher percentage of Whites (90.4%) compared to other races (African-Americans 81.2% and Asians 89.4%) ate vegetables, with Hispanics having the lowest percentage at 79.7%.

Highlights from Focus Groups

- There is a continued need to encourage mothers to breast-feed or give breast milk to their babies.
- Participants noted that there were not many safe places to walk or exercise within or near their communities.
- Participants were also less likely exercise outside of their neighborhoods due to transportation barriers.

A Spanish-speaking resident expressed the need for language-specific nutrition classes. Spanish-speaking mothers stated that they give their kids whatever they want to eat because that was how they had been raised. They realized that their kids may not be eating healthy but do not necessarily know how to prepare healthy meals and snacks for them.

- A need expressed by focus group participant

References:

[1] Centers for Disease Control and Prevention. Overweight and obesity: Causes and consequences. Centers for Disease Control and Prevention Web Site. Updated April 27, 2012. Accessed February 27, 2013.

[2] Hensrud DD. Diet and obesity. Current Opin Gastroentero. 2004;20:119-124.

[3] Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. JAMA, 2003;289:76-79

[4] Rosenberger RS, Sneh Y, Phipps TT, Gurvitch R. A spatial analysis of linkages between health care expenditures, physical inactivity, obesity and recreation supply. Journal of Leisure Research, 2005; 37.2:216-235.

11

Health Concern

Teen Pregnancy

Sexually transmitted infections (STIs) and poor birth outcomes were identified as pressing health issues in the Community Health Assessment. Teen pregnancy involves behaviors that can impact the risk of either or both of these health concerns. 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. [1] Pregnant teens are more likely than older mothers to enter into prenatal care late or not at all, experience pregnancy related conditions such as hypertension and anemia and fail to gain adequate weight during pregnancy. [2] Pregnant teens are also more likely to deliver a low-birth weight baby preterm, increasing risk of child developmental issues and illness. [3] Additionally, being a teen parent can adversely impact subsequent educational attainment and decreased employment earnings. [4]

Data Highlights

- In 2012, 633 girls between the ages of 15 and 19 became pregnant in Guilford County; 14 girls under the age of 15 became pregnant.
- The teen pregnancy rate in Guilford County declined steadily over the past 20 years, from about 90 per 1,000 teens ages 15-19 in 1993 to less than 40 per 1,000 in 2011.
- A significant racial disparity in teen pregnancy persists, but has been reduced from levels seen in the 1990's.
- Rates for Black/African American females are over 3 times as high as for White females but Hispanics have the highest rates of teen pregnancy.
- Geographic disparities in teen pregnancies are notable, with the highest numbers in zip codes in SE and East Greensboro and Central High Point.
- Over half of Guilford County middle school students had been taught about abstaining from sexual activity (54.8%) and HIV/AIDS (53.0%).
- In 2012, 3 teens ages 10-19 contracted syphilis, and 3 contracted HIV/Disease.
- Fewer Guilford County middle school students (53.0%) than NC Middle school students (62.4%) had been taught about HIV/AIDS.

Inside this Chapter

Teen Pregnancy

NC Resident Pregnancy Rates per 1,000 Females Ages 15-19 by Race and Ethnicity, 2007-2011

Residence	Total Rate	White non-Hispanic	Black non-Hispanic	Other non-Hispanic	Hispanic
North Carolina	43.8	30.8	61.6	39.4	71.1
Alamance	38.6	30.2	49.9	8.5	66.7
Davidson	44.5	36.9	47.3	68.0	102.4
Forsyth	43.9	21.5	60.5	32.1	81.7
Guilford	35.6	15.8	54.4	26.6	57.8
Randolph	54.7	47.3	78.5	35.7	85.2
Rockingham	38.8	38.3	34.6	30.3	52.4

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

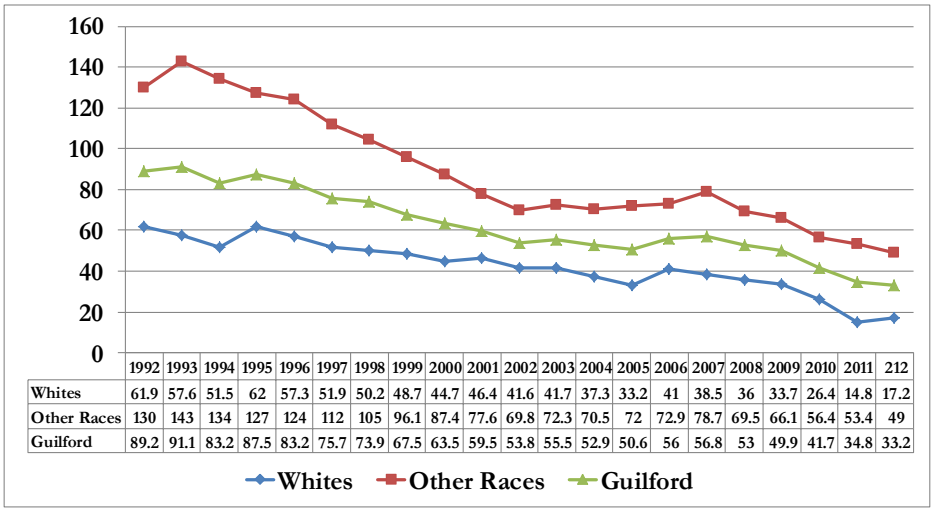
- Regionally, teen pregnancy rates were highest in Randolph County and lowest in Alamance.
- A significant racial disparity is seen statewide, with rates for African-Americans twice as high as for Whites.
- The highest teen pregnancy rates were Hispanic females; the highest Hispanic rates were in Davidson.
- Black-white racial disparities were greatest in Guilford and Forsyth counties.
- The teen pregnancy rate in Guilford County declined steadily over the past 20 years, from about 90 per 1,000 teens ages 15-19 (and 140 per 1,000 among African-Americans) in 1993 to less than 40 per 1,000 in 2011.
- The significant racial disparity in teen pregnancy persists, but has been reduced from levels seen in the 1990's.

Teenage Pregnancy in Guilford County
Numbers and Rates per 1,000 Females per Specified Age, 2002-2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Pregnancies Ages 10-14	20	20	25	22	21	28	28	19	15	14	14
Pregnancies Ages 15-19	848	898	882	869	971	1,008	966	897	792	665	633
Total Pregnancies Ages 10-19	868	918	907	891	992	1,036	994	916	807	679	647
Pregnancy Rate Ages 10-14	1.4	1.3	1.7	1.5	1.4	1.9	1.9	1.3	1.0	0.9	0.9
Pregnancy Rate Ages 15-19	53.8	55.5	52.9	50.6	56.0	56.8	53.0	49.9	41.7	34.8	33.2
Teen Pregnancy Rate Ages 10-19	28.5	29.6	28.9	28.0	30.9	31.7	30.6	27.8	23.2	19.3	18.3
Female Population Ages 10-14	14,678	14,826	14,665	14,623	14,747	14,932	14,795	14,945	15,763	16,058	16,200
Female Population Ages 15-19	15,754	16,181	16,682	17,163	17,315	17,735	18,243	17,966	19,003	19,083	19,077
Total Female Population Ages 10-19	30,432	31,007	31,347	31,786	32,062	32,667	33,038	32,911	34,766	35,141	35,277

Source: NC Center for Health Informatics and Statistics; Population estimates are from the NC Demographer's Office, NC State Office of Budget and Management.

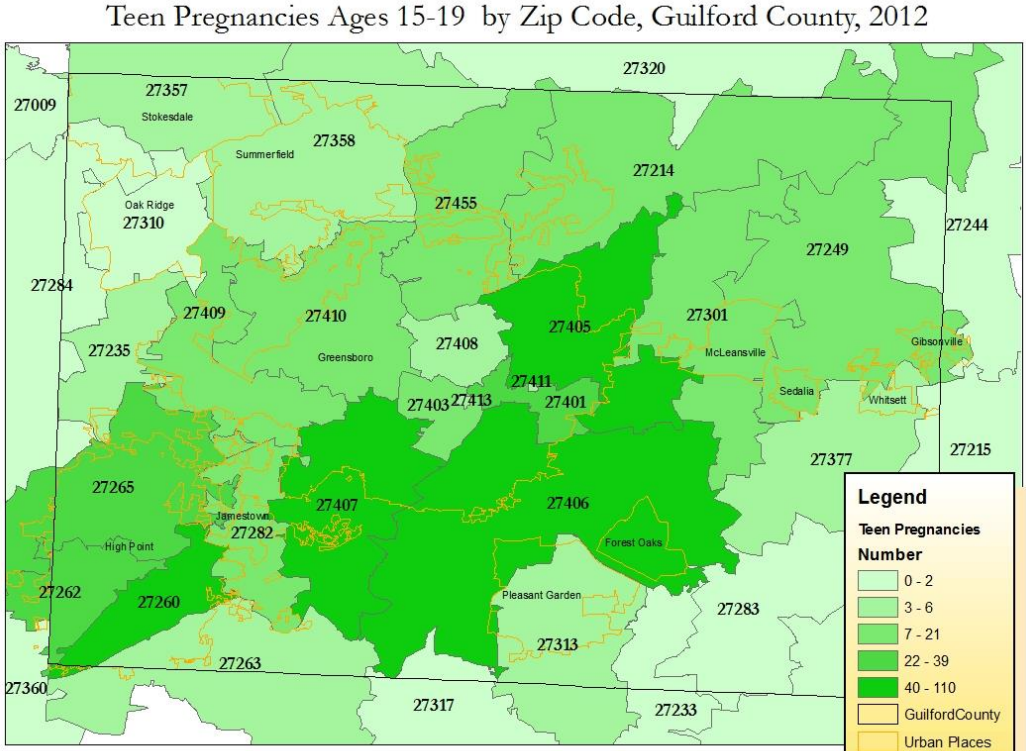
Pregnancy Rate per 1,000 Females Ages 15-19 by Race, Guilford County, 1992-2012



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	212
Whites	61.9	57.6	51.5	62	57.3	51.9	50.2	48.7	44.7	46.4	41.6	41.7	37.3	33.2	41	38.5	36	33.7	26.4	14.8	17.2
Other Races	130	143	134	127	124	112	105	96.1	87.4	77.6	69.8	72.3	70.5	72	72.9	78.7	69.5	66.1	56.4	53.4	49
Guilford	89.2	91.1	83.2	87.5	83.2	75.7	73.9	67.5	63.5	59.5	53.8	55.5	52.9	50.6	56	56.8	53	49.9	41.7	34.8	33.2

Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

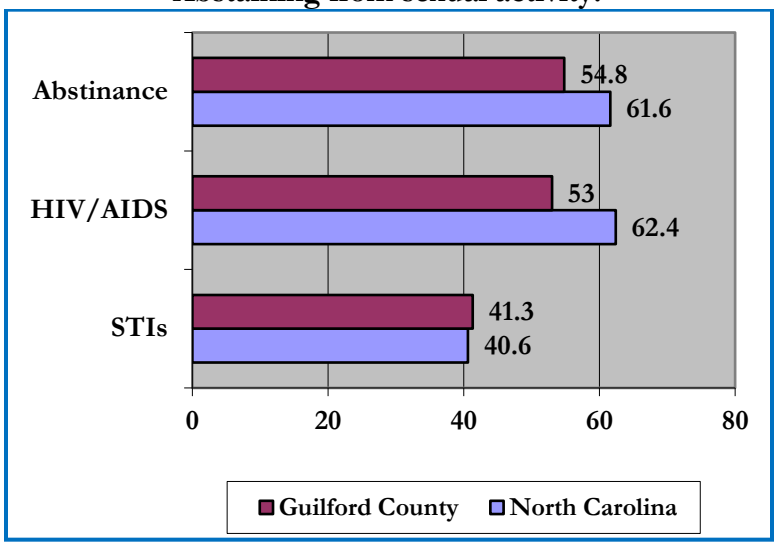
- Teen pregnancies are fewest in zip codes in the northwest and southeast suburban and rural areas of Guilford County;
- The numbers of teen pregnancies are highest in zip codes in areas of the county with higher proportions of minority and lower income residents.



Source: NC State Center for Health Statistics; Map prepared by the Guilford County Department of Public Health

Sexuality Education and Behavior

Middle School: Have you ever been taught about…
Chlamydia, gonorrhea, syphilis, human papillomavirus, or genital warts?
AIDS or HIV infection in school?
Abstaining from sexual activity?



Source: Guilford County Youth Behavior, 2011-2012.

- Over half of Guilford County middle school students had been taught about abstaining from sexual activity (54.8%) and HIV/AIDS (53.0%).
- Less than half (41.3% of GCS middle school students had been taught about STI's.
- Fewer Guilford County middle school students (53.0%) than NC Middle school students (62.4%) had been taught about HIV/AIDS.

Other findings from the Youth Risk Behavior Survey (2011-2012):

- 1 out of 14 (7.0%) of Guilford County high school students first had sexual intercourse before age 13. A higher proportion of Black/African-American students compared to students of other races and a higher proportion of males had their first sexual experience before the age of 13.
- 37.3% of Guilford County high school students had ever had sexual intercourse, with the lowest percentage among Asians (17.8%), Whites (28.4%), Hispanic/Latinos (42.8%) and Black/African Americans (48.7%).
- 37.4% of Guilford County high school students report having had sexual intercourse, but only 10.9% have been tested for HIV.

For more information from the 2011-2012 Guilford County Youth Risk Behavior Survey go to www.guilfordhealth.org

References:

[1] Meade, CS, Iskovics JR. Systematic review of sexual risk among pregnant and mothering teens in the USA: Pregnancy as an opportunity for integrated prevention of STD and repeat pregnancy. Soc Sci Med. 2005; 60:661-678.

[2] Scholl TO, Hediger ML, Belsky DH. Prenatal care and maternal health during adolescent pregnancy-A review and meta-analysis. J Adolesc Health. 1994;15:444-456.

[3] Chandra PC, Schiavello HJ, Ravi B, Weinstein AG, Hook FB. Pregnancy outcomes in urban teenagers. Int J Gynaecol Obstet, 2002; 79:117-122.

[4] National Campaign to Prevent Teen and Unplanned Pregnancy. (2012) Counting it Up. The Public Costs of Childbearing. Available at www.thenationalcampaign.org/costs

12

Health Concern

Access to Care

Access to quality clinical care, while not the largest contributing factor to individual and community health, remains crucial. 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 [1-2]. Access to effective and timely primary care has the potential to improve the overall quality of care and help reduce costs [3] and increases in numbers of primary care physicians has been shown to reduce mortality [4].

Community meeting participants rated lack of health insurance as the highest priority clinical care issues, with access to primary care providers as the second most important issue facing residents Guilford County.

Data Highlights

- Guilford County includes some 79,000 residents under the age of 65 with no form of health insurance.
- Racial minorities, those with lower educational attainment and those with lower incomes are less likely to have health insurance in Guilford County.
- Regionally, Guilford is second to Forsyth County in physicians and primary care physicians per 10,000 population.
- Having a regular health care provider, or "medical home" is important for providing continuity of care and helping to avoid unnecessary use of the Emergency Room;
- Minorities, young adults and persons with incomes below $50,000 are less likely to have a regular personal physician or health care provider.
- Substantial race and income disparities exist in percentage of persons who do not have a regular physician or health care provider. This issue includes access to primary care providers for physical and mental health.
- Socio-economic circumstances make a big difference in whether county residents are able to obtain the health care that they need;
- Minorities are much more likely than Whites to report that they needed to see a physician in the previous year but could not do so because of the cost;
- Young adults and those with lower incomes are often unable to afford to see a physician when they need to see one.

Inside this Chapter

Lack of Health Insurance

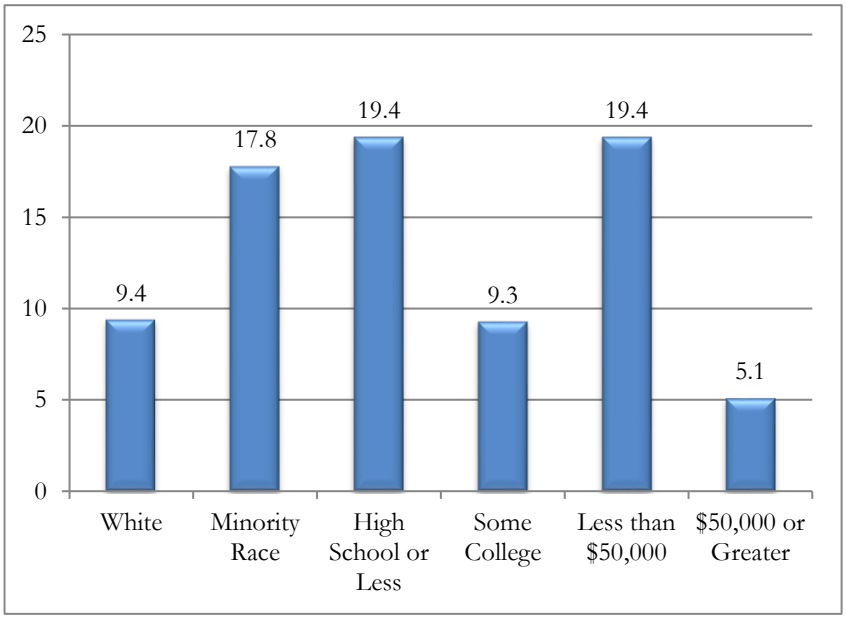
Estimates of Non-Elderly Uninsured, 2010-2011

County	Children (0-18)			Adult (19-64)			Total (0-64)		
	Number	Percent	Rank	Number	Percent	Rank	Number	Percent	Rank
Alamance	4,000	8.8%	High	21,000	21.3%	Mid-High	25,000	17.6%	Mid-High
Davidson	3,000	7.8%	Low	22,000	20.5%	Mid-Low	25,000	16.9%	Mid-Low
Forsyth	9,000	8.9%	High	47,000	20.3%	Mid-Low	56,000	16.9%	Mid-Low
Guilford	11,000	8.5%	Mid-High	68,000	20.4%	Mid-Low	79,000	16.9%	Mid-Low
Randolph	3,000	8.3%	Mid-High	19,000	20.5%	Mid-Low	22,000	16.9%	Mid-Low
Rockingham	2,000	8.0%	Mid-Low	12,000	20.3%	Mid-Low	14,000	17.0%	Mid-Low

Source: North Carolina County-Level Estimates of Non-Elderly Uninsured, North Carolina Institute of Medicine

Note: County-level estimates were developed using data from the U.S. Census Bureau and the North Carolina Employment Security Commission. County-level data from the U.S. Census Bureau's Current Population Survey were adjusted using county-level estimates of age, race, ethnicity, gender, poverty and unemployment. Data on types of industries and firms sizes were also factored into the estimates of uninsured. The table indicates the quartile of the data, so that High is in the top quartile of 25 counties with the highest rates, High-Low is in the next 25 counties and so forth.

Percent with no Health Insurance, Guilford County, 2010



Source: Behavioral Risk Factor Surveillance System Survey (BRFSS) 2010; NC State Center for Health Statistics.

- Health insurance is the most important factor in accessing health care services.
- In Guilford County, minorities are less likely to have some form of health insurance.
- Persons with less than a high school diploma were twice as likely as those with at least some college to be without health insurance.
- Those with lower incomes are also less likely to have some form of health insurance.

HEALTHY NORTH CAROLINA 2020
CROSS-CUTTING OBJECTIVES

Objective: *Reduce the percentage of non-elderly uninsured individuals (aged less than 65 years)*

Rationale for selection: Increasing health insurance coverage will increase access to care, including clinical preventive services

NC BASELINE (2009): **20.4%**
2020 TARGET: **8.0%**
GUILFORD (NC-IOM 2010-2011): **16.9%**

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

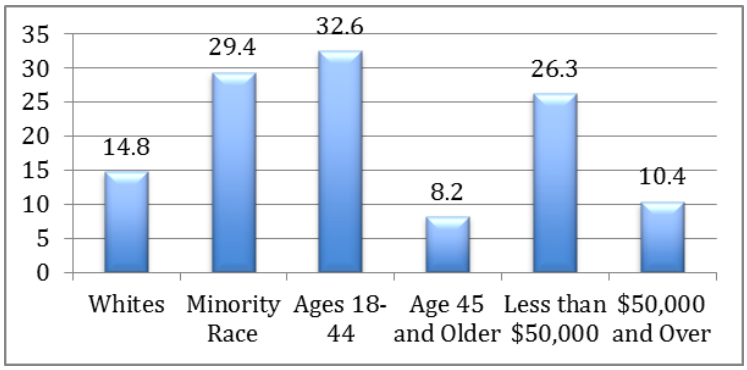
Access to Primary Care Providers

Physicians and Primary Care Physicians per 10,000 Population, by County 2011

Residence	Physicians per 10,000 population	Primary Care Physician per 10,000 population
Alamance	17.2	6.4
Davidson	7.8	4.5
Forsyth	47.0	12.7
Guilford	24.3	8.6
Randolph	9.4	4.6
Rockingham	10.0	4.7

Source: County Profiles: 2011 Active Health Professionals, UNC Sheps Center for Health Services Research.

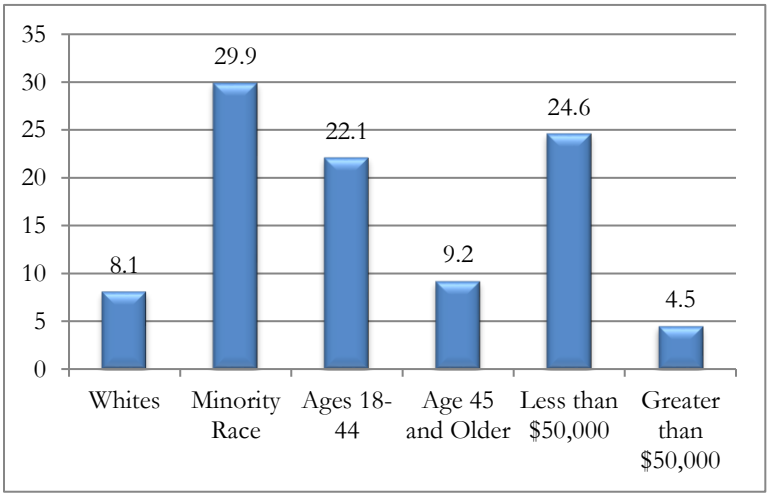
Percent with No Regular Personal Physician or Health Care Provider, Guilford County 2010



Source: Behavioral Risk Factor Surveillance System Survey (BRFSS); NC State Center for Health Statistics

- Having a regular health care provider or "medical home" is important for providing continuity of care and helping to avoid unnecessary use of the emergency room.
- Minorities, young adults and persons with incomes below $50,000 are less likely to have a regular personal physician or health care provider.

Percent that Needed to See a Physician in Previous 12 Months but Could Not Because of the Cost, 2010



Source: Behavioral Risk Factor Surveillance System Survey (BRFSS) 2010; NC State Center for Health Statistics

- Economic factors make a big difference in whether residents are able to obtain the health care that they need.
- Minorities are much more likely than Whites to report that they needed to see a physician in the previous year but could not do so because of the cost.
- Young adults and those with lower incomes are often unable to afford to see a physician when they need to see one.

Access to Dental Care

How long has it been since you last visited a dentist or dental clinic for any reason?

	1-12 Months	1-2 Years	2-5 Years	5+ Years	Never
Guilford	75.7%	6.4%	9.4%	8.1%	0.4%
North Carolina	67.0%	10.3%	10.1%	11.8%	0.7%

Source: Behavioral Risk Factor Surveillance System, 2010; NC State Center for Health Statistics.

- Compared to the state as a whole, a higher percentage of Guilford County residents visited a dentist or dental clinic in the previous 12 months.

How long has it been since you last visited a dentist or dental clinic for any reason?
Guilford County

	1-12 Months	1-2 Years	2-5 Years	5+ Years	Never
White	82.2%	4.0%	7.9%	5.9%	0.0%
Other Race	61.8%	11.9%	22.1%	13.0%	0.7%
Male	83.5%	4.5%	6.4%	5.6%	0.0%
Female	69.7%	7.9%	11.7%	10.0%	0.7%
<=High School	61.9%	8.5%	11.2%	13.0%	1.0%
Some College	80.9%	5.7%	8.7%	4.7%	0.0%
Less Than $50,00	61.2%	29.5%	15.3%	13.0%	1.0%
Greater Than $50,000	88.1%	2.8%	5.1%	4.0%	0.0%

Source: Behavioral Risk Factor Surveillance System, 2010; NC State Center for Health Statistics.

- According to results of the BRFSS survey, a higher percentage of Whites visited a dentist or dental clinic in the previous 12 months compared to Other Races;
- Men were more likely to have visited a dentist or dental clinic in the previous 12 months compared to women;
- Those with lower levels of educational attainment and lower income were less likely to have visited a dentist or dental clinic in the previous year.

Medicaid Eligibles by Age or Group,
Guilford County Compared to State Totals for June 2010

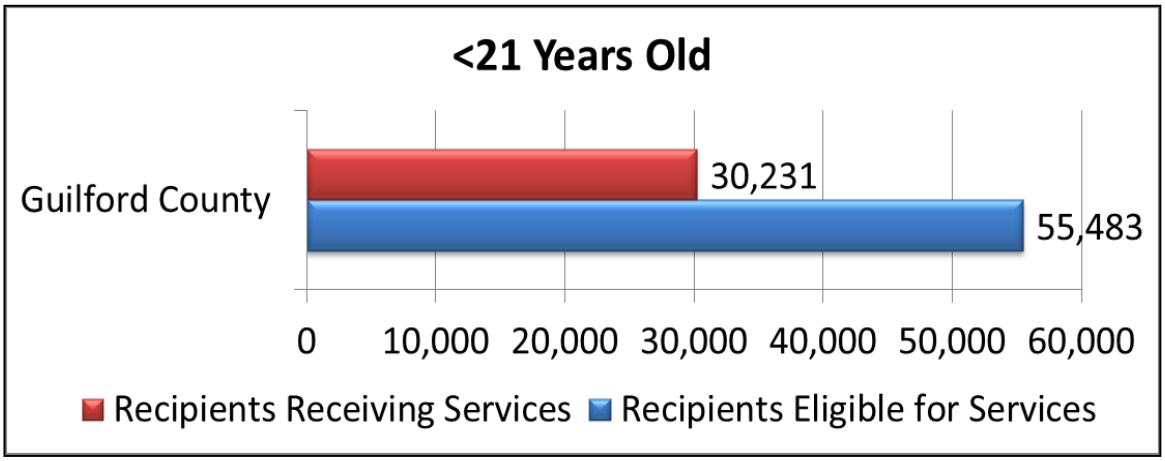
	Health Choice	Ages 0-5	Ages 6-11	Ages 12-20	Total Medicaid Population	Total Population July 2009	Medicaid Eligibles as % of Population
Guilford	6,014	19,878	12,743	13,547	74,943	488,406	15%
North Carolina	143,022	408,023	253,855	274,805	1,577,121	9,543,537	17%

Source: County Specific Snapshots for NC Medicaid Sources: NC Division of Medical Services, NCDHHS.

- Compared to the state as a whole, a slightly lower percentage of the population of Guilford County is Medicaid Eligible.

Dental Utilization State Fiscal Year 2010

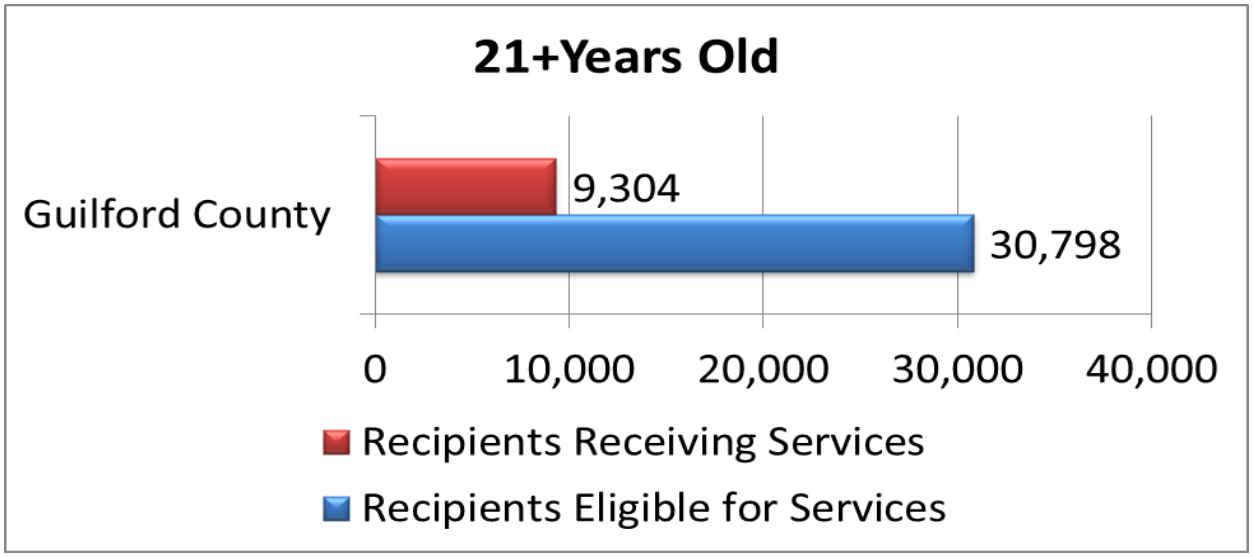
Number of Person under Age 21 who were Medicaid Eligible as Compared to those Receiving Dental Services in Guilford County



Source: County Specific Snapshots for NC Medicaid Sources: NC Division of Medical Services, NCDHHS.

- Among those under the age of 21, 54.5% of those eligible for Medicaid dental services used services in 2010.

Dental Utilization SFY2010
Number of Medicaid Eligibles Age 21 and Older Receiving Dental Services
Guilford County



Source: County Specific Snapshots for NC Medicaid Sources: NC Division of Medical Services, NCDHHS.

- Among those over the age of 21, only 30.2% of those eligible for Medicaid dental services used services in 2010.

Highlights from Focus Groups

The Institute of Medicine defines access to health care as "the timely use of personal health services to achieve the best possible health outcomes" (1993). Health care services and resources enable community members to maintain or improve their health in a number of ways. Gaining access to health care services, however, depends on community members' ability to overcome financial, organization, social and cultural barriers. Community members have identified three major barriers that hinder their ability to obtain health care. These barriers include a limited number of health care providers, health care cost and prescription medicine cost.

Limited Number of Health Care Providers

County residents drew attention to the limited number of health care providers in Guilford County. A limited number of providers decreases the capacity to provide primary health care within the county. One major underlying factor is that medical schools are not producing enough physicians, particularly primary care providers. The allure of medical specialties and the financial incentives often associated with specialty provision affect the number of primary care providers. Access to health care is further complicated by the number of specialists willing to accept Medicaid. Because of this it is extremely difficult for marginalized populations to find specialty care. Specialty care includes access to dentists. There are low-cost dental clinics available, however, they are not offered frequently. Being seen at one of these clinics often requires standing in line outside overnight to ensure that one is closer to the front of the line.

There is also a shortage of mental health providers, at a time when demand for these services is high. This shortage has resulted in long waits for clients scheduling a first appointment and co-pays are typically costly (assuming a client even has insurance). Providers often encounter social work issues because the case management sector of the medical services is highly understaffed. The social work issues make the medical staff less efficient and less able to care for new patients or address new challenges that may arise. Specifically, care is delayed or cannot be provided when previous screenings are necessary for treatment but not affordable or accessible to the patients.

There are resources available that provide access to care for low to no cost. However, there are a limited number of places that you can go to seek treatment without insurance. Furthermore, many providers place caps on the number of Medicaid patients that they will accept into their practices adding to the challenge of seeking treatment. Because of this, it is difficult to address complex medical problems for un- or underinsured patients. Additionally, physician turnover rates at low-cost clinics exacerbate the issue. This further limits the number of health care providers that are willing to take on marginalized populations as new patients.

Health Care Cost

Patients are unable to afford health care costs and medical supplies. Many home foreclosures have stemmed from medical circumstances and rising health care costs. Patients expressed having to choose between health care costs and taking care of their families. Therefore, many patients do not seek treatment until they are in need of urgent care or have found other resources. Fear of health care cost causes many patients to self-treat and delay care. Many patients suffer through illness because they cannot afford treatment options. Fear of health care cost also causes patients to not disclose all of their symptoms with their physician due to worry that their doctor fees and copays will increase with full disclosure. Additionally, many patients cannot obtain health care services due to high deductibles. Those with access to COBRA when employment is lost cannot afford to meet deductibles without income.

Prescription Medicine Cost

The high costs of prescription medication and medical supplies make it difficult for patients to obtain. This results in an increase of preventative hospital readmissions for serious illness. Community members feel that diabetic medical supplies are one of the most urgent needs in Guilford County. Retired respondents receiving Medicare benefits are still unable to afford the supplemental care and drug plans needed for specific medical conditions. This is largely due to the expendable income that they have goes to grocery provisions and other bills.

Some patients have expressed that they do not necessarily want prescription medications to solve their problems. Patients would like to be examined holistically before medications are prescribed. Mental health patients particularly feel that mental health practitioners appear to be rushing to prescribe medicine without thorough examination.

Disease Prevention and Health Promotion

Prevention activities focus on assessing the health risk of Guilford County residents, particularly those who are asymptomatic, and providing appropriate health responses to prevent the development of disease. Additionally, disease prevention focuses on the use of screening and surveillance tests for early detection. Quality of life does not consist of the absence of disease alone, but the ability of Guilford County residents to experience enjoyment and life fulfillment. Health promotion efforts exist via the many services and resources available to support the physical and emotional well-being of Guilford County residents. This support is thought to increase the quality of life among those living within the county. Community members identified issues of preventative care and limited outpatient care as major barriers in disease prevention and health promotion in Guilford County.

Preventative care is limited among marginalized populations. There is the need for preventative care, but this type of care is lacking. Lack of preventative care within the community is exacerbated by transportation challenges**,** particularly among senior citizens. Patients often defer care and miss scheduled appointment because they do not have transportation to their provider's office. Patients often have a long wait period for appointments which are often during day-time work hours. This is an obstacle for patients working traditional hours. Furthermore, patients who do not have access to preventative care have no choice but to seek treatment in the emergency room. Those who seek treatment in the emergency room often are unable to obtain follow-up services. This results in recurring treatment in the emergency room. Lack of awareness and stigmatization deter patients and their families from seeking medical treatment, particularly in reference to mental health. There is a need to educate the community as whole on preventative care and mental health issues.

There is a perception that primary care providers feel that they must focus on meeting regulatory requirements for disease care management. There is no incentive to treat other diseases and health conditions that are not a high priority, and these conditions are therefore being ignored. Furthermore, providers expressed that they have to spend time defending the medical decisions that they make. This reduces the time that physicians have to treat patients and further limits access. Time restraints on providers also affect their ability to stay current on the most up to date medical breakthroughs. As a result, providers do not have time to attend best practice lectures or seminars or research information on their own. Additionally, providers have to dedicate time to comply with billing codes rather than utilizing that time to spend with the patient or improving their practice. Specifically, recurrent preventive care cannot be medically coded and therefore covered by insurance until the provider codes the care as treatment for an illness. Treatment for illness is more expensive than preventative care, resulting in higher health care cost. In addition, some providers require separate visits by their patients so that services can be spread out over the course of several visits for billing code purposes. This is particularly challenging for elder patients for whom going to the doctor is a large undertaking that takes a great amount of time, energy and resources that they may not have.

Outpatient Care

There is limited support for outpatient care as a result of decreased funding. When acute mental health issues turn out to be more severe, due to lack of care, these individuals end up in the emergency department. Assistance for these mental health issues is extremely limited, yet the need continues to grow. Mental health service issues cannot be solved by providers at the ground level but rather must start larger where the system changes such that seeing a therapist is not considered a luxury. While mandates have been imposed upon the state, there is not the financial support to uphold such mandates. This specifically includes the Critical Access to Behavioral Health (CABA) program for which there is little support. Even for services sites that have behavioral health built in, such as Wesley Long, there is still a constant overflow because the resources do not meet the demands, which means that patients end up waiting two to three weeks to reach a psychiatric bed. Transitional care has potential to provide the necessary support to prevent readmissions. There is a need for health care professionals to follow up with

discharged patients to confirm whether they are keeping their outpatient appointments. Previously, physicians used to have to see patients after visiting the emergency room. However this requirement has changed and community members believe this should be reinstated.

Mental Health

Mental health issues are also difficult within the county because there are a limited number of mental health providers. Mental Health patients have to wait 2 or 3 months to see a psychiatrist, especially for the children and adolescent population. For those who have no insurance, the wait is longer. Due to the limited options for treatment of mental illness in Guilford County, mental health patients often have to seek treatment in emergency rooms. As a consequence, the emergency room has become a location to hold patients who need mental treatment. Furthermore, mental health patients have drained resources from the emergency department. Community members feel there needs to be a shift from government funding on stringent regulations to providing resources for mental health.

Providing and promoting free or affordable mental health service is critical particularly for young people because it could mean preventing things like school shootings. Generally, mental health care meant connecting with others so as to avoid isolation and loneliness. Often times this connection was with other peers or individuals who have had a mental health diagnosis and not necessarily formal service providers. Those individuals typically had access to therapy but found that connections with peers made more of a difference in their lives because those peers were proactive and sought the person out whenever they would isolate themselves.

Depression and bipolar disorder is common among new mothers. Mental health services must be adequately addressed and funded such that with the proper treatment those mothers are able to continue providing adequate care to their children. Furthermore, mental health issues among children are difficult to diagnose and treat. Provider may not be adequately trained to diagnose and treat mental health concerns; however they are still expected to proceed with treatment. This is often with limited resources available to the child and their family. Public awareness and education about resources and services are needed particularly among African American communities, men and military veterans. There is a perception that these various groups may feel that there is no social space for them to experience mental illness. This results in persistent mental health stigma and deters seeking of care. In addition, immigrants were noted as needing particular assistance in discussions about and service seeking around mental health.

Immigrant Health Challenges

Language barriers among immigrant populations limit optimal health care. There are over a 154 different languages spoken in the Triad area. It is difficult to understand the health care needs of immigrant populations when there is a language barrier. This is exacerbated by a lack of health literacy. Patients who do not speak English have difficulty comprehending health information. This makes it difficult for them to understand treatment options and adhere to follow-up protocols. Language barriers have also restricted immigrant populations from thriving economically and has led to consistent poverty. Language and cultural barriers have also lead to medical distrust which leads to deterrence of health care.

Immigrant populations that are underinsured or uninsured do not have access to care. If even a minor illness occurs it can result in detrimental economic consequences. The Affordable Care Act does not give undocumented immigrants access to health insurance. Furthermore, current resources require patients to enroll in government sponsored health insurance. Undocumented patients are hesitant to enroll in such programs for fear that it will lead to deportation. The state of North Carolina will have to determine how to best handle undocumented immigrants who lack insurance. Since undocumented workers have no source of preventative care, they have no other option but to use the emergency room or clinics to receive treatment.

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[3] Steinbrook R. Easing the shortage in adult primary care—Is it all about money? N Engl J Med. 2009; 360:2696-2699.

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Health Concerns

Unemployment, Poverty & Violent Crime

According to Healthy People 2020, the health agenda for the nation, social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship and age that impact a wide range of health, functioning, and quality-of-life outcomes and risks. As the data in this chapter illustrates, these social conditions, such as income, employment and where a person lives, have a significant impact on the health of individuals, families and communities. According to the County Health Rankings health model, social and economic factors make the largest contribution--40%--to health outcomes.
http://www.countyhealthrankings.org/our-approach/healthfactors/

Data Highlights

- Regionally, Guilford County had the second highest unemployment rate in the area at 10.1%, following Rockingham County's rate of 11.3%.
- The Guilford County unemployment rate for African Americans was 16.0%, compared to 9.3% for whites; Large geographic disparities in unemployment were also found.
- Guilford County's estimated median family income was $59,962 and the per capita income was $26, 644 in Guilford County for 2007-2011; Large income disparities were found for Race/Ethnicity and geographically.
- In Guilford County and North Carolina, African-Americans and Hispanics had poverty rates more than twice that of whites.
- In Guilford County, six census tracts—three in Greensboro and three in High Point—had a range of 37.5% to 63% of households below the poverty level.
- The rate of violent crime in Guilford County was higher than in the state as a whole. Homicides were highly concentrated in a few high-minority, high-poverty census tracts.
- Renter-occupied housing ranged from 4-15% in affluent suburban and rural census tracts to as high as 57-72% in high-minority, high poverty areas.
- Significant disparities were found in educational attainment.

Inside this Chapter

Employment

A British study published in 1987 provided the first convincing evidence that unemployment leads to declines in health status. [1] Unemployment can lead to an increase in unhealthy behaviors related to alcohol and tobacco consumption, diet, and exercise, which in turn can lead to increased risk for disease or mortality. [2] Lack of employment, under-employment or low-wage employment increases the risk of poverty and restricted access to the material requirements for healthy living such as housing, utilities and healthful food as well as access to health insurance and health care.

Civilian Employed Population by Occupation in North Carolina, Guilford County and Surrounding Counties

Residence	Management, Business, Science & Arts	Service	Sales & Office	Natural Resources, Construction & Maintenance	Production, Transportation & Material Moving
North Carolina	35.0%	16.7%	24.2%	10.5%	13.7%
Alamance	30.7%	17.0%	25.9%	10.3%	16.1%
Davidson	27.2%	14.6%	26.3%	11.1%	20.7%
Forsyth	38.4%	16.5%	25.4%	8.3%	12.3%
Guilford	35.8%	16.3%	27.4%	7.8%	12.7%
Randolph	25.6%	14.6%	22.8%	12.0%	25.0%
Rockingham	24.1%	15.8%	23.6%	12.6%	23.9%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- With regard to employment by occupation, Guilford County and surrounding counties reflect employment patterns in North Carolina overall.
- Guilford, Forsyth and Alamance counties had the highest percentages of the civilian employed population in occupations associated with management, business, science and arts as compared to other area counties, at 38.4%, 35.8% and 30.7% respectively.
- Guilford County and surrounding counties had similar percentages in service (range of 14 – 17%) and sales and office occupations (22 – 27%). (ACS 07-11).

Population 16 years and over in Labor Force, North Carolina, Guilford County and Surrounding Counties

Residence	Number	Percentage
North Carolina	4,784,984	64.6%
Alamance	77,610	65.7%
Davidson	82,131	64.3%
Forsyth	175,075	64.2%
Guilford	256,934	67.1%
Randolph	71,926	65.3%
Rockingham	44,939	59.7%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- Approximately 65% of the population ages 16 and older were estimated to be in the labor force in North Carolina (ACS 07-11).
- Guilford County and surrounding counties reflect the state estimate, with the exception of Rockingham County with was estimated at 59.7%. (ACS 07-11).

Employment by Industry in North Carolina and Guilford County

Type of Industry	North Carolina	Guilford
Agriculture, forestry, fishing, hunting & mining	1.5%	0.4%
Construction	7.7%	5.7%
Manufacturing	13.1%	12.8%
Wholesale trade	2.9%	4.1%
Retail trade	11.6%	12.7%
Transportation, Warehousing & Utilities	4.4%	5.1%
Information	1.9%	2.3%
Finance & Insurance, Real Estate, Rental & Leasing	6.5%	8.1%
Professional, Scientific, Management, Administration & Waste Management Services	9.5%	9.0%
Educational Services, Health Care & Social Assistance	22.9%	22.6%
Arts, Entertainment, Recreation, Accommodation & Food Services	8.7%	9.7%
Other Services, except Public Administration	4.8%	4.6%
Public Administration	4.4%	2.8%

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- With regard to employment by industry type, Guilford County reflects employment patterns that occur in the state overall.
- Comparing Guilford County to area counties, manufacturing industry employed a greater percentage in Davidson, Randolph and Rockingham as compared to Alamance, Forsyth and Guilford counties and the state overall.
- Conversely, in Alamance, Forsyth and Guilford counties, a slightly higher percentage of workers were employed in the following industries: 1)Arts, Entertainment, Recreation, Accommodation & Food Services; 2) Professional, Scientific, Management, Administration & Waste Management Services; and 3) Professional, Scientific, Management, Administration & Waste Management Services. (ACS 07-11)

Employment Status in Civilian Labor Force Status, Guilford and Surrounding Counties, 2007-2011

County	Unemployment in Labor Force
Alamance	8.6%
Davidson	10.0%
Forsyth	8.8%
Guilford	10.1%
Randolph	9.5%
Rockingham	11.3%

Source: American Community Survey, Five-Year Estimates, 2007-2011 U.S. Census Bureau.

- For the recent time period 2007-2011, Rockingham County had the highest unemployment rate, followed by Guilford and Davidson counties (ACS 07-11).

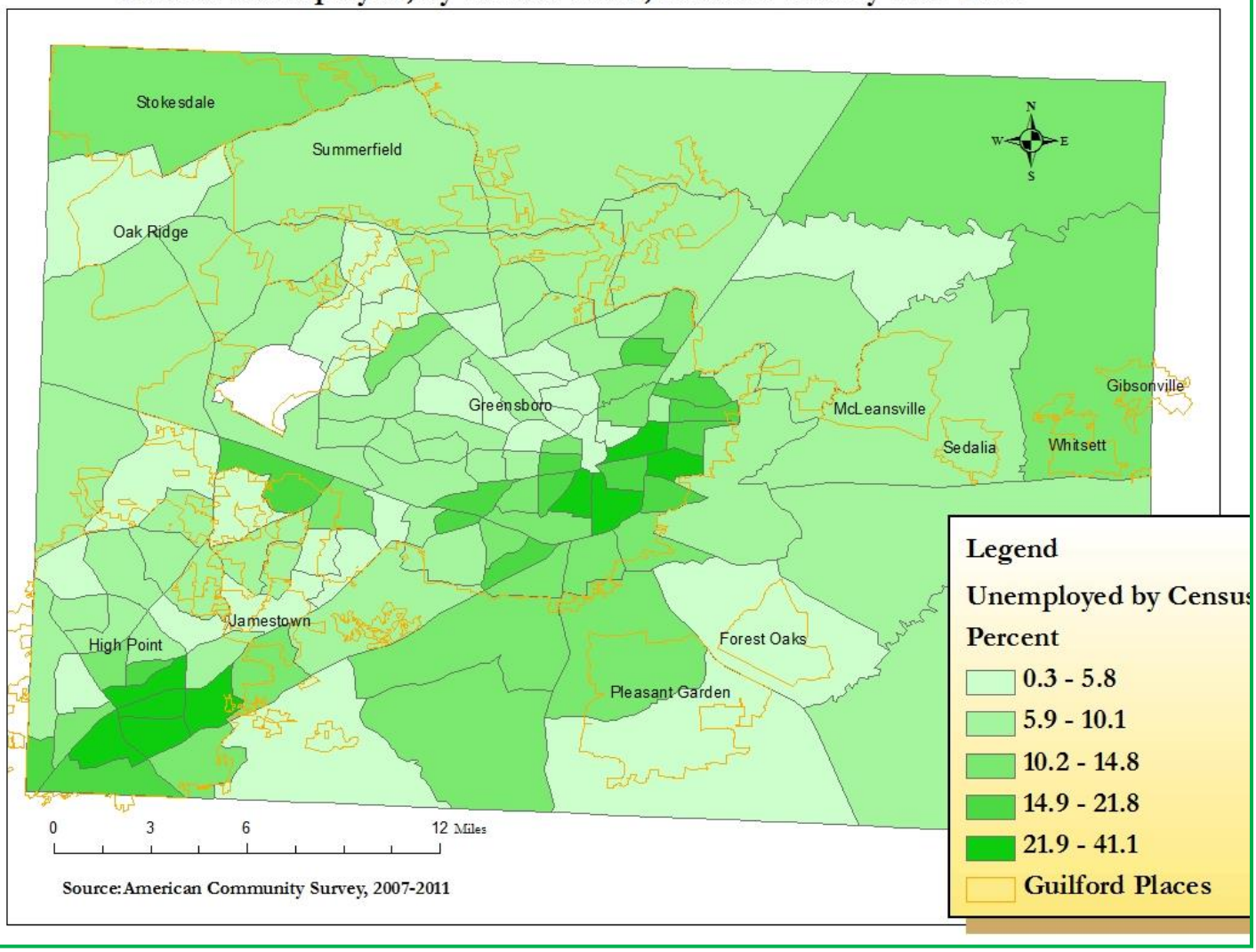
Percent Unemployed by Race and Ethnicity, North Carolina, Guilford County and Forsyth County, 2009-2011

Residence	White	African American	Asian	Hispanic
Guilford	9.3%	16.0%	10.8%	10.1%
Forsyth	7.9%	18.1%	7.1%	10.0%
North Carolina	9.9%	17.9%	8.0%	13.1%

Source: American Community Survey, Five-Year Estimates, 2007-2011 U.S. Census Bureau.

- Unemployment varied by race and ethnicity.
- African Americans in North Carolina were unemployed at rates almost twice that of whites.
- Guilford County had a similar racial disparity, with unemployment for African Americans at 16.0% as compared to 9.3% of whites. (ACS 07-11)

Percent Unemployed, by Census Tract, Guilford County 2007-2011



- Unemployment is not distributed evenly across the county geographically but is highly disparate;
- Unemployment rates range from census tracts in northwest Greensboro and other suburban tract to census tracts in southeast Greensboro and High Point with rates ranging from 22% to 41%.

Income and Poverty

Without sufficient income, at least to a certain threshold, individuals have difficulty obtaining health insurance and paying for medical care and they may have difficulty meeting basic needs like healthy food and safe housing [3].

One study showed that if poverty were considered a cause of death in the U.S., it would rank among the top 10 [4]. While negative health effects resulting from poverty are present at all ages, children in poverty face greater illness and death due to greater risk of injury, lack of health care access, and poor educational achievement. [5,6].

Early or prenatal poverty may result in developmental damage. Children's age-five IQ correlates more with family income than with maternal education, ethnicity, and living in a single female-headed household. [6]

HEALTHY NORTH CAROLINA 2020 SOCIAL DETERMINANTS OF HEALTH

Objective 1: *Decrease the percentage of persons living in poverty.*

Rationale for selection: In general, increasing income levels correspond with gains in health and health outcomes–especially at the lower end of the income scale. People in poverty have the worst health, compared to people at higher income levels.

BASELINE (2009):	**16.9%**
2020 TARGET:	**12.5%**
Guilford (ACS 2010-2012):	**18.0%**

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Income and Benefits, Guilford and Surrounding Counties (in 2011 Inflation-Adjusted Dollars)

	With Food Stamp/SNAP Benefits in the past 12 months	Median Family Income	Per Capita Income
Alamance	11.7%	$54,605	$23,477
Davidson	12.7%	$55,015	$22,624
Forsyth	8.7%	$60,235	$26,424
Guilford	10.9%	$59,962	$26,644
Randolph	11.7%	$49,294	$21,384
Rockingham	13.5%	$48,112	$20,861

Source: American Community Survey, Five-Year Estimates, 2007-2011,U.S. Census Bureau.

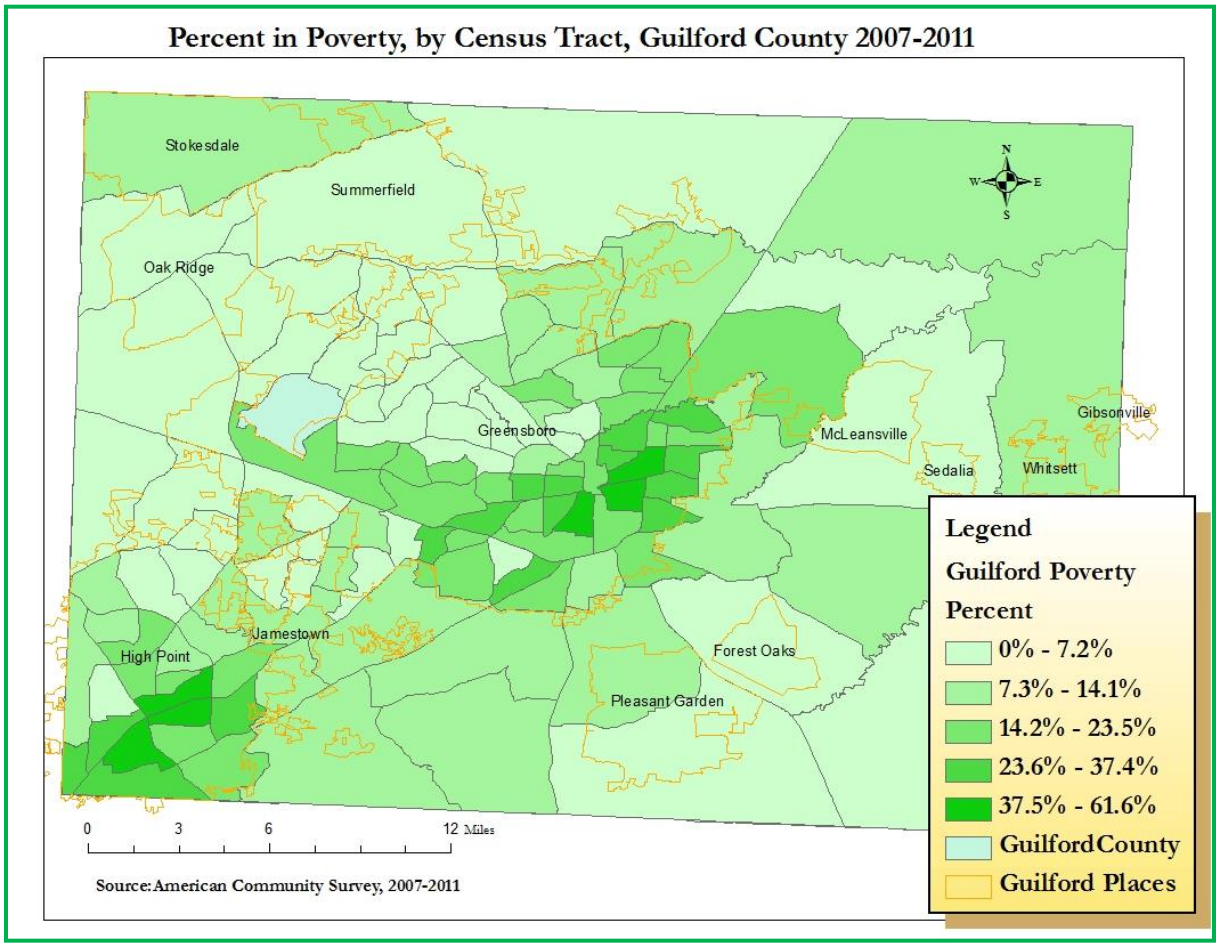
- Median family income ranges from $48,112 in Rockingham County to $60,235 in Forsyth County.
- Per capita income ranges from $20,861 in Rockingham County to $26, 644 in Guilford County.
- Rockingham, Davidson and Alamance Counties had the highest percent of residents with Food Stamp/SNAP benefits in the past 12 months.

Percent of Persons below Poverty Level, by Race and Ethnicity Guilford County, Forsyth County and North Carolina, 2007-2011

Residence	Total	White	Black	Hispanic
Guilford	16.2%	10.0%	24.5%	31.4%
Forsyth	16.3%	10.6%	25.2%	36.5%
North Carolina	16.2%	11.8%	26.1%	26.1%

Source: American Community Survey Five-Year Estimates, 2007-2011, U.S. Census Bureau.

- Statewide, African-Americans and Hispanics have poverty rates twice that of whites.
- In Guilford County and Forsyth County, Hispanics have even higher poverty rates than do whites.
- In both Guilford County and North Carolina as a whole, high school graduates are only half as likely to be in poverty as those without a high school diploma.
- Adults over the age of 25 are 7.5 times more likely to be in poverty as are college graduates.



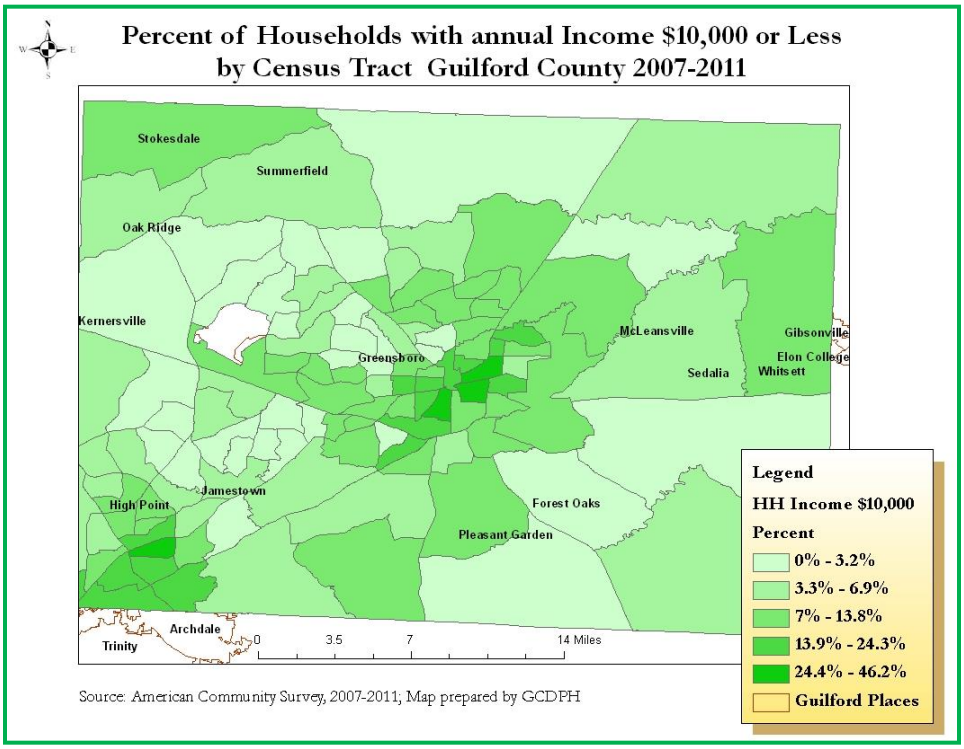
- In Guilford County, six census tracts—three in Greensboro and three in High Point—had greater than 37.5%--and up to 63%-- of households below the poverty level.
- High poverty census tracts also tend to have high percentages of minority racial and ethnic populations.

Percent in Poverty by Educational Status Guilford County, Forsyth County and North Carolina, 2007-2011

Residence	Less than High School	High School Graduate	Some College	College Graduate and more
Guilford	28.6%	14.4%	10.9%	3.8%
Forsyth	28.9%	14.3%	9.8%	3.8%
North Carolina	28.3%	13.9%	10.0%	3.6%

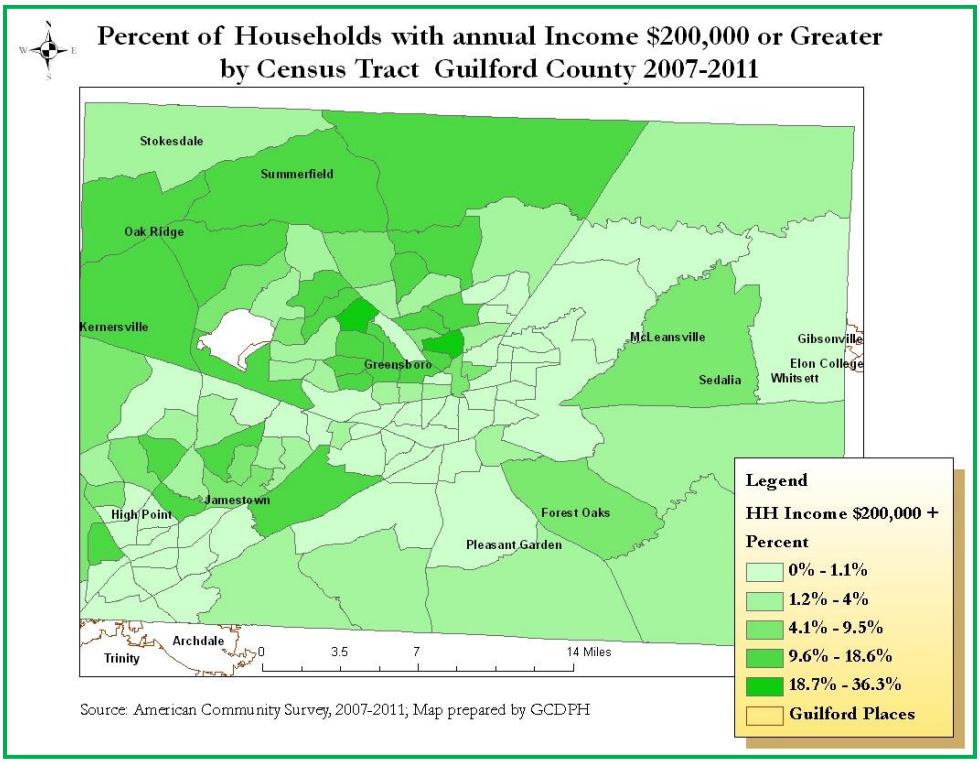
Source: American Community Survey Five-Year Estimates, 2007-2011, U.S. Census Bureau.

- Poverty rates are closely related to educational attainment. Those with higher educational attainment are much less likely to live below federal poverty levels.



- Census tracts in southeast and central High Point have as high as 24-46% of households with less than $10,000 of income per year. The federal poverty level for a household of 3 is $19,530, and for a household of 1 is $11,490. These low-income tracts have less than 1% of households with incomes of $200,000 or greater.

- In contrast, census tracts in northwest Greensboro have up to 36% of households with incomes of $200,000 or greater and less than 1% with incomes of $10,000 or less.



Community Safety: Violent Crime

Exposure to crime and violence has been shown to increase stress, which may exacerbate hypertension and other stress-related disorders. [7] It may also lead people to engage in smoking in an effort to reduce or cope with stress. Exposure to violent neighborhoods has been associated with increased substance abuse and sexual risk-taking behaviors as well as risky driving practices. Neighborhoods with high violence are thought to encourage isolation and therefore inhibit the social support needed to cope with stressful events. Additionally, exposure to chronic stress contributes to the increased prevalence of certain illnesses, such as upper respiratory illness and asthma, in neighborhoods with high levels of violence. [8]

HEALTHY NORTH CAROLINA 2020
INJURY AND VIOLENCE

Objective: ***Reduce the homicide rate (per 100,000 population)***

Rationale for selection: Homicide is a completely preventable cause of death. Arguments, abuse or conflict, intimate partner violence, drug involvement, and serious crimes are the most common event circumstances for homicides.

Baseline (2008)	***7.5***
2020 Target	***6.7***
Guilford (2012)	**6.9**

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

2007-2011 Race/Ethnicity Sex-Specific Age-Adjusted* Homicide Death Rates, Guilford County**

Residence	White, non-Hispanic				African American, non-Hispanic					
	Male		Female		Male		Female		Overall	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Guilford County	41	6.5	16	N/A	88	22.4	12	N/A	170	7.0

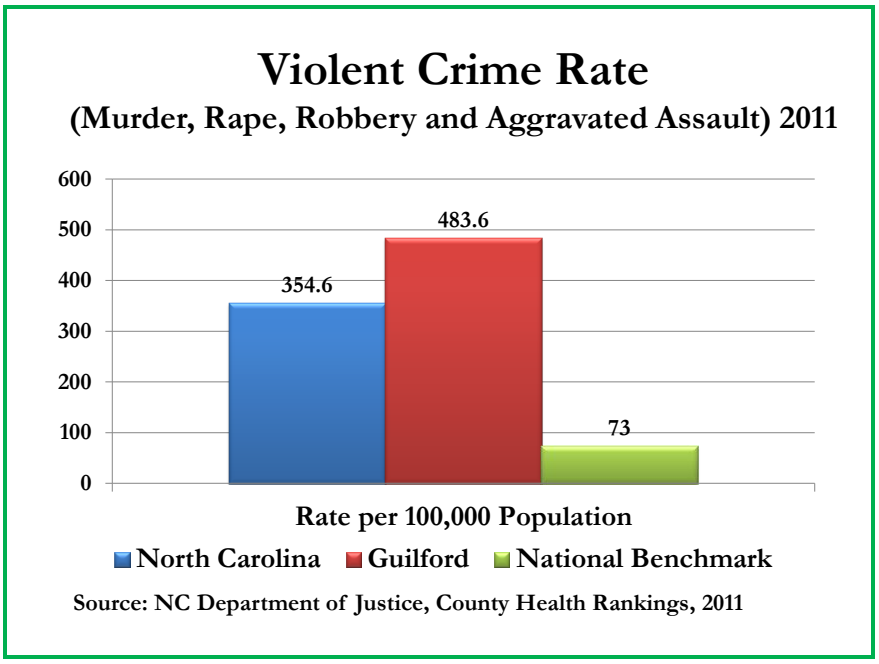
* Standard = Year 2000 U.S. Population ; **Rates Per 100,000 Population
Source: NC State Center for Health Statistics.

- Over a five-year period, there were on 170 homicide deaths in Guilford County.
- Among Hispanics, the homicide death rate was twice that of whites; Among African Americans, it was almost three times that of whites.
- Males were five times more likely to die from homicide than females.
- African American males had the highest rate at 22.4 per 100,000 population.

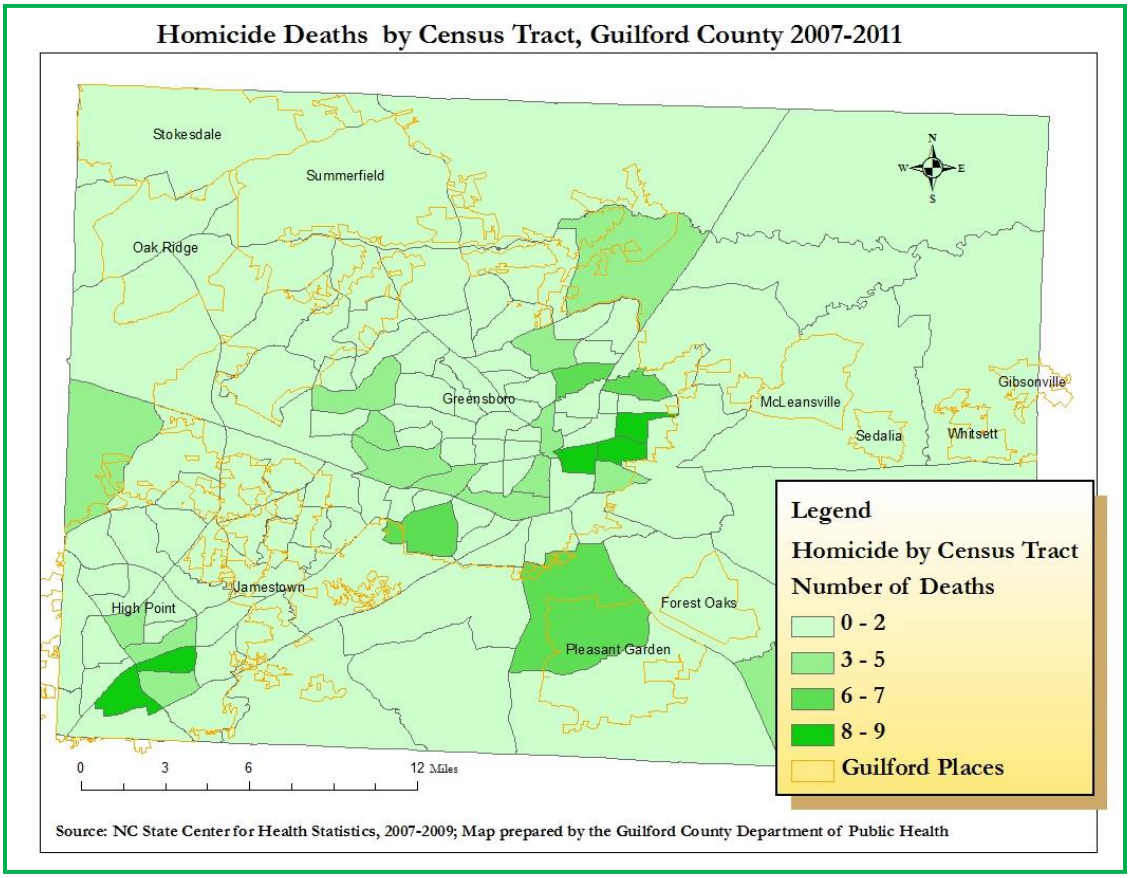
2009-2011 Race/Ethnicity-Specific and Sex-Specific Age-Adjusted* Homicide Death Rates, Guilford County**

Homicide and Injury Purposely Inflicted on Other Persons										
Year	Whites		African-American		Males		Females		Total	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
2009	4	1.3	N/A	N/A	28	12.2	11	4.5	24	5.0
2010	14	5.0	N/A	N/A	25	10.7	2	0.8	27	5.5
2011	12	4.1	20	12.1	27	11.5	7	2.7	34	6.9

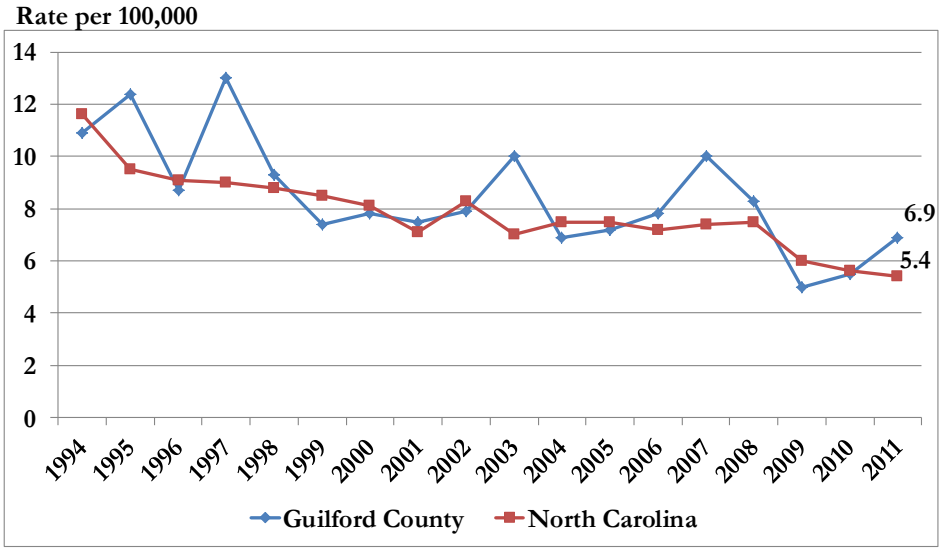
* Standard = Year 2000 U.S. Population ; **Rates Per 100,000 Population.
Source: State Center for Health Statistics.
Technical Note: Rates based on fewer than 20 cases (indicated by "N/A") are unreliable and have been suppressed.



- The violent crime rate is an aggregated indicator that looks at three violent crimes – murder, robbery and aggregated assaults. Guilford County has high rates of violent crime compared to North Carolina and national benchmarks.
- The map below illustrates homicide deaths by in Guilford County by census tract.
- Homicide deaths are concentrated in census tracts that have higher proportions of residents living in poverty.



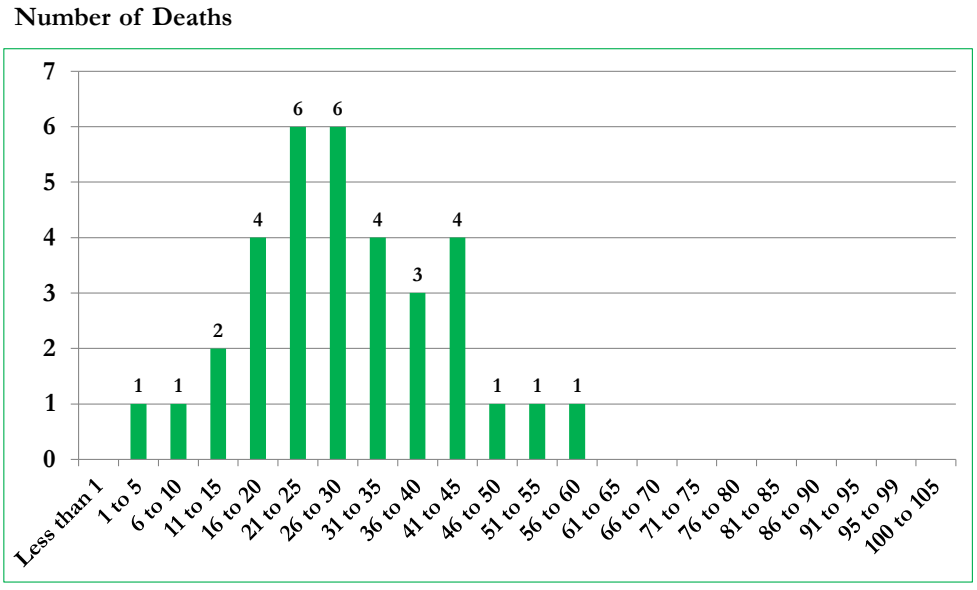
Trends in Mortality Rates
Homicide, 1994-2011



Source: Data provided by the NC Center for Health Statistics
Chart prepared by the Guilford County Department of Public Health.

- While homicide mortality rates have decreased in North Carolina and Guilford County over time, Guilford County's homicide rate was higher than that of North Carolina as a whole in 2011.

Homicide Deaths by Age Group
Guilford County, 2011



Source: Data provided by the NC Center for Health Statistics.
Chart prepared by the Guilford County Department of Public Health.

- In 2011, the majority of deaths were among those 16 to 45 years of age.

Injured in a Physical Fight, GCS Middle and High School Students, 2011

Residence	Ever Been in a Physical Fight in which They Were Hurt and Had to Be Treated by a Doctor or Nurse		In a Physical Fight One or More Times in the Past 12 Months in Which They Were Injured and Had to Be Treated by a Doctor or Nurse	
	Middle School Students		High School Students	
	Number	Percent	Number	Percent
North Carolina	1,911	5.1%	2,232	3.7%
Guilford County	92	3.4%	62	2.6%

Source: 2011-2012 Guilford County Youth Risk Behavior Survey, Guilford Education Alliance.

- A similar percentage of Guilford County middle and high school students as North Carolina middle and high school students reported being injured in a physical fight.

Experienced Relationship Violence in the Past Year: Were Ever Hit, Slapped or Physically Hurt on Purpose by their Boyfriend or Girlfriend during the Past 12 Months, 2011

Residence	High School Students	
	Number	Percent
North Carolina	2,245	14.1%
Guilford County	215	9.1%

Source: 2011-2012 Guilford County Youth Risk Behavior Survey, Guilford Education Alliance.

- 9.1% of Guilford County high school students reported they experienced relationship violence in the past year, compared to 14.1% of North Carolina high school students.

Ever Been Sexually Assaulted: Ever Been Physically Forced to Have Sexual Intercourse When They Did Not Want To, 2011

Residence	High School Students	
	Number	Percent
North Carolina	2,238	9.5%
Guilford County	169	7.2%

Source: 2011-2012 Guilford County Youth Risk Behavior Survey, Guilford Education Alliance.

- 7.2% of Guilford County high school students reported they have ever been sexually assaulted.

Housing

"Poverty, education level, and housing are three important social determinants of health. These three factors are strongly correlated with individual health. People with higher incomes, more years of education, and a healthy and safe environment to live in have better health outcomes and generally have longer life expectancies. Although these factors affect health independently, they also have interactive effects on each other and thus on health. [9] For example, people in poverty are more likely to engage in risky health behaviors, and they are also less likely to have affordable housing. [10] In turn, families with difficulties in paying rent and utilities are more likely to report barriers to accessing health care, higher use of the emergency department, and more hospitalizations."

From Healthy North Carolina 2020: A Better State of Health http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

HEALTHY NORTH CAROLINA 2020
SOCIAL DETERMINANTS OF HEALTH

Objective: Decrease the percentage of people spending more than 30% of their income on rental housing.

Rationale for selection: Housing affordability is a problem that affects mostly low-income individuals and families. People with limited income may have problems paying for basic necessities, such as food, heat, and medical needs. In addition, people with limited incomes may be forced to live in substandard housing in an unsafe environment.[9]

Baseline (2008):	**41.8%**
2020 Target:	**36.1%**
Guilford (ACS 2010-2012)	**50.5%**

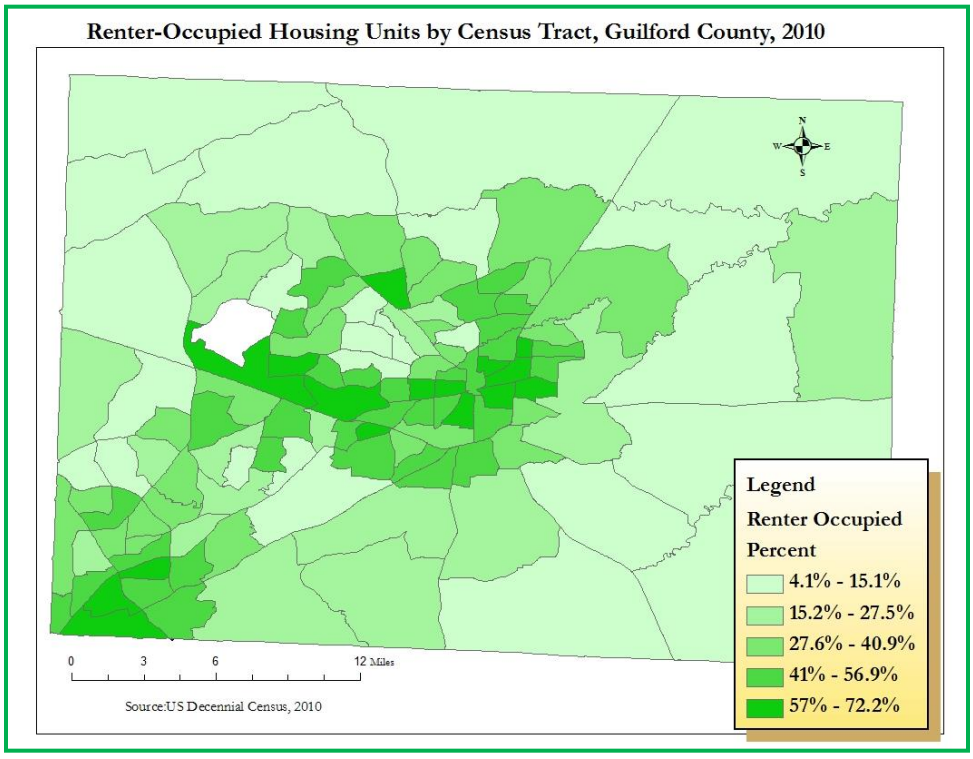
http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

Total Housing Unit Distribution by Vacancy, North Carolina and Guilford County, 2007-2011

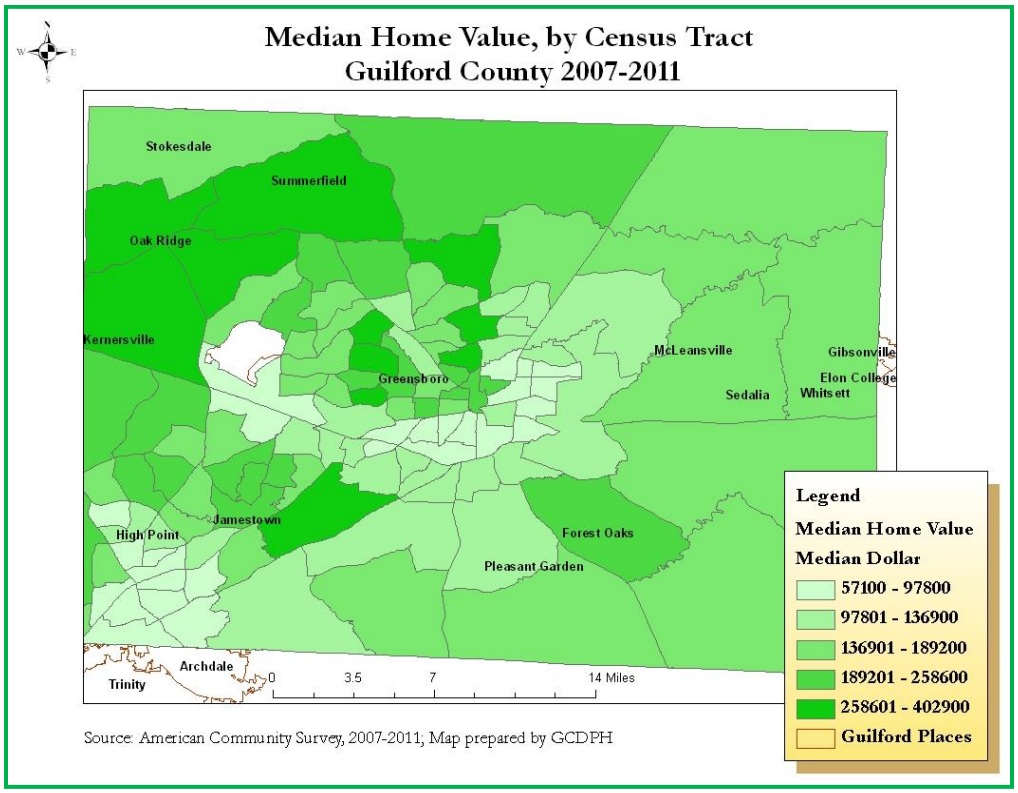
Residence	Total Housing Units	Percentage Occupied Units	Percentage Vacant Housing Units	Percentage Owner-occupied Housing Units	Percentage Renter-occupied Housing Units	Homeowner Vacancy Rate	Rental Vacancy Rate
North Carolina	4,286,863	85.5%	14.5%	67.8%	32.2%	2.6	9.4
Guilford	216,137	88.9%	11.1%	62.9%	37.1%	2.9	12.6

Source: American Community Survey, U.S. Census Bureau, 2007-2011 estimates.

- An estimated 85.5% of total housing units in North Carolina were occupied according to 2007-2011 estimates, while 14.5% of housing units were vacant. The percentage of occupied housing units in Guilford County was slightly higher at 88.9%.
- The percentage of owner-occupied housing units was slightly higher in North Carolina than in the Guilford County, where renter-occupied housing was highest.
- In North Carolina the homeowner vacancy rate was 2.6. While surrounding counties were similar, Guilford County had an estimated homeowner vacancy rate of 3.4.
- Guilford County had higher rental vacancy rates than North Carolina.



- The percentage of .housing units that is renter-occupied in the county ranges from 4.1-15.1% to as high as 57-72.2%. Areas with high renter-occupancy are primarily in South to SE and East Greensboro and Central High Point.
- The county exhibits a large disparity in home values. Median home values range from a low of $57-$98,000 across West to South and East Greensboro and Central High Point to a high of $259-$403,000 in northwest Greensboro, northwest Guilford County and the Jamestown area.



Educational Attainment

Educational attainment is closely intertwined with the other social determinants of health such as employment, income and poverty. Persons with higher educational attainment are more likely to be employed, to earn higher incomes, and less likely to live in poverty. Higher educational attainment is linked to better access to healthcare through jobs that have employer-provided health insurance. [11-12] Education also impacts health through higher levels of health literacy. [12]

HEALTHY NORTH CAROLINA 2020 SOCIAL DETERMINANTS OF HEALTH

Objective: INCREASE THE FOUR-YEAR HIGH SCHOOL GRADUATION RATE
Rationale for selection: Adults who do not graduate from high school are more likely to suffer from health conditions such as heart disease, high blood pressure, stroke, high cholesterol, and diabetes. Individuals with less education are also more likely to engage in risky health behaviors, such as smoking and being physically inactive.

Baseline:	71.8%
2020 Target	94.6%
Guilford County (2013*):	86.2%

http://publichealth.nc.gov/hnc2020/docs/HNC2020-FINAL-March-revised.pdf

*NC Department of Public Instruction

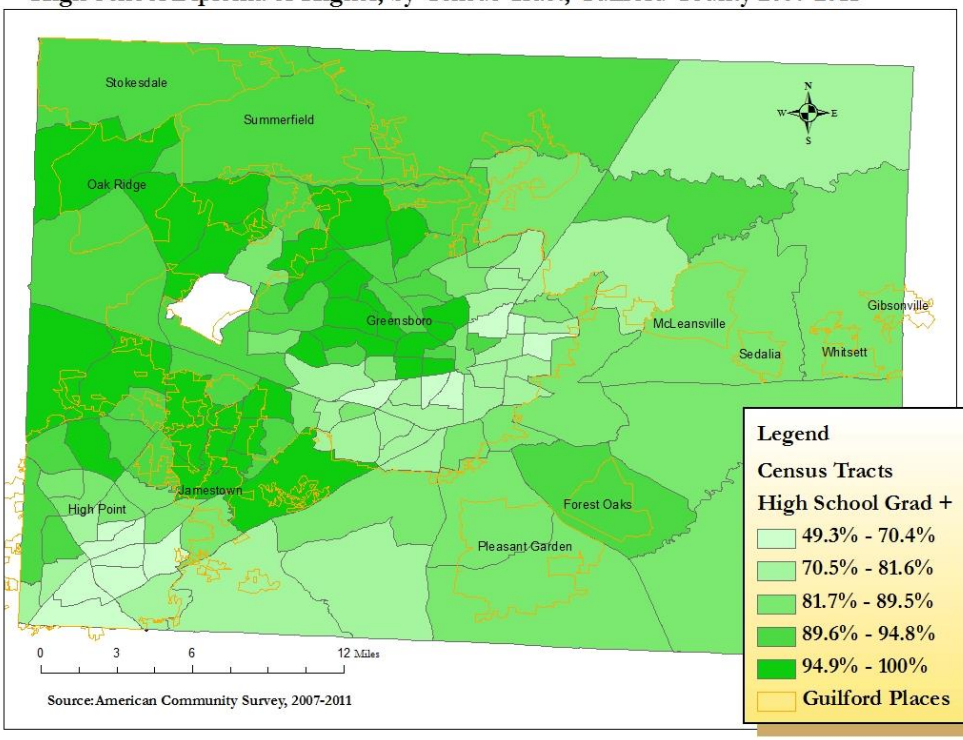
Educational Attainment, Guilford County and Surrounding Counties, 2007-2011

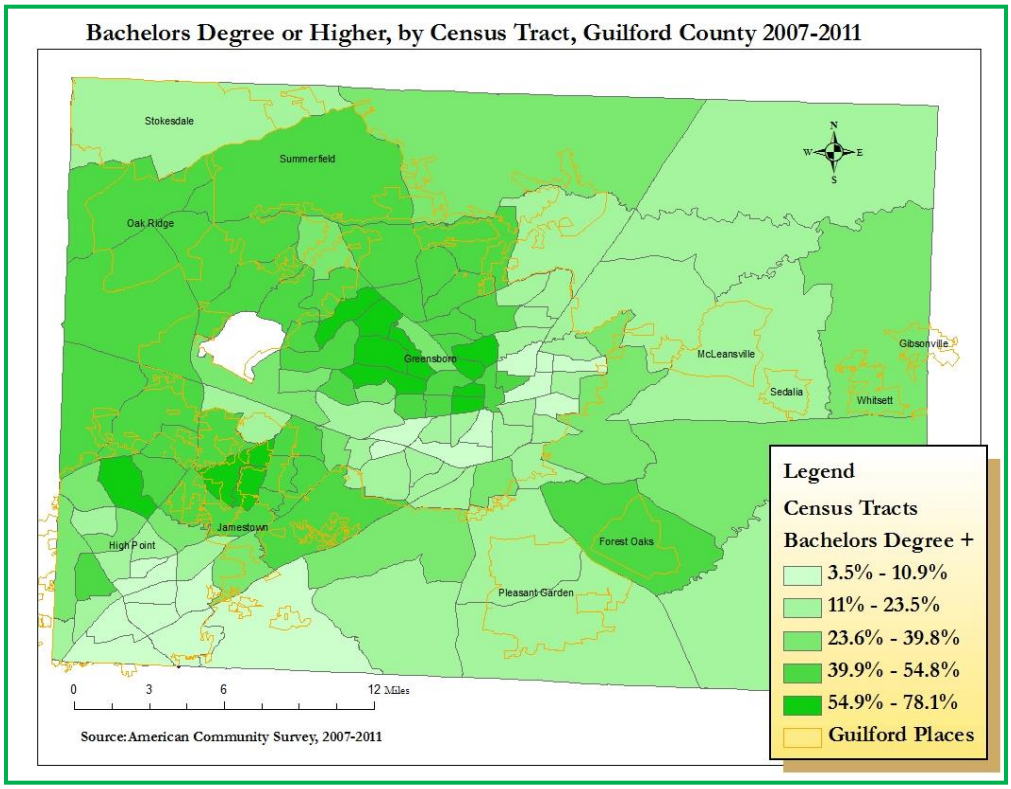
Residence	Percent High School Graduate or Higher	Percent Bachelor's Degree or Higher
Alamance	81.4%	21.6%
Davidson	78.9%	16.8%
Forsyth	87.3%	31.3%
Guilford	87.1%	32.8%
Randolph	76.8%	13.8%
Rockingham	76.3%	13.1%

Source: American Community Survey Five Year Estimates, 2007-2011, U.S. Census Bureau.

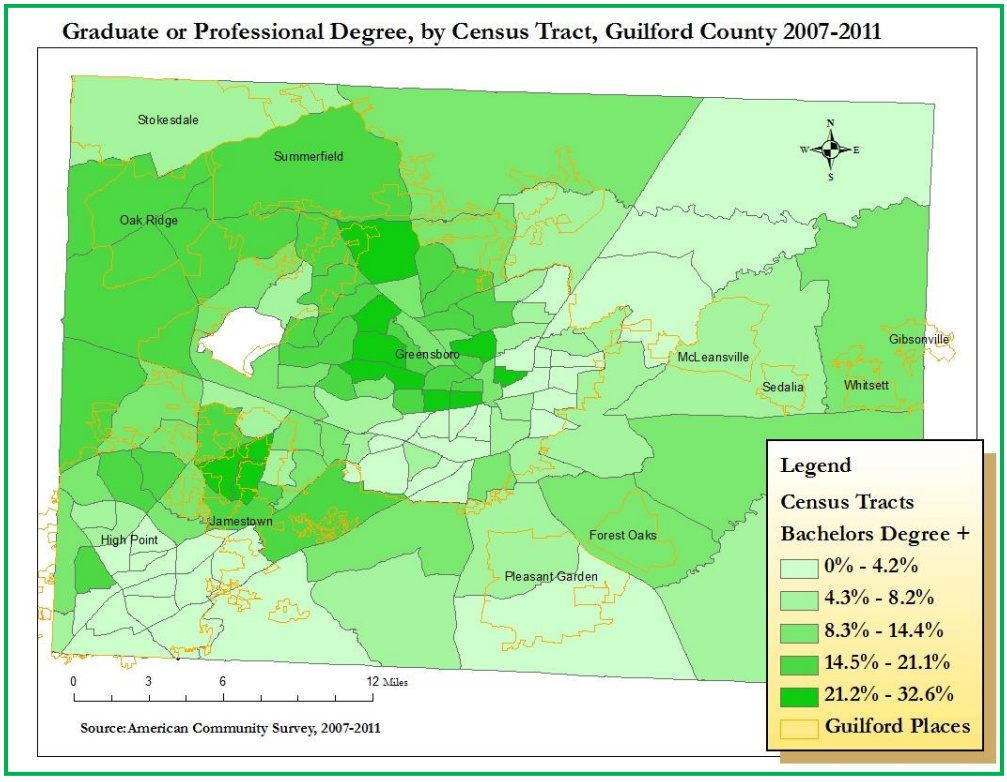
- Compared to surrounding counties, Guilford County had the highest percentage of those residents with a bachelor's degree or higher at 32.8%.
- Guilford County had the second highest percentage of those who have attained a high school diploma or higher at 87.1%, second only to Forsyth County at 87.3%.
- Like other social determinants, wide geographic disparities were found, with percentages of persons with at least a high school diploma ranging from 50-70% to tracts with 95-100%.

High School Diploma or Higher, by Census Tract, Guilford County 2007-2011





- The percentage of persons with a Bachelor's Degree or higher ranges from 3.5-11% in southeast Greensboro census tracts to 55-78% in northwest Greensboro, Jamestown and north High Point.
- Geographic disparities in the percentage of persons with a Graduate or Professional Degree are even more stark than with High School Graduates and Bachelor's Degree or higher, with tracts in south, southeast and east Greensboro having as few as 0-4% with a Graduate or Professional Degree to tracts in northwest Greensboro and the Jamestown area with 21-32.6% with advanced degrees.



Highlights from Focus Groups

Social health determinants were defined in the focus groups as access to income, education and assistance. Health determinants largely focused on employment with descent living wages and the provision of benefits.

Poverty and Unemployment

Unemployment and underemployment reduces access to health insurance and without insurance it is difficult to see a physician. Participants commented on the privilege associated with having health insurance and that the poor and homeless in particular were not afforded this luxury. There is a belief that physicians and health care providers were not aware of socioeconomic disparities and their influences on health determinants.

There are many social and economic factors that are challenging for immigrant and refugee residents of Guilford County. The majority of challenges faced by new arrivals pertained specifically to economic challenges. Obtaining a job and earning an income were the top priorities for refugee residents. The economic climate in Guilford County has changed considerably within the past decade. The factories and textile mills where many earlier immigrant and refugee residents worked have largely moved overseas. Manual labor positions are not as readily available as they once were. The shifting nature of economic positions has greatly affected immigrant and refugees residents' ability to find employment.

It is also important to note that challenges finding work and financial difficulties contributed to a great deal of anxiety and stress. Chronic stress was reported amongst refugee residents in particular. This type of stress was not anticipated prior to resettlement. One single mother from the Democratic Republic of Congo expressed that, "I left the war in my country thinking that things would get better here but I think all the time of the things I have to pay…I haven't been able to find a job since arriving, and so if I don't have a job and don't have money for the phone, I don't know when my doctor's appointments are…I don't know when my appointments with my case worker are…I don't have time to sleep because of all the thoughts running through my head, and I truly believed that I was leaving the difficult life back in my country." Other participants nodded in agreement

Health challenges also contributed to economic and social well-being. Immigrant and refugee residents noted that Medicaid was quick to send them to collections. While many were paying on the debt incurred from medical care, not all were able to pay the full amount that was to be sent in each month. Participants experienced difficulty negotiating payment plans due to language barriers and challenges navigating the system. Several participants stated that they could afford to pay $25 per month but that $50 was too much for the budget that they were on. If they missed payments or were sent to collections, this negatively affected their credit.

The physically demanding nature of many of the jobs (i.e. chicken farms) contributed to and/or exacerbated nascent health problems as well. It was observed that many refugee residents will work for two months or so and then begin to get sick. Several mentioned that they will take a few days off to recover, but then are asked not to come back because of the missed time. Refugee residents specifically expressed concerns about the employment conditions of those working on chicken farms. It is to be noted that refugee participants may live in Greensboro, but often find work in Rockingham (near to the South Carolina border) or Dobson (an hour and a half drive each way). Those that are able to find jobs that fit with their school schedule will also try to attend classes in addition to work. This type of demanding schedule contributes to exhaustion as well.

Chronic Stress

Anxiety was also discussed frequently by refugee populations. The source of their anxiety was often related to their current financial situation. Many refugees experience difficulty finding employment in the U.S. Their employment situation is further exacerbated by the fact that refugee residents arrive to the U.S. in debt. The U.S. is the one country that makes refugee residents pay back the cost of the airfare associated with resettlement. Given the current cost of airfare this can easily equate to more than $10,000 for a family of five. The anxiety caused by

financial worries keeps refugee residents awake at night. As one resident reiterated that her, "head just never stops." French and Nepali-speaking residents repeatedly stated that finding a job would help to improve their overall health.
Obtaining employment is further exacerbated by challenges relating to transportation, language barriers, non-transferrable degrees and skills sets and nascent health problems. It is also important to note that challenges finding work and financial difficulties contributed to a great deal of anxiety and stress. Chronic stress was reported amongst refugee residents in particular.

A single mother from the Democratic Republic of Congo expressed that, "I left the war in my country thinking that things would get better here but I think all the time of the things I have to pay…I haven't been able to find a job since arriving, and so if I don't have a job and don't have money for the phone, I don't know when my doctor's appointments are…I don't know when my appointments with my case worker are…I don't have time to sleep because of all the thoughts running through my head, and I truly believed that I was leaving the difficult life back in my country."

-An experience described by focus group participant

Language Barriers

Language barriers greatly affect one's ability to seek and obtain employment. Without basic English language skills, it is difficult to even search for a position on one's own. Furthermore, effective communication skills are a requisite for even the most basic positions. Language barriers also affect one's chance of staying employed. Refugee residents noted that they have difficulty keeping their current positions if employed due to communication challenges. Minimal language comprehension also is limiting in the sense that there is little chance for promotion without effective communication skills. Refugee residents with minimal language skills are likely to stay in low-paying entry-level positions, because they have not yet gained the language proficiency deemed necessary for advancement.

Transportation

Transportation (or lack thereof) greatly affects the employment opportunities for many immigrant and refugee residents. Residents utilizing public transportation have to allot themselves enough time to get to work to account for transfers and delayed buses. This notion can be extremely limiting for adults that have to factor in the schedules of their children.

Education

Several refugee residents had received college degrees in their countries of origin. Unfortunately, their degrees were not transferrable to the United States since universities in developing countries often do not meet U.S. accreditation standards. One resident lamented that their degrees were wasted, because they could not practice the jobs (or similar jobs) that they once had. College degrees are highly valued, and immigrant and refugee residents were frustrated when their degrees did not hold any value in the U.S. Skill sets regardless of the obtainment of a degree also did not always transfer to life in the U.S. Strict licensing requirements in the U.S. do not allow for former entrepreneurs (i.e. restaurant owner) to easily begin anew in the same industry post-resettlement.

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14

Health Concern

Access to Healthy Food

Environmental factors, like social determinants of health, have an important role in shaping community health. In 2013, the USDA Economic Research Service designated 24 census tracts in Greensboro and High Point, as well as other areas of the CHNA assessment area in Thomasville, Burlington, Reidsville and Winston-Salem, as food deserts, areas where residents do not have ready access to full-service supermarkets and have high rates of poverty. Although there has not yet been a great deal of research on the relationship between the food environment and community health, there is evidence that residing in a food desert is associated with a high prevalence of overweight, obesity, and premature death. [1-2] Supermarkets traditionally provide healthier options than convenience or corner stores. [3] Limited access to fresh fruits and vegetables is a barrier to healthy eating and is related to premature mortality. [4]

Data Highlights

- Guilford County has over 45,000 residents who live more than one mile from a supermarket and live in a census tract with more than 20% living below the poverty level.
- The 24 food desert census tracts are concentrated in high-minority areas of southeast and east Greensboro and central High Point.
- Though residents in food deserts areas lack access to full-service supermarkets, they typically have convenience stores nearby.
- Many residents living in food desert areas qualify for SNAP/EBT benefits.
- As many as 42% of households in food desert tracts have no vehicle available to shop for food.
- 84% of convenience stores in food desert areas were found to accept SNAP/EBT benefits, but only 12% carried fresh vegetables. Convenience stores also carried little in the way of other healthy foods such as whole grain products and low-fat dairy products.
- Focus group participants reported concern over the high costs of healthy food. Even with SNAP benefits many residents have trouble putting food on the table.
- There is a lot of interest among immigrant and refugee residents in planting gardens. There is a need for more community gardens for immigrants and refugees.

Inside this Chapter

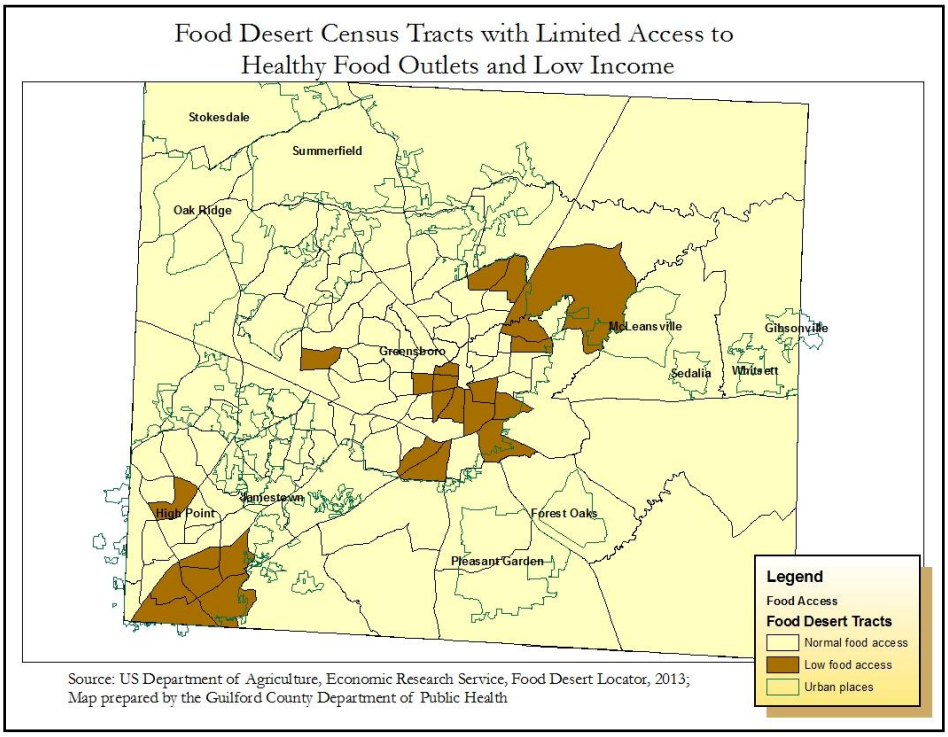
Access to Healthy Food

Limited Access to Healthy Food, by County, 2011

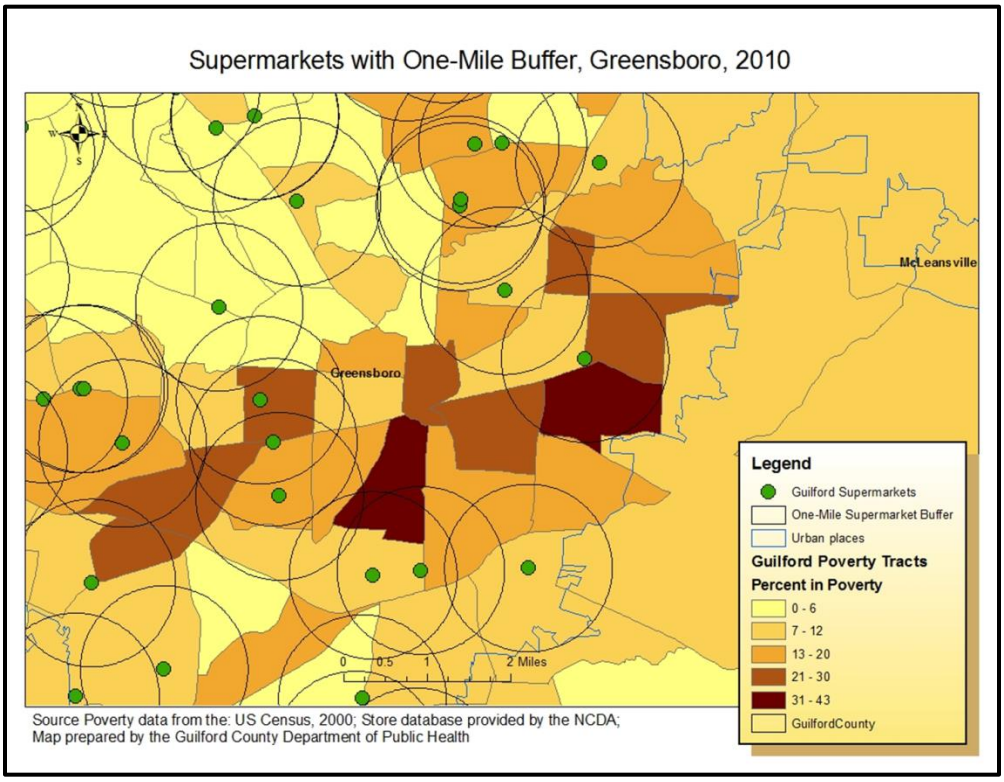
Residence	Percent of population who are low income and do not live close to a supermarket
North Carolina	10%
Alamance	16%
Davidson	0%
Forsyth	11%
Guilford	9%
Randolph	22%
Rockingham	29%
National Benchmark	0%

Source: USDA Environmental Food Atlas, County Health Rankings, 2013, http://countyhealthrankings.org

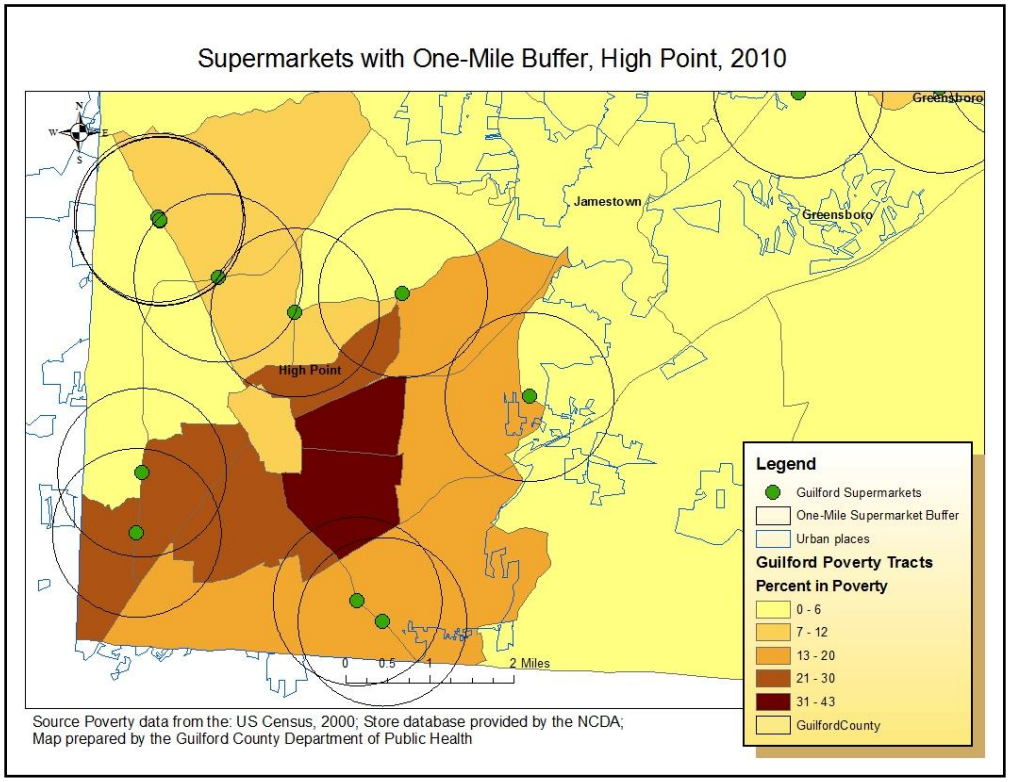
- North Carolina counties range from 0-29% in the percentage of residents who are low income and do not live near a supermarket, with Guilford estimated at 9%, which amounts to about 45,000 with low access to healthy food outlets.

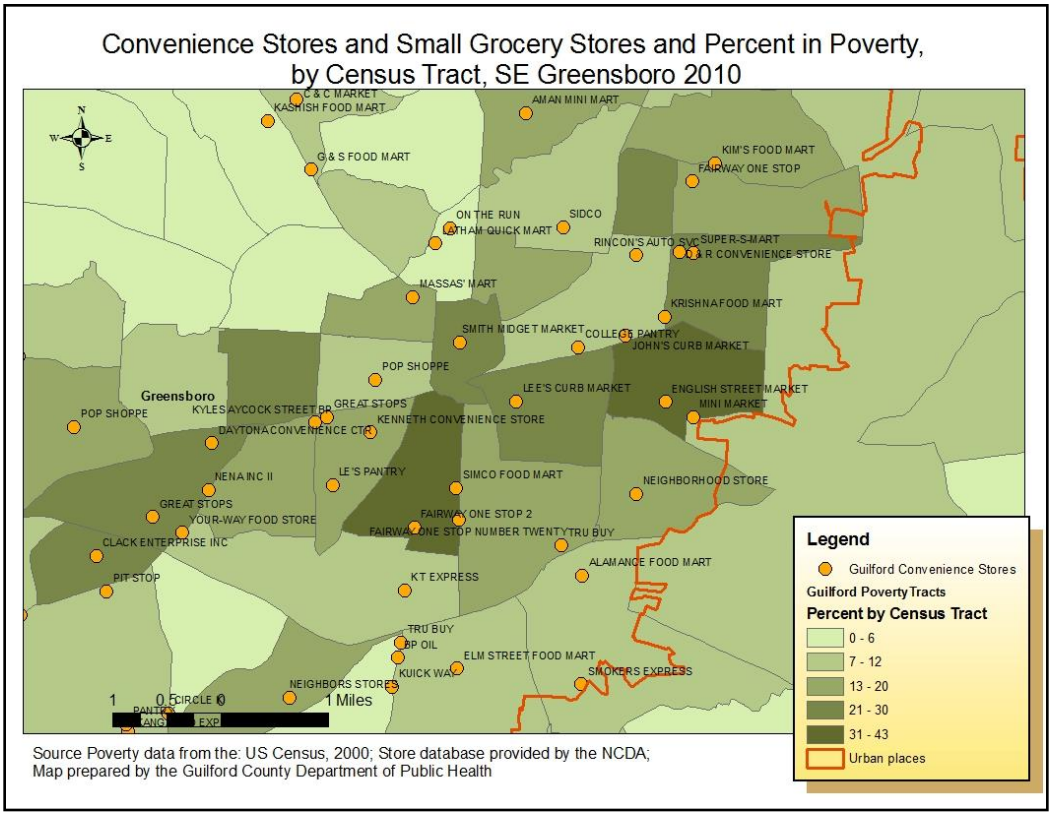


- 24 Census tracts in Guilford County were designated in 2013 as "food deserts," census tracts characterized by low access to healthy food outlets.

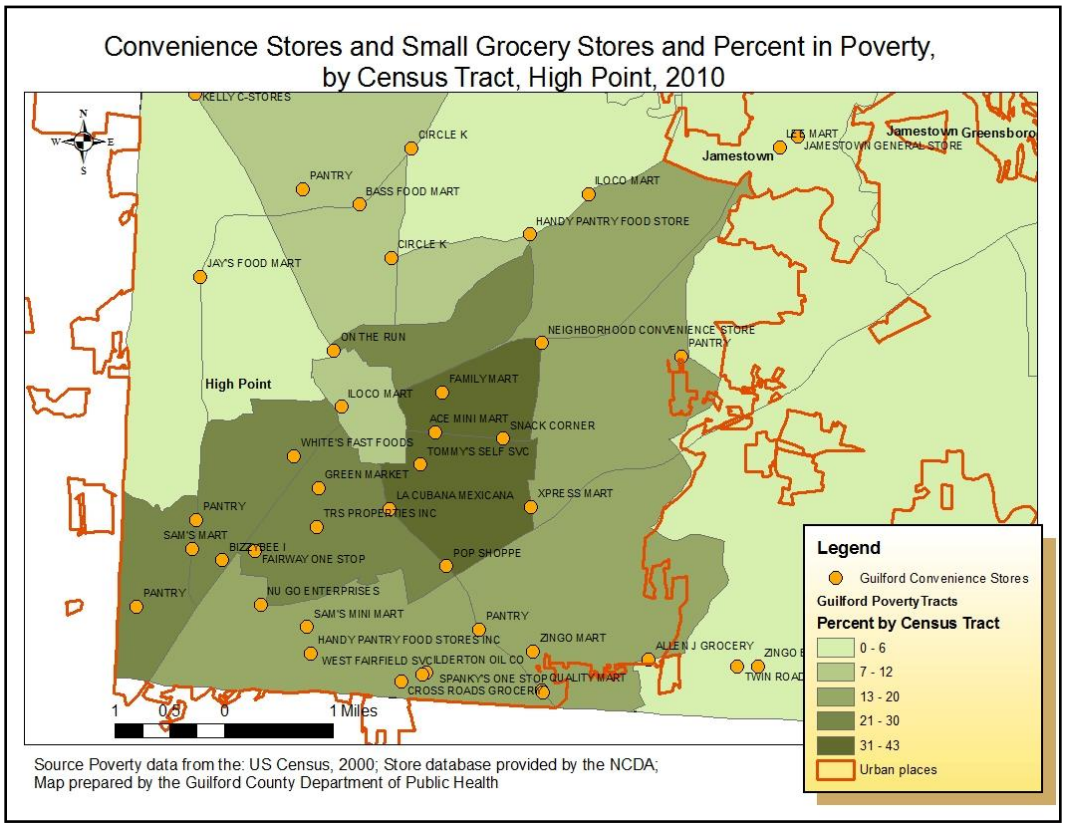


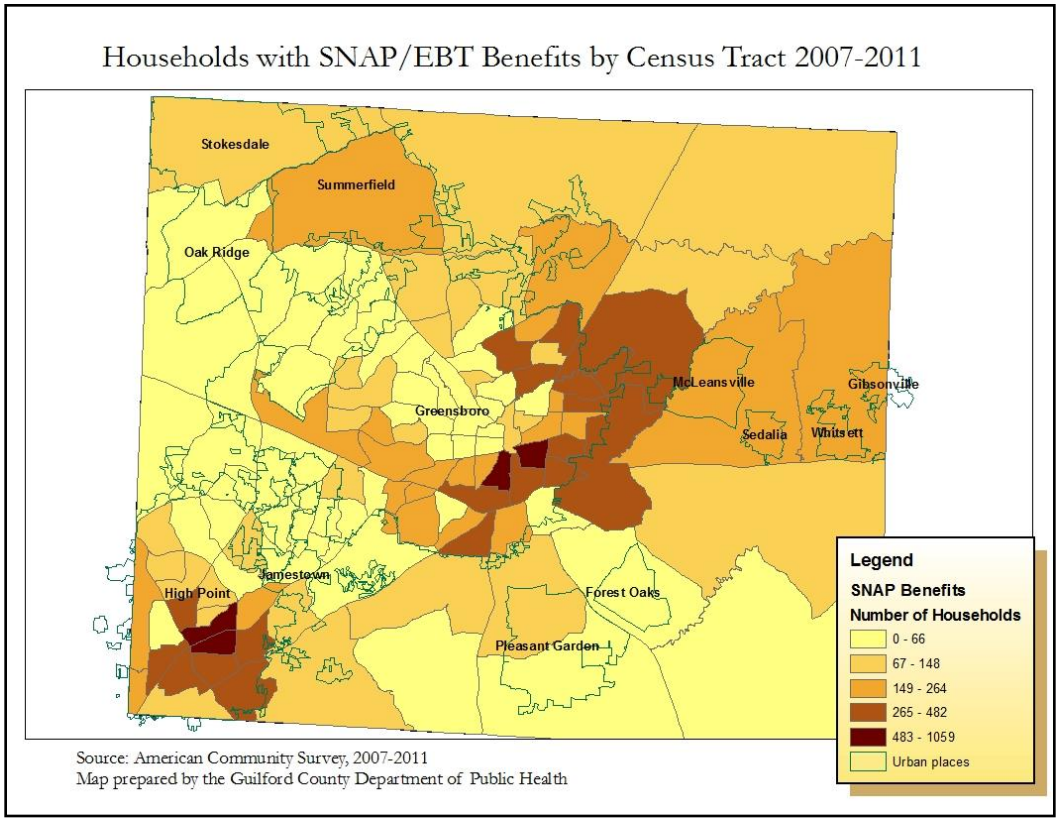
- Food deserts are defined as areas where at least 1/3 of residents live more than a mile from a supermarket and over 20% of residents live below the poverty level.
- Food desert areas in Guilford County are located in high-poverty, high-minority areas of Greensboro and High Point.



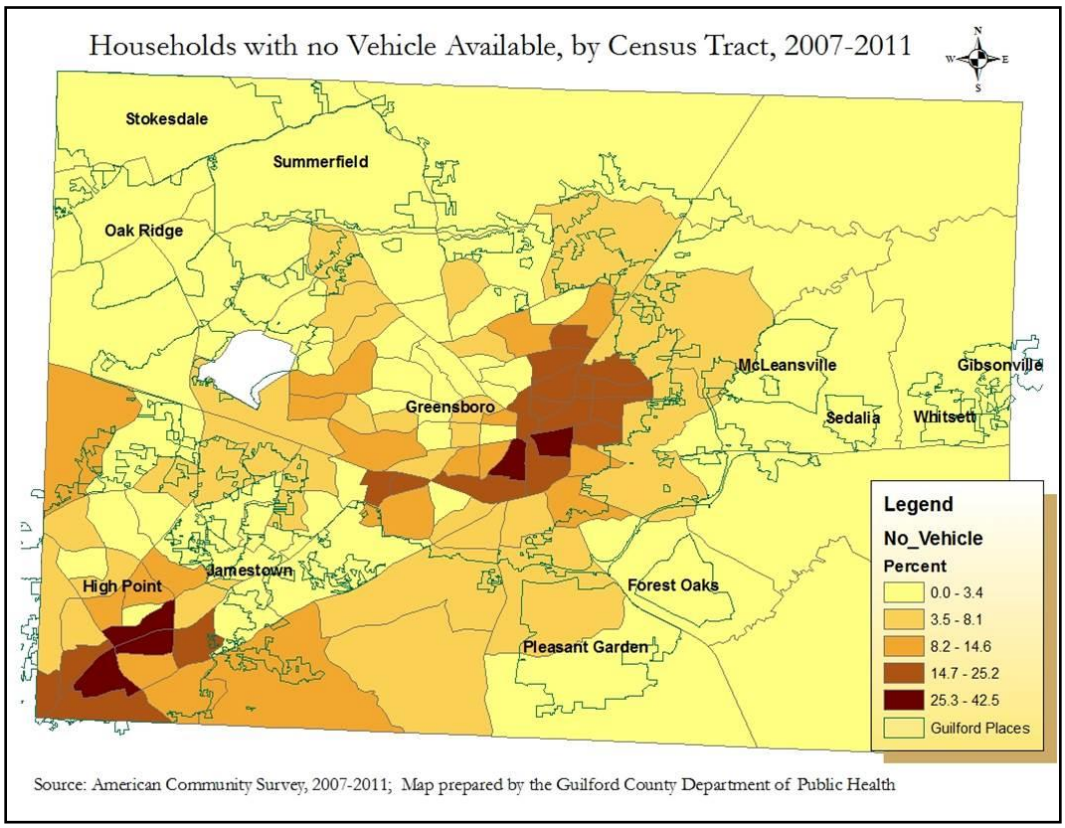


- Food desert areas of the county lack supermarkets, but tend to have numerous convenience stores and other small markets.

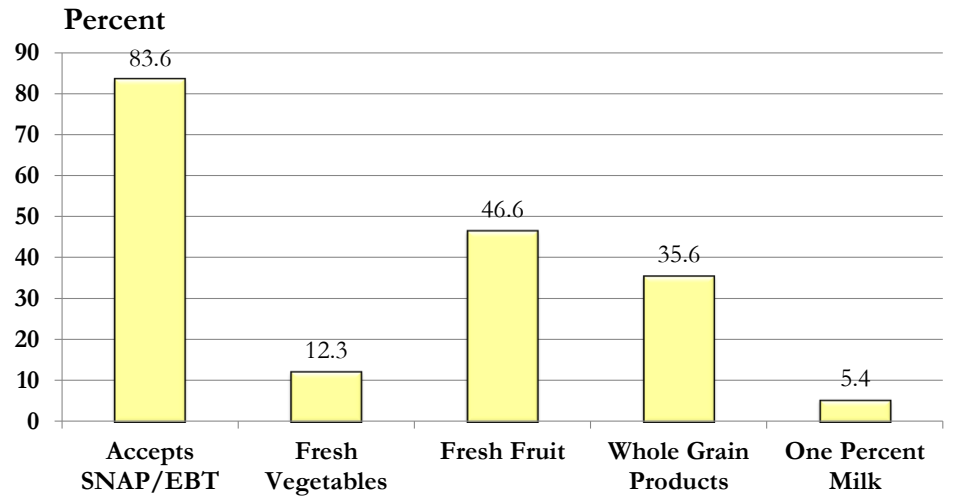




- Food desert census tracts tend to have larger numbers of households that qualify for SNAP/EBT benefits.
- Residents of food desert areas often lack transportation to drive to other areas that have supermarkets.



Availability of Selected Items at Convenience Stores in Food Desert Census Tracts



Source: Guilford County Corner Store Assessment, 2012-2013; Guilford County Department of Public Health

- Residents of food desert census tracts lack ready access to supermarkets but typically have convenience stores nearby. In an assessment of 73 convenience stores and small markets in and around food deserts in Guilford County, 84% of stores accepted SNAP/EBT cards in payment. However, only 12% of stores carried fresh vegetables. The proportion of stores that carried other healthy items such as whole grain bakery products and low fat milk Because many food desert residents lack access to a vehicle to shop for food at supermarkets in other parts of the county, all too often they spend their SNAP/EBT dollars for higher-priced, lower-quality food at convenience stores.

Highlights from Focus Groups

Patients need assistance with access to healthy and nutritious foods. It is cheaper to buy processed foods that will not expire, particularly in families with children. Malnutrition has been identified as an emerging issue because of hunger and limited access to healthy food within the county. Families struggled to afford any food once their bills were paid. Furthermore, only one stand accepts food stamps at the farmers market. However, they are not always at the market. Another challenge to be considered is subsidized resources, such as SNAP, do not differentiate individuals who may be diabetic. This means that there are no special accommodations for their diet which should be changed.

The majority of immigrant and refugee residents expressed interest in cultivating community gardens. Throughout the language-specific focus groups, only one apartment complex allowed their residents to maintain a vegetable garden (Avalon Trace apartment complex in Greensboro). The gardens here started as part of an AmeriCorps initiative on behalf of an onsite Community Center staffed by the Center for New North Carolinians. The apartment management has been generous with allowing residents the opportunity to plant gardens throughout the complex. Gardens can be seen in the main quad, growing near the creek on the far side of the apartment complex and immediately surrounding residents' apartment units.

Immigrants and Refugees and Healthy Food Access

Immigrant and refugee residents of Guilford County noted challenges accessing healthy foods to eat. The most notable barrier was the high cost associated with healthy food. Many refugee families in particular are eligible for the Supplemental Nutrition Assistance Program (SNAP); however, even with this program affording healthy foods remains a barrier.

Not all apartment complexes allow residents to plant gardens, however. Apartment management often cited that there was not enough green space available to plant adequate gardens. The majority of participants stated that they were not allowed to even plant just small gardens immediately outside of their units. Many immigrant participants either owned their own home or rented a house complete with a yard. These participants were more likely to be able to grow their own vegetables. Some residents stated that even though they rented a house with a large yard their landlords would not always allow them to have a garden. Renters in these situations were allowed to use the outdoor space but were not allowed to modify the outdoor space.

Refugee residents in particular noted that while they would like to have garden space, there is need for assistance and education. Many immigrant and refugee residents have relocated to Guilford County from countries of origin with very different climates. Residents expressed the need to learn about the different produce grown in this area and new gardening techniques that are more conducive to this climate. The one resident that had a garden noted that she did not know all of the vegetables that were growing in it or how to prepare them. She was given seeds to plant but was not given any further instructions on how to prepare the vegetables once they were ready to be consumed. Education about gardening in this climate would be a component necessary to the success of potential community gardens.

References:

[1] Ahern M, Brown C, Dukas S. A national study of the association between food environments and county-level health outcomes. The Journal of Rural Health. 2011;27:367-379.

[2] Schafft KA, Jensen EB, Hinrichs CC. Food deserts and overweight schoolchildren: Evidence from Pennsylvania. Rural Sociology. 2009;74:153-277.

[3] Wrigley N, Warm D, Margetts B, Whelan A. Assessing the impact of improved retail access on diet in a 'food desert': A preliminary report. Urban Studies. 2002;39.112061-2082.

[4] Brownson RC, Haire-Joshu D, Luke DA. Shaping the context of health: A review of environmental and policy approaches in the prevention of chronic diseases. Annu Rev Public Health. 2006;27:341-70.

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Guilford County Resources/Assets

At the March 2013 Connect-the-Dots meeting hosted by the GCDPH and CHA partners, over 60 community residents, community practitioners and subject matter experts were asked to identify evidence-based strategies to improve the pressing health issues identified in the CHA as well as to identify potential community assets and resources that can be brought to bear to support a community improvement plan. Below are some of the key community resources that exist to help address the pressing health issues, but this is not an exhaustive list.

Chronic Disease & Obesity

Partners in Health and Wholeness (PHW)
PHW is a program of the NC Council of Churches that partners with local churches to support health ministries in a variety of areas, from reducing obesity to tobacco cessation and improving access to healthy foods. PHW is currently partnering with the NC Blue Cross and Blue Shield Foundation to provide grants up to $5,000 to local churches to support community gardens. (www.ncchurches.org/programs/health-wholeness/)

Partnership for Community Care (P4CC)
Partnership for Community Care (P4CC) is a non-profit organization comprised of: Primary Care Providers, Hospitals/Health Care Systems, County Health Departments and County Departments of Social Services. P4CC is charged with improving the health outcomes and reducing the care costs of the Carolina Access Medicaid and NC Health Choice populations in Guilford, Rockingham and Randolph Counties. P4CC is one of 14 similar networks participating in the statewide Medicaid quality improvement strategy called Community Care of North Carolina (CCNC). In addition to serving NC Health Choice and Carolina Access Medicaid populations, P4CC helps uninsured patients in Guilford County access medical care. Chronic Disease & Telemonitoring: Provide monitoring and follow up with Chronic Disease patients that have Congestive Heart Failure, Diabetes, Hypertension, and/or COPD. (www.p4communitycare.org/programs-initiatives/)

Congressional Nurse Program (CNP)
The Congregational Nurse Program at Cone Health is a unique, specialized nursing practice established as a collaborative relationship between Cone Health and area faith communities. The CNP approach provides for a congregational coordinator based at Cone Health who is responsible for assisting community congregations with developing and implementing a Health Ministry Program. Each health ministry is tailored to meet individual congregations' needs and capabilities. Currently, CPN collaborates with 48 faith communities, all of which have either a paid or volunteer congregational nurse. The CNP's HOPES program benefits homeless individuals who have no other resources and would be back on the streets without the program's assistance. Candidates for HOPES are identified by Cone Health social workers. After being discharged from the hospital, the patient is assigned a congregational nurse and a CSWEI social worker. HOPES provides its participants with temporary housing, gift cards for food and necessities, accounts at drug stores for prescription drugs and a 30-day bus pass. Since many patients need daily check-ups, the nurses assigned to each case visit and/or call on a regular basis to check on their patients' acute or chronic health issues such as diabetes, heart disease, hypertension, cancer or stroke. (www.conehealth.com/community/congregational-nurse-program/)

Birth Outcomes & Teen Pregnancy

Guilford County Department of Public Health Reproductive Health Services (www.guilfordhealth.org)
Adolescent Pregnancy Prevention Programs
Our health education team offers several programs to help teens make responsible choices and to help reduce teenage pregnancies, such as Smart Girls.® Various programs focus on abstinence, education, leadership, responsibility and support for teens, parents and the community.

Pregnancy Care Management
Pregnancy Care Management provides case management services to assist Medicaid eligible pregnant women in finding services to meet their needs throughout pregnancy and at least two months after delivery. We also offer home visits during your pregnancy and within one week of delivery and referral to resources you may need.

Family Planning Services
Any resident of North Carolina may receive family planning services in our clinics. Charges are based on income and family size. All services provided are strictly confidential regardless of the age of the patient. Parental involvement is encouraged with minors, but not required. Men are also encouraged to participate in our program. Men can receive information on reproductive health issues that affect them in private one-on-one sessions. Free condoms are available in our clinic. We offer a full range of family planning services, including birth control; physical examination; Pap smear; health education; short-term counseling; laboratory tests (through our in-house laboratory); pregnancy tests; counseling and referral for male/female sterilization; adult immunizations; HIV testing and counseling; sexually transmitted infection testing and counseling; initial and annual exams with screening for high blood pressure, diabetes and anemia; and vaginitis and urinary tract infection screening and treatment.

Maternity Services
Any female resident of North Carolina may receive maternity services at Guilford County Department of Public Health. We accept Medicaid, Presumptive Medicaid or charge a sliding scale fee (based on family size and income). You may qualify for our special maternity care program (Adopt-A-Mom). We offer complete prenatal care, featuring Centering Pregnancy ™, group prenatal care. Centering Pregnancy reduces the overall preterm birth rate and lowers the infant mortality rate of participants.

Childbirth Classes
Childbirth classes include breastfeeding education. Participants learn about exercise, nutrition, signs of labor, relaxation and breathing techniques, partner and doula support, use of medications, interventions in labor, new mother care and newborn appearance.

Guilford County Coalition on Infant Mortality
The Guilford County Coalition on Infant Mortality is a nonprofit organization housed within the Guilford County Department of Public Health. The Coalition's goal is to ensure that babies in Guilford County are born healthy and thrive beyond their first year of life. The Coalition works to eliminate infant death and disability through community education and involvement. Our Adopt-A-Mom Program coordinates prenatal care with private OB-GYNs for pregnant women who do not qualify for Medicaid and do not have private insurance to cover the cost of prenatal care.

Newborn Home Visits
All parents of newborns in Guilford County may receive newborn home visits within three to five days of delivery by registered nurses free of charge. Our nurses check on your baby's health, answer your questions and offer support and education. Incentive items are given at each visit. Interpreters are provided for Hispanic clients. These visits are supported by a Smart Start grant.

The Regional Vasectomy Program
Men age 21 years and older who have concluded that surgical sterilization is the best choice for permanent birth control but are unable to afford the procedure still have an option. The Guilford County Department of Public Health offers interested men in North Carolina the opportunity to have permanent birth control through the Regional Vasectomy Program. Cost is based upon family size and income. Our vasectomy program contracts with local board certified urologists in six cities in North Carolina where patients may go for their vasectomy.

Triad Baby Love Plus
A component of North Carolina's Healthy Start Baby Love Plus Network, Triad Baby Love Plus is a local program that strives to give local babies the best start possible in life by linking moms and babies with important health care and support services. Local program services include: intensive outreach to connect women of childbearing age and their infants with prenatal and family health services; coordination of care to promote healthy lifestyles for moms between pregnancies, and well-child care for their children up to two years after delivery; depression screening and referral for moms; culturally sensitive care for mom and children; health education and training for local health and social service agencies, area hospitals and businesses, public health officials, church and civic volunteers and community members; and leadership training and support for community partners. Triad Baby Love Plus is part of the national Healthy Start initiative and receives federal funding.

Partners for Healthy Youth
Partners for Healthy Youth is a local, countywide membership organization that focuses on the issues of adolescent pregnancy, pregnancy prevention and adolescent parenting. Members include educators, health care providers, human service providers, faith based organization representatives, program administrators, policy-makers, parents and adolescents from the community. Partners for Healthy Youth exists to increase community awareness and involvement in the prevention of adolescent pregnancy by discovering practical solutions, building alliances, and strengthening Guilford County's social and economic future. (www.pfhy.org)

YWCA Healthy Moms Program
Healthy Moms Healthy Babies is a program for moms age 20 to 30 and their children. The program seeks to help young women have healthy pregnancies, healthy children and maintain a healthy lifestyle between pregnancies. Programs include childbirth preparation classes, fitness classes, discussion groups and doula services. All programs are free for women who meet eligibility requirements.
(www.ywca.org/site/c.6nICIOOoG5IOE/b.8528081/k.A513/Healthy_Moms_Healthy_Babies.htm)

HIV and other STIs

Piedmont Health Services and Sickle Cell Agency (PHSSCA)
The PHSSCA was established in 1970, PHSSCA serves Greensboro, N.C. with Sickle Cell Disease testing, education, genetic counseling and support services. PHSSCA currently serves six counties of the North Carolina Piedmont: Guilford, Forsyth, Alamance, Rockingham, Randolph and Caswell. (www.piedmonthealthservices.org/)

Triad Health Project
The Triad Health Project provides emotional and practical support to individuals living with HIV/AIDS, their loved ones, and those at risk for HIV/AIDS. The Triad Health Project began in 1986 as a grassroots effort and is now one of the largest AIDS service organizations in North Carolina, with a culturally diverse staff of nearly 20 and a volunteer base that exceeds five hundred. They implements strategies to educate those at risk and the community about HIV/AIDS and advocate locally, regionally, and nationally for individuals and groups infected with or affected by HIV/AIDS. As the primary community service provider, THP offers Case Management, the Higher Ground day center, a Client Food Pantry, Education and Prevention Outreach, and HIV testing.
(www.triadhealthproject.com/about/index.php)

Guilford County Department of Public Health (GCDPH) HIV and Sexually Transmitted Infection Counseling and Testing
The GCDPH offers free and confidential testing and treatment for syphilis, gonorrhea and chlamydia, as well as HIV testing and referral services. (www.guilfordhealth.org)

Access to Care

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Center for New North Carolinians
On April 12, 2001, the Board of Governors of the University of North Carolina established the UNCG Center for New North Carolinians to "provide research, training, and evaluation for the state of North Carolina in addressing immigrant issues; collaboration with government and social organizations to enhance responsiveness to immigrant needs; and community support to provide training and workshops." The Center subsumed pre-existing programs of the ACCESS Program (Accessing Cross-Cultural Education Service Systems) that were already housed in the Department of Social Work under the direction of Raleigh Bailey. ACCESS began in 1994 with the AmeriCorps ACCESS Project. The AmeriCorps ACCESS Project, a domestic peace corps national service initiative funded by the federal government and local partners, has had as its mission, providing culturally and linguistically appropriate services to refugee and immigrant communities in North Carolina. The AmeriCorps members (participants) who provide a year of service to North Carolina immigrant communities and receive training in cross cultural human services, include both immigrants and native born residents. About 60 people per year currently complete a year of service with the AmeriCorps ACCESS Project. Another initiative, the Interpreter ACCESS Project has provided professional interpreter training to interpreters across the state. The Immigrant Health ACCESS Project has provided cross cultural health services to immigrants in Guilford County. This collection of projects formed the initial core of the new Center activities. Those projects have been supplemented with additional outreach, research, and training activities to expand the range of Center activities as it fulfills its mission. (www.cnnc.uncg.edu/)

Mental Health Association in Greensboro
Organized in 1940, the Mental Health Association in Greensboro is a community partner of United Way of Greater Greensboro. The Association conducts programs that promote better mental health, provides support to those who suffer from mental illness and strives to reduce the stigma associated with mental illness, through education and service. (www.mhag.org)

Center for Behavioral Health and Wellness
The mission of the Center for Behavioral Health and Wellness at North Carolina A & T State University is to provide community-focused, evidence-based, and culturally-competent behavioral health services through the integration of best practice research, training, and technical assistance. The community is served by providing community-based assessment and treatment services, including both mental health and substance abuse services, for individuals and families across the lifespan. The Center for Behavioral Health and Wellness also provides applied research and evaluation expertise in partnership with community-based agencies while offering training opportunities to community-based providers, building the capacity to deliver evidence-based services. (www.ncat.edu/academics/schools-colleges1/soe/hdsv/cbhw/index.html)

Sandhills Center
The Sandhills Center provides management and oversight of mental health, intellectual/developmental disabilities, and substance abuse services in the nine-county catchment area. Upon its merger with the Guilford County Center, it maintains a local presence in Guilford County, providing service management and oversight functions to include care coordination and ensuring 24-hour access to services. (www.sandhillscenter.org)

Access to Healthy Food

Guilford County Cooperative Extension
North Carolina Cooperative Extension helps gardeners learn more about new plants, native plants and environmental stewardship. Extension-trained Master Gardener volunteers are instrumental in these efforts, sharing their knowledge of plant selection, cultural practices and pest management with fellow gardeners, school students and others. Be Healthy – Grow What You Eat is a program that teaches gardeners the benefits of eating fresh produce which they grow themselves. The Master Gardeners Volunteer program developed the community gardens through the Cooperative Extension to create a sense of community among gardeners, allowing them to learn from each other and from Master Gardener Volunteers. Ten percent of the harvest yield from each community garden is donated to local food pantries.
(www.ncstategardening.org/extension_master_gardener/guilford/index_county)

The Edible Schoolyard
The Edible Schoolyard is a teaching garden and kitchen where children and their families can learn how to grow healthy food and create delicious snacks and meals using fresh, local, organic ingredients. The Edible Schoolyard offers children a chance to build practical gardening and cooking skills, to connect with the natural world and to enjoy nourishing food. (www.gcmuseum.com/edible-schoolyard/)

Food Assistance, Inc.
Food Assistance, Inc. delivers groceries to 450 families living in Greensboro and Guilford County. The groceries are provided at no cost to the families, and the program gives the opportunity for low-income families and the elderly to build stronger social and food-based networks with Food Assistance's team of 150 community volunteers. (foodassistanceinc.com/vol_ops.html)

Food Corps, Inc.
Food Corps, Inc. matches motivated leaders with limited-resource communities. Service Members sign up for a year of public service, and they work under the direction of local partners. Food Corps, Inc. follows a "three ingredient recipe" for healthy kids: 1) Deliver hands-on nutrition education, 2) Build and tend school gardens, 3) Bring high-quality local food to public school cafeterias. (www.foodcorps.org)

Greensboro Urban Ministry (GUM)
GUM provides food, shelter, and health services to individuals in need of resources. The majority of their clientele are homeless individuals. They also offer food bank supports, as well as a community kitchen that serves a daily lunch to anyone and everyone. (www.greensborourbanministry.org)

Guilford County Department of Public Health (GCDPH)
GCDPH supports a variety of programs designed to educate residents about healthy eating and works with community partners to improve access to healthy food through community gardens, farmers markets and other programs. The GCDPH also maintains its own community garden at its Greensboro Maple Street facility and donates all of the produce to the Share the Harvest (www.guilfordhealth.org).

Guilford County Department of Social Services (DSS)
The DSS Food and Nutrition program is a federal food assistance program that helps low income families or individuals to buy food. DSS administers the county's SNAP/EBT program (Supplemental Nutrition Assistance Program/Electronic Benefits Transfer program). Eligible households receive monthly benefits to purchase food. (www.co.guilford.nc.us/government/socservices/food.html)

The Interactive Resource Center (IRC)
The IRC assists people who are homeless, recently homeless or facing homelessness in reconnecting with their lives and the community at large. The IRC is becoming more and more involved in local food initiatives across Greensboro and Guilford County. They are building a community garden and serving as a food drop-off and pick-up location for local food redistribution programs. By focusing on food for the homeless community, they are also making sure that Greensboro's food security needs are met. (www.gsodaycenter.org/)

Partnership for Community Care Partnership Pantry Program (P4CC)
P4CC in the process of stocking a Healthy Food Pantry for chronic disease patients in need in an effort to help reduce food insecurity (or limited access to fresh and healthy foods) and improve the management of chronic disease. Food insecurity has continued to rise in North Carolina. In 2011, 18.2% of the population was considered food insecure—that number has increased to 19.6% this year.* Food insecurity and chronic disease are closely related. Many individuals who are food insecure rely on food banks, which often have a lot of salty and sugary foods that can make it difficult to manage a chronic disease. The Partnership Pantry Healthy Food Bank Program hopes to provide low-income patients with healthier foods and nutrition education that will help empower them to better manage their chronic diseases.
(www.p4communitycare.org/programs-initiatives/nutrition-program/partnership-pantry/)

Share the Harvest
Share the Harvest is a new project making it possible to reach more food-insecure people in Guilford County with fresh food provided by local farmers, churches and citizens. Share the harvest is a food re-distribution program. Volunteers gather extra produce grown by community gardens, urban and rural farms, and other community-based food programs. They then work with local food banks, shelters, and outreach organizations to get food to the people who need it. (www.sharetheharvestguilfordcounty.org/)

Highlights from Focus Groups on Community Resources

Community members are unaware of the resources available and how to navigate between the various resources. There is a need for health care providers to be trained on issues outside of the medical fields such as substance abuse and mental health. Community members perceive that health care providers are unaware of mental health services and resources.

Community members in Guilford County have difficulty accessing health information, clinics and other means of resources to receive health care. It is difficult for patients to access the service/resources they need due to uncoordinated efforts. One area of particular concern is the denial of resources once employment has been established. This leads to financial setbacks once employed.

There is lack of funding for resources within Guilford County. This decreases the number of resources available within the county. For example, Triad Adult and Pediatric Medicine will not be able to provide services because of loss of funding. Lack of funding has resulted in limited access to the orange card and other vital services. If more funding was available, then more resources would be available to provide low cost insurance and service options. It becomes difficult to address barriers with the increased need for resources and limited funding to meet the demand. Because of the limited number of resources, there is a need to prioritize the allocation of resources. In addition, budget cuts often result in resource allocation only addresses short term outcomes. More funding should be allocated to address long term outcomes.

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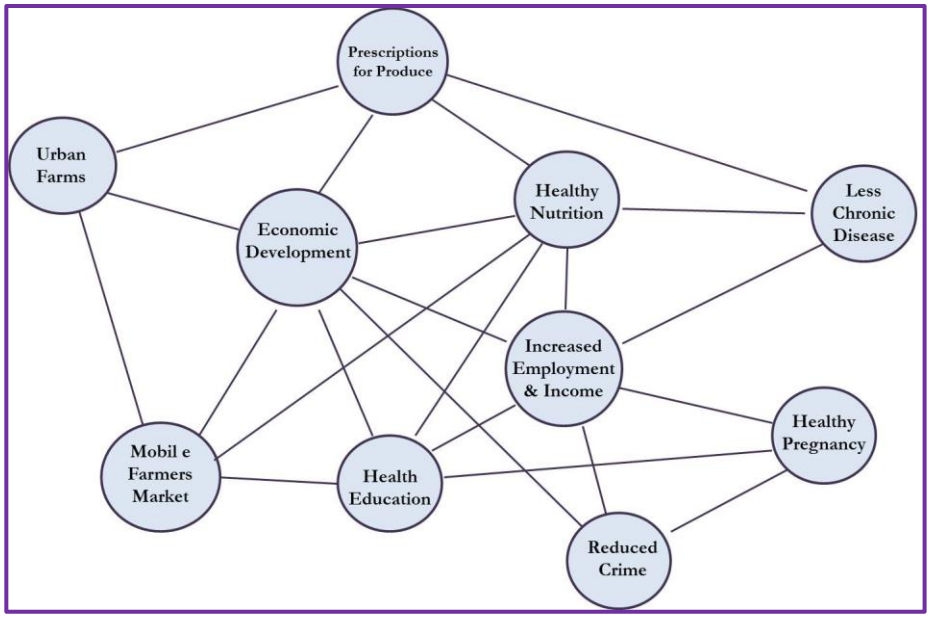
Recommendations & Next Steps

Guilford County CHA "Connecting the Dots" Meeting

In March 2013, GCDPH and CHA partners hosted a half-day community health assessment "Connecting the Dots" workshop to review assessment data and to identify evidence-based and multi-level strategies to achieve improvements to the health needs and issues identified through the CHA process. Participants at meeting included individuals who attended previous community town hall assessment meetings, community health practitioners and subject-matter experts.

Connecting the Dots for a Picture of Community Health



Participants attended two separate breakout sessions, one organized to address one of the three pressing health outcomes—Chronic Disease, STIs or Healthy Mothers and Babies—and the other set of session that addressed health factors—Clinical and Preventive Care, Social and Economic Factors, and Access to Healthy Food as identified as priorities in CHA meetings. For each of the six breakout sessions, participants received content area data sheets that featured key data points for that given content area. Staff from GCDPH and the CSCHRE facilitated the breakout sessions with support from student volunteers. Participants reviewed and discussed a summary sheet that highlighted best practice interventions addressing the given topic area. Participants then ranked and expanded upon these potential strategies. In considering strategies to reduce disparities and improve health outcomes, workshop participants were encouraged to think about the health outcome issues within the framework of the County Health Rankings Health Model, to consider the potential impact of "upstream" social, economic and environmental interventions and programs. Examples of successful strategies were drawn from the Community Guide (www.thecommunityguide.org/index.html) and the County Health Rankings Roadmaps guide (www.countyhealthrankings).

Session 1 breakout topics:

- Healthy Mothers and Babies
- Sexually Transmitted Infection
- Chronic Disease and Premature Death

Session 2 breakout topics:

- Clinical Care—Primary and Preventive Care
- Social and Economic Factors
- Environmental Factors –Access to Healthy Food

Next Steps: Community Action Planning

In January, 2014 the GCDPH will convene a series of meetings to translate the CHA Recommendations into a Guilford County Community Health Improvement Plan.

Improving Rates of Chronic Disease

Health Issue

The leading causes of mortality and years of potential life lost in Guilford County region are chronic diseases, especially cancer and heart disease. Cancer has overtaken heart disease as the leading cause of death but cardiovascular disease results in far higher medical costs. In 2011, residents of Guilford County incurred hospital charges of $238,788,385 for cardiovascular disease diagnoses, out of total hospital costs of $1,122,030,551. Risk factors for chronic disease include obesity and physical inactivity. Assessment data show significant disparities in chronic disease obesity and physical inactivity by race, sex, education, income and geography.

Identifying Strategies for Improvement

Participants: Angelina Drews (HPR Health System), Marlee Rindal (Ragsdale YMCA), Sheri R. Vettel (P4CC), Brooke Kochanski (P4CC), Patricia Tripp (Community, Foster-Caviness), Robert Forman (HPR Fitness Center), Renee Griffin (SRG), Sandra Blaha (CHCNP), Virginia Lewis (United Way), Andrew Young (Center for New North Carolinians), Leilani Roughton (New Arrivals Institute), Janet Mayer (DPH), Sung-Jin Lee (NC A&T), Kate Mooney (Heartside Home Care), Roget Benendes (Healthside Home Care). The meeting was facilitated by Mark Smith from the Guilford County Department of Public Health.

The leading strategies identified were:

1. **Community-wide campaigns to increase physical activity** involve many community sectors, include highly visible, broad-based, multi-component strategies (e.g., social support, risk factor screening or health education) and may address cardiovascular disease risk factors. (May include "prescriptions for exercise" programs).Some evidence exists of increased physical activity and physical fitness among adults and children.
    a. **Populations with greater needs:** Seniors, immigrant and refugee, low income, minority communities
    b. **Potential organizations to involve:** Senior Resources, Neighborhood Congress, Congressional Nurse Program, YMCA/YWCA, schools, CNNC, AG Ed Center, Housing Authority, United Way, Partners in Health and Wholeness, New Arrivals institute, churches, Cone Health and High Point Regional exercise facilities

2. **Initiatives to increase access to healthy food** (farmers markets, community gardens, healthy corner store project, WIC and Senior Farmers Market voucher programs, Medical Center Farmers' Markets, "prescriptions for fruits and vegetables" programs). Evidence exists for some elements of food access initiatives, i.e., school fruit and vegetable gardens.
    a. **Populations with greater needs.** Low income, immigrants and refugees, food desert areas, seniors, children, minority communities, pregnant women.
    b. **Potential organizations to involve**: Senior Resources, Cooperative Extension, Partnership for Community Care, Partnership Pantry Program, Second Harvest Food Bank, Share the Harvest, Congregational Nurse Program, YMCA/YWCA, schools, CNNC, AG Ed Center, Housing Authority, United Way, Partners in Health and Wholeness, New Arrivals institute, churches, existing farmers markets, including Medical Center markets, Peacehaven Farm, Greensboro Parks and Recreation.

3. **Community Suggestions for Improving or Expanding Existing Programs**
    a. Fitness by the Fountain—free variety of physical activity/fun activities for families in several communities and existing networks.
    b. More low cost/free community based fitness and exercise programs.
    c. Community Gardens and or Community Night; Intergenerational approach: combination of elders and children to strengthen community connection, to build a positive relationship between these generations (but how to access the low income racial minority populations).

d. Utilize vacant lots throughout Guilford for Community Gardens and have senior homes pledge to care for the garden—recognize gardeners with garden as sponsors. Senior homes have their own bus transportation. School age children can then tour the gardens.
e. The region has an excellent but diffuse "food" community and a historically rich agricultural tradition that is eager to be involved and connected to the rest of Greensboro and Guilford.
f. Get Healthy High Point—city-wide disease prevention campaign.
g. Get physicians in preventive care to prescribe exercise.
h. Activity work with churches, local recreation centers etc. to establish preferably free programs pertinent to their population that provide physical activities on a regular basis (weekly at a minimum) which would supply the social pied to enhance attendance.
i. Using existing networks to incorporate physical activity (churches, and schools).
j. More parks, greenways, safe places to exercise.
k. Create community partnerships that will deliver the same message. VERY CRUCIAL!!
l. One shot deals (Night Out, etc.) are not sufficient. Unless these efforts are clearly woven together. They do not have long term benefits for mainstream or hard to reach populations. There is not enough emphasis on design and how behavioralism can positively alter outcomes. Lots of interest in programming and intervention, less in communities that would sustain themselves.
m. Use media effort and TV, newspapers, etc.

4. <u>Other Community Comments on Strategies</u>:

a. Facilitate physician access and utilization to fall prevention tool kits to assist with meeting the need for "Exercise to Medicare". Note there are many evidence-based programs that the patients could be funneled to--:Matters of Balance; Tai Chi for arthritis, water aerobics for seniors, cardiac and pulmonary exercise programs etc.; Silver Sneakers.
b. Community gardens are great idea. But, there is an issue of "accessibility' for every person in a community---it varies according to income, race, and location.
c. "Culture" perspective can be utilized when accessing to immigrants/refugees i.e., Hispanics. Not all refugees are Christians. If so, how to help efficiently/effectively.
d. I am envisioning creating partnerships throughout the county including non-profit and for profit entities through the food chain.
e. Foster Caviness is interested in food procurement, food distribution and community development. Together we will make it possible for everyone to gain access to foods!!
f. Grant money is available through the NC Council of churches—simple, accessible process. Grants from $500-$5,000 available to support these "grassroots" movements.
g. Community gardens best practices have been well-established. We don't need to re-hash many of these ideas. Gardens, etc., are intertwined with larger food structures, attitudes about food supplies, choices, etc. We're not trying to fix everything—can't—but we do want to help redesign a larger system of change. Food people are among the most generous sharers.

Improving Rates of Sexually Transmitted Infections

Health Issue

Sexually Transmitted Infections present significant issues for the health of residents of Guilford County and the CHNA assessment area. Rates of chlamydia, gonorrhea, syphilis and HIV disease are consistently higher in Guilford County and Forsyth County than in the state as a whole and the nation. Large racial disparities exist for STIs, with African-Americans experiencing rates as much as ten times that among whites. Higher rates of HIV disease are concentrated in census tracts in southeast Greensboro. Syphilis rates are higher in tracts in southeast and west Greensboro and areas of central High Point. The problem of STIs is also concentrated among teens and young adults.

Identifying Strategies for Improvement

Participants in this breakout session included: Tim Jordan (Ragsdale YWCA), Michelle Morrison (YWCA High Point), Kathy Norcott (Piedmont Health Services), James Gooch (Community). The meeting was facilitated by Laura Mrosla of the Guilford County Department of Public Health.

The leading strategies identified were:

1. **Comprehensive risk reduction programs** provide information on contraception and protection against STIs, and often emphasize abstinence and delayed initiation of sex. There is strong evidence that comprehensive risk reduction programs reduce risk behaviors such as self-reported engagement in sexual activity, frequency of sexual activity, number of partners and frequency of unprotected sexual activity. Other outcomes include increased use of condoms and contraception. There is strong evidence that group-based comprehensive risk reduction programs decrease sexual risk behaviors in both the short-term and the long-term.

2. **Individual-level, group-level and community-level behavioral interventions** aim to improve healthy behavior, psychosocial functioning and quality of life. There is strong evidence that these interventions reduce HIV and other STIs, decrease sexual risk behaviors, increase condom use and decrease STI incidence for at-risk adults and adolescents. Effects are greatest among high-risk groups (e.g., individuals at STI clinics and men who have sex with men (MSM). Interventions decrease risky sexual behaviors and STI incidence among women, Hispanics and black men and may also decrease risky sexual behaviors among adolescents.

3. **Expand existing best practice/promising program or provide greater coordination of existing programs?**
    a. Wise Guys.
    b. Smart Girls® Life Skills Training.
    c. SIHLE.
    d. Ensure adherence to the Healthy Youth Act, starting in middle schools.

4. **Recommendations for other program or strategy? Please describe.**
    a. Educate more parents.
    b. Explain why it is so important to talk with your child regardless of age.

5. **Populations with greater need:**
    a. High school and college students.
    b. Young adults.
    c. African American.
    d. Neighborhoods in southeast and east Greensboro and central and south High Point.

6. **Potential organizations to include:**
    a. Triad Health Project.
    b. Department of Public Health.
    c. Faith Communities.

7. **Other Comments:**
    a. I would like to see an increase in mentoring opportunities for people interested in receiving some guidance during times of change (emerging adults, fatherless boys, etc.)

Healthy Pregnancy: Improving Birth Outcomes

Health Issue

Poor births outcomes are a significant problem for Guilford County and much of the CHNA Assessment Areas, with rates of infant mortality and low birth weight considerably higher than national benchmarks and objectives. Preconception health and healthy lifestyle during pregnancy are important factors influencing birth outcomes. Major disparities exist for birth outcomes. African-Americans experience low birth weight and infant mortality at considerably higher rates than whites. Teen pregnancies as well as low birth weight and preterm births occur at higher rates in areas with higher rates of poverty and unemployment and among racial minorities.

Identifying Strategies for Improvement

Participants included: Jen Kimbrough (GCAPP), Crystal Broadnax (United Way), Julie Lapham (CNNC), Jennifer Ruppe (United Way), Kenneth Gruber (CYFCP), Kay Lovelace (UNCG-PHE), Amelya Black (UNCG-CPP), Charmaine Purdum (DPH), Jean Pudlo (Consultant), Renee Robinson (NCA&T), Heidi Major (YWCA-High Point). The meeting was facilitated by Joseph Telfair of UNC-Greensboro.

The leading strategies identified were:

1. **Expand capacity of Centering Pregnancy™** program initiated by the Guilford County Department of Public Health. Centering Pregnancy™ is a multifaceted model of group care that integrates health assessment, education, and support into a unified program within a group setting. Eight to twelve women with similar gestational ages meet to learn care skills, participate in a facilitated discussion, and develop a support network with other group members. Each pregnancy group meets for a total of 10 sessions throughout pregnancy and early postpartum.

2. **Programs to improve pre-conception health**; i.e. Show Your Love, the national Pre-conception Health and Health Care Initiative (PHHCI), encouraging women to adopt healthy habits well before becoming pregnant.

3. **Dropout prevention programs for teenage mothers** typically offer multiple services which may include remedial education, vocational training, case management, health care, transportation assistance, and child care. Some programs also offer financial incentives for mothers who attend school, or make welfare receipt contingent on school attendance. Programs are usually comprehensive and intense, last about a year, and are usually conducted in multiple community settings. There is strong evidence that dropout prevention programs targeted at teenage mothers increase such mothers' graduation rates.

4. **Community suggestions to expand or improve existing programs:**
    a. Access to existing programs.
    b. New programs reaching targeted populations.
    c. More than a health issue.
    d. Need universal comprehensive sexuality education.
    e. Expand Smart Girls® and Wise Guys (multiple mentions).
    f. Adopt-a-Mom program (multiple mentions).
    g. Work with YWCA on new preconception grant.
    h. Take the programs that are working and expand: Wise Guys, Smart Girls®, Healthy Moms, Healthy Babies.
    i. Expand existing program capacity.
    j. YWCA-Healthy Mothers, Healthy Babies.
    k. Breastfeeding/Parenting Education support.
    l. Teen Parent Mentor Program.

m. Teens Taking Action.

5. **Other recommendations for programs or strategies:**
    a. Outreach churches and college students.
    b. Accessible primary care sites for teens, consensual, accessible, teen friendly.
    c. Sex education in the schools.
    d. Bring schools to the table for "real conversations."
    e. Focus on males too.
    f. Programs to address young women's sense of power and ability to control their lives.
    g. Programs that target gender relationships and the power of young women.
    h. Programs that address pre-conceptual health for African American women.
    i. Comprehensive approach to health education; issues work hand in hand and should be addressed as such as mobile health clinics to promote education and training around healthy habits, food choices, and contraception**.**
    j. Clearly, strategies to overcome all issues whether teen pregnancy or bullying, or food disparities, all are related. Comprehensive outcomes developing strategic macro elements is essential. Funding band aid approaches will leave our community in dire straits.
    k. Regarding Centering Pregnancy™, incorporating a food health component could strengthen outcomes. Diet and nutrition extremely important in growing, raising, promoting healthy moms and babies. WIC Farmers Market and SNAP Farmers Market Benefits could enable moms the ability to eat healthier.

6. **Populations with greater need**: Teens, middle, high school and college students, low income, minority communities.

7. **Potential partners**: Department of Public Health, YMCA/YWCA, Guilford Child Health, United Way, Center for New North Carolinians; Partners for Healthy Youth.

Improving Access to Primary Care

Health Issue

Community meeting participants rated lack of health insurance as the highest priority clinical care issues, with access to primary care providers as the second most important issue facing residents Guilford County and the larger assessment area. Substantial race and income disparities exist in percentage of persons who do not have a regular physician or health care provider. This issue includes access to primary care providers for physical and mental health.

Identifying Strategies for Improvement

Participants included: Robert Foreman (HPR Fitness Center), Heidi Major (YWCA High Point), Angelina Drews (HPR Health System), Tim Jordan (Ragsdale YMCA), Jen Kimbrough (GCAPP), Kathy Norcott (Piedmont Health Services), Sandra Blaha (CNCNP), Markee Rindal (Ragsdale YMCA), Susan Shumaker (Cone Health Foundation). The meeting was facilitated by Joseph Telfair of UNC-Greensboro.

The leading strategies identified were:

1. **Systems navigators and integration** (e.g., Patient Navigators). Patient navigators provide culturally sensitive assistance and care-coordination, guiding patients through available medical, insurance, and social support systems. These programs seek to reduce racial, ethnic, and economic disparities in access to care and disease outcomes. There is strong evidence that patient navigator programs improve cancer screening, especially for breast cancer.

2. **Interventions to improve Health Literacy**. Health literacy is the degree to which people obtain, process, and understand basic health information and services in order to make appropriate health decisions. Between one-quarter and one-half of the US population has limited health literacy; elderly and low income individuals are most likely to have lower levels of health literacy. Approaches to improving health literacy include simplifying health education materials (written, video, audio, and computer formats), improving patient-provider communication, and improving overall literacy.

3. Expand use of **Community Health Workers** (CHW). Community health workers (CHW) serve a variety of functions, including: providing outreach, education, referral and follow-up, case management, advocacy and home visiting services. CHW services are often targeted at women who are at high risk for poor birth outcomes. There is strong evidence that CHW interventions improve a variety of health outcomes and behaviors, and increase access to care, particularly among racial and ethnic minority women. CHW models are a suggested strategy to promote healthy behaviors and connect underserved populations.

4. **Community suggestions for improving or expanding existing programs**
    a. Focus on primary care medical home model.
    b. "Ask me 3" health literacy evidence based program.
    c. Systems navigators and integration—these need to be strategically placed or have a way to connect to one.
    d. To improve health literacy, Teach Back Questions are the Answer.
    e. Have a common theme or rallying cry.
    f. Expand CHW to meet more of the underserved and unserved populations, i.e. men.
    g. Community health workers.

5. **Other strategies or comments relating to improving access to clinical care**
    a. Volunteers to get trained to assist with enrollment in health insurance exchanges in the fall of 2014 and after.

b. Identify champions
c. Tap into the "exercise is medicine" campaign
d. Focus on one or two objectives in first year or two and then expand, otherwise this will fizzle out like other campaigns have done
e. Expand availability of community clinics, especially for uninsured, Medicaid and teens
f. Congregational Nurse Program is great but limited by connection to faith community. Perhaps replicate without the faith component requirement.
g. Don't forget immigrants and recently released from incarceration.
h. Tie in church groups, schools, restaurants and other partners to help achieve the common goal.

6. **Populations with greater needs:** Immigrants and refugees, at risk populations, low income, minority communities, those recently released from incarceration.

7. **Potential organizations to involve:** Hospitals, Congressional Nurse Program, YMCA/YWCA, UNCG, CNNC and safety net providers, Greensboro Urban Ministry, Housing Authority, Department of Public Health, Triad Adult and Pediatric Medicine (TAPM).

Social and Economic Factors

Health Issue
Social and economic factors such as poverty, unemployment, education and crime are important social determinants of health and disease. Community meeting participants rated child poverty as the most important social economic issue, followed by unemployment, violent crime and educational attainment.

Identifying Strategies for Improvement

Participants included: Michelle Morrison (YWCA-HP), Gracie Weaver (UNCG-PHE), Tia R Sides (UNCG-PHE), Kenneth Gruber (CYFCP), Kay Lovelace (UNCG-PHE), Virginia Lewis (United Way), James Gooch (Community), Charmaine Purdum (DPH), Lealani Roughton (Mew Arrivals Institute), Jean Pudlo (Consultant), Kate Mooney (Heartside Homecare), Roget Benendes (Heartside Homecare). The meeting was facilitated by Laura Mrosla from the Guilford County Department of Public Health.

The leading strategies identified were:

1. **Support and expand multi-component employment initiatives** such as the **Greensboro Works Task Force,** a joint effort of The Community Foundation of Greater Greensboro and United Way of Greater Greensboro, is pursuing collaborative efforts to address Family Economic Success (FES) Assessment, National Fund for Workforce Solutions (NFWS) and Degrees Matter! In Greater Greensboro. The goal is to address long-term economic success of residents and "connect the dots" across existing programs and services.

2. **Extracurricular activities to improve community safety**. Extracurricular activities can include any organized social, academic, or physical activities for school-aged youth occurring outside of the school day. Extracurricular activities are a suggested strategy to increase social support systems, develop social skills and relationships, and enhance neighborhood cohesion as well as reduce violent behavior.

3. **Populations with greater needs.** Low income, immigrants and refugees, food desert areas, Seniors, children, minority communities, pregnant women. Persons in areas with high poverty and unemployment, immigrants and refugees, underemployed and adults who want to change jobs or careers,

4. Potential organizations to involve: Senior Resources, Cooperative Extension, Partnership for Community Care, Partnership Pantry Program, Second Harvest Food Bank, Share the Harvest, Congregational Nurse Program, YMCA/YWCA, schools, CNNC, AG Ed Center, Housing Authority, United Way, Partners in Health and Wholeness, New Arrivals institute, churches, existing farmers markets, including Medical Center markets, Peacehaven Farms, Greensboro Parks and Recreation,

5. **Community suggestions for improving or expanding existing programs**
    a. Childcare for working adults
    b. Focus on adult work force with continuing education and outreach to glean skills to stay a successful long-term professional employment.
    c. Youth leadership academy
    d. Livable wage programs
    e. Child care scholarships
    f. Transportation subsidies and help getting and maintaining cars.
    g. Entry-Level employment skills program (GC DSS currently working with High Point Public Library (Linda Troxell, GC DSS)
    h. Childcare funding.
    i. Community sites that assist kids but also require parents to participate in educational programs
    j. Basic education for immigrants and refugees that includes childcare and transportation

k. Support local food initiatives to increase employment and reduce poverty
l. After-school extra-curricular activities could be organized around community gardening

6. <u>Other community comments or recommended strategies:</u>

a. Help change mentality of work ethic importance of being an active part of the workforce and economy.
b. Address ways to improve health care access
c. Programs to help individuals keep jobs
d. Develop opportunities for hard to employ persons
e. Expanding awareness of being responsible and accountable
f. Expanding family centered approach

Improving Access to Healthy Food

Health Issue:
Environmental factors, like social determinants of health, have an important role in shaping community health. In 2013, the USDA Economic Research Service designated 25 census tracts in Greensboro and High Point, as well as other areas of the CHNA assessment area in Thomasville, Burlington, Reidsville and Winston-Salem, as food deserts, areas where residents do not have ready access to full-service supermarkets.

Identifying Strategies for Improvement

Participants included: Sung-Jin Lee (NC A&T), Sherri Vettel (P4CC), Brooke Kochanski (P4CC), Patricia Tripp (Community, Foster Caviness), Renee Griffin (Senior Resources Guilford), Amelya Black (UNCG-PCP), Marianne Legreco (UNCG CSD), Janet Mayer (DPH), Ellen Weiner (Community), Renee Robinson (NC A&T), Andrew Young (Center for New North Carolinians). The meeting was facilitated by Mark Smith of the Guilford County Department of Public Health.

The leading strategies identified were:

1. **Establish farmers markets and farm stands** in low income neighborhoods. This is a suggested strategy to increase fresh produce in food deserts. There is some evidence that farmers markets increase access to healthy foods. Farmers markets and farm stands in low income neighborhoods are likely to decrease disparities in food access. Includes **Mobile farmers' market** approaches to deliver produce to residents of low income neighborhoods. Includes expanded/enhanced **Medical Center farmers' markets.**

2. **Initiatives to encourage development of community gardens**. There is some evidence that community gardens improve access to and consumption of fruit and vegetables and increase physical activity for gardeners. Community gardens in low income neighborhoods are likely to reduce disparities. This strategy includes **School fruit and vegetable gardens and urban farms** initiatives.

3. **Provide incentives and support to food retailers** to offer healthier food and beverage choices in low access areas ("Corner Store Project"). Corner store projects provide support and incentives to existing convenience stores located in food desert neighborhoods. Support can include providing coolers and shelving for produce and other healthier options, training in produce handling, signage, and could include assistance in tapping into healthy food distribution networks.

4. **Improve availability of mechanisms for purchasing foods** from farms via farmers markets farm stands and other healthy food outlet. This strategy includes **promotion of EBT** (Electronic Benefits Transfer) and initiatives to **promote use of WIC and Senior Farmers Market Vouchers.** Can also include financial incentives in the form of "Veggie Vouchers," coupons that can be used in participating farmers markets and corner stores.

5. **Community suggestions for improving or expanding existing programs:**
    a. Bring non-profits together with for profit entities, creating the partnership basis for increasing our local food economy. Provide new jobs, greater health, etc.!!
    b. There are long-term commitments, projects will have setbacks. Only if communities will stick it out will the garden stuff work
    c. Coordinating resources; maybe through the IRC to map and catalogue where things are.
    d. The partnership pantry Healthy Food Bank Program—Healthier foods/produce available at food pantries—for low income chronic disease
    e. Create a distribution hub
    f. It must be a multi-layered approach

g. Community meals and relationship building…everybody tour the Montagnard gardens.
h. Add incentives to select healthier foods with EBT benefits
i. Education on how healthy eating can help you live a better life.
j. Education needed on how to use and store fresh foods.
k. Cultural perspective should be examined; need to cover more elderly populations having low incomes; church/faith based organizations are not solutions;
l. Different approaches for food desert and needy people (low income, elderly…)

6. **Other Community Comments:**
   a. We need to create an awareness initiative to education everyone within the community on local food system initiative. We need to work together---food is what we all have in common!
   b. All programs must incorporate education and awareness training components
   c. Youth are agents of change. Establishing more supported food/garden/health programs; Recreation Centers might be a good place for creating education opportunities
   d. For mobile markets, one solution is to have vendor be part of the community
   e. Framers markets should use (price points business model)

7. **Populations with greater needs:** Seniors, immigrants and refugees, pregnant women, residents of food deserts, low income, minority communities

8. **Potential organizations to involve:** Senior Resources, Department of Public Health, UNCG, Foster-Caviness Food Distributors; Parks and Recreation, Cooperative Extension, Greensboro Farmers Curb Market and other existing farmers markets, 10% program, CTG Project; Piedmont Together; Hospitals, Share the Harvest, IRC; High Point City Project; High Point SW Renewal Foundation, Michael King Community Development Corporation, Fund for Democratic Communities.

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Guilford County Department of Public Health Community Health Assessment

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