# 2012-2013 | Guilford County Department of Public Health Community Health Assessment

# Health Concern

# Chronic Disease

The leading causes of mortality and years of potential life lost in Guilford County are

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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.

# 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 ageadjusted 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.

#### HEALTHY NORTH CAROLINA 2020 CHRONIC DISEASE

**<u>Objective</u>**: 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/hnc20	<u>20/docs/HNC20</u>
20-FINAL-March-revised.pdf	

# Inside this Chapter

Leading Causes of Death in Guilford County

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Regional Variation in Chronic Disease Incidence and Mortality Rates

Trends in Chronic Disease Mortality

- Cancer
- Heart Disease
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- Chronic Lower Respiratory Disease
- Colorectal Cancer
- Prostate Cancer
- Lung, Trachea and Bronchial Cancer
- Breast Cancer
- Diabetes
- Cirrhosis

Asthma Hospital Discharge Rates, All Ages and Ages 0-14



Source: NC State Center for Health Statistics

- 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.

# **Chronic Disease Incidence and Prevalence**

	Colon/	Rectum	Lung/Bronchus		Female	Breast	Pros	state	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

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

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

Cancer Incidence Rates by Guilford Peer County, 2006-2010 per 100,000 Population Age-Adjusted to the 2000 US Census

	Colon/	Rectum	Lung/Bronchus		Female	Breast	Pros	state	All Cancers	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Cumberland	541	43.0	984	78.7	1,127	157.9	747	133.8	6,258	489.5
Durham	443	38.9	747	69.0	1,066	161.6	841	166.9	5,674	489.9
Forsyth	726	38.5	1,379	73.8	1,688	159.5	1,452	171.3	9,546	506.5
Guilford	1,037	42.6	1,792	73.9	2,193	162.4	2,099	193.4	12,954	531.7
Mecklenburg	1,412	38.9	2,104	61.6	3,491	163.7	2,788	167.8	17,741	477.0
Wake	1,296	38.0	1,883	59.5	3,353	163.8	2,838	178.8	17,215	485.9
North Carolina	20,968	43.4	36,287	74.8	41,169	155.9	34,733	153.7	242,432	498.1

• 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.

• Among peer counties, Guilford County has the highest rate of all-cause cancer, and is higher than the state rate.

- The age-adjusted prostate cancer rate in Guilford County is 25.8% higher than the rate for the state as a whole and is 44.7% higher than the peer county with the lowest prostate cancer rate, Cumberland.
- Guilford's 2008-2012 overall cancer mortality rate of 166.6 represents an improvement on the rate of 179.6 recorded in 2003-2007 for the baseline of the 2009-2010 Community Health Assessment.



#### Cancer Mortality, Peer County Comparisons

- Guilford County's overall five-year cancer mortality rate was lower than the state as a whole.
- While Guilford's prostate cancer incidence rate was the highest among peer counties from 2006-2010, its prostate cancer mortality rate was lowest among peer counties from 2008-2012. Guilford's rate was 18.3% lower than Cumberland County's prostate cancer mortality rate.
- Guilford's 5-year lung cancer mortality rate of 50.1 was lower than the state rate of 52.8 but was 24% higher than Wake County's rate.
- Guilford County's five-year breast cancer mortality rate was about the same as the NC state rate.
- Guilford's colorectal cancer mortality rate was lower than the rate for the state as a whole.

# Age-Adjusted Colorectal Cancer Mortality Rates per 100,000, 2008-2012



# Age-Adjusted Lung Cancer Mortality Rates per 100,000, 2008-2012



# Age-Adjusted Breast Cancer Mortality Rates per 100,000, 2008-2012



		<u></u>								
	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					

Diseases of the Heart 2007-2011 NC Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates per 100.000 Population

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.

#### Age-Adjusted Chronic Disease Mortality Rates per 100,000 among Guilford Peer Counties, 2008-2012

	Heart Disease	Stroke	Diabetes	Chronic Lower
				Respiratory Disease
Cumberland	207.8	44.7	31.8	49.4
Durham	140.7	41.0	21.1	31.5
Forsyth	146.4	45.4	19.7	50.0
Guilford	154.1	42.6	15.6	38.1
Mecklenburg	138.5	38.6	17.0	35.1
Wake	134.0	43.3	17.0	32.3
North Carolina	174.4	45.1	21.8	46.6

- Guilford's heart disease mortality rate was lower than the state as a whole but was 15% higher than the rate in Wake County and was 34% lower than the Cumberland County rate.
- The five-year diabetes mortality rate in Guilford County was 28% lower than in the state as a whole.
- Guilford's mortality rate from chronic lower respiratory disease was 18% lower than the rate for the state as a whole.
- Guilford's heart disease mortality rate of 154.1 in 2008-2012 represents an improvement on the rate of 190.3 recorded in 2003-2007 at baseline of the 2009-2010 Community Health Assessment.
- Guilford's diabetes mortality rate of 15.6 in 2008-2012 is an improvement on the rate of 21.1 recorded in 2003-2007 at baseline of the 2009-2010 Community Health Assessment.
- Guilford's stroke mortality rate of 42.6 represents and improvement on the rate of 52.4 that existed in 2003-2007 at baseline of the 2009-2010 Community Health Assessment.

	Whi	White, non-Hispanic			African-American, non-Hispanic				Hispanic					
	Ma	ale	Female		Male		Female		Male		Female		Ove	rall
Cause of Death	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

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

## \*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 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.

	White Hisp	, non- oanic	Afri Amer non-Hi	can rican, ispanic	Other I non-Hi	Races, spanic	Hispa	anic	Ma	le	Fem	ale	Over	rall
Cause of Death:	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

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

\*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	pecific Age-Adjusted* De	ath Rates**
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	White Hisp	, non- anic	Afri Amer non-Hi	can ican, spanic	Other non-Hi	Races, ispanic	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).



- 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 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.





- 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.













- 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

Residence	Total Number	Total Rate	Number Ages 0-14	Rate Ages 0-14
North Carolina	9,786	100.3	3,128	163.7
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 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.
- Guilford's rate of 80.5 asthma-related hospitalizations per 100,000 in 2012 is a substantial improvement to the rate of 105.7 hospitalizations per 100,000 recorded in 2007 at baseline for the 2009-2010 CHA.

# 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, a 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

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.

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.