

# Caswell County

## State of the County Health Report 2018

Caswell County



Public Health

Prevent. Promote. Protect.

### Purpose

Caswell County's State of the County Health Report (SOTCH) provides information and updates related to health concerns identified by the community in the most recent Community Health Assessment (CHA). Both of these reports aim to include the entire community. The most recent CHA is the 2015 CHA which was submitted in March of 2016. CHA identified the top three community health priorities based upon community feedback. These three priorities are **mental health, substance use, and obesity**.

In addition to updates on the priority areas, the SOTCH also provides updates on socioeconomic and demographic factors, major morbidity and mortality data, new initiatives, and emerging issues. **For more information and to become involved in community health assessment processes and/or initiatives, please contact the health department at 336-694-4129.** This report and other reports can be found online at <http://www.caswellnc.us/news-reports/>. Limited paper copies are available at Gunn Memorial Public Library and at the health department. The SOTCH is also shared with partners via email and community meetings.

### Socioeconomic and Demographic Information

Socioeconomic and demographic factors play a significant role in the health of any community. These factors can impact access to health services, healthy food, opportunities for physical activity, as well as behaviors, attitudes, and policies related to health. For comparison purposes, Caswell County is compared to North Carolina. Due to the low population size and density of Caswell

County, five-year ranges of data are provided as often as available to improve statistical reliability. The table above shows the population size of Caswell County is 23,094<sup>i</sup> or 54.35 persons per square mile and for North Carolina is 9,940,828<sup>ii</sup> or 204.47 persons per square mile.

Data regarding the racial and ethnic backgrounds, as well as age of Caswell County as compared to North Carolina as a whole can be observed in the tables to the right. These figures show a population that has a larger percentage of African-American residents and fewer Hispanic residents as compared to the state of North Carolina. The county's population is also older than that of the state, with fewer young children and more senior citizens.

Directly associated with economic status of the population, the average unemployment rate was 10.4%<sup>iii</sup> for Caswell County and 8.3%<sup>iv</sup> for the state of North Carolina for the 2012-16 period.

During this same period, Caswell County reported 46.9% of residents were not in the labor force<sup>iii</sup>, as compared to 37.4% of North Carolina residents<sup>iv</sup>. The U.S. Census Bureau defines those not in the labor force as persons who are institutionalized, retired, homemakers, students, or seasonal employees who are not looking for employment during the off season. As illustrated in the income table on the right, Caswell County residents have lower per capita, median, and mean household incomes when compared to the state.

Population Density	Caswell County	NC
Total Population	23,094	9,940,828
Land Mass (sq. mi.)	424.92	48,617.91
Population per sq. mi.	54.35	204.47

Source: 2012-16 ACS, U.S. Census Bureau<sup>i,ii</sup>

Race and Ethnicity	Caswell County	NC
White	62.7%	69.5%
African-American	32.8%	21.5%
Hispanic	3.4%	8.8%

Source: 2012-16 ACS, U.S. Census Bureau<sup>i,ii</sup>

Age of Residents	Caswell County	NC
Median Age (in years)	45.3	38.3
Under 5 years	4.7%	6.1%
18 years and over	81%	77%
65 years and over	19.3%	14.7%

Source: 2012-16 ACS, U.S. Census Bureau<sup>i,ii</sup>

Income	Caswell County	NC
Per capita	\$20,235	\$26,779
Median household	\$38,310	\$48,256
Mean household	\$49,154	\$67,367

Source: 2012-16 ACS, U.S. Census Bureau<sup>iii,iv</sup>

Other economic factors include percentage of population at various ages who live below the federal poverty level. As demonstrated in the table to the right, Caswell County has a higher proportion of residents below the Federal Poverty Level at every age group. Related to income status, 20.1% of Caswell County residents received benefits through the Supplemental Nutrition Assistance Program (SNAP)<sup>iii</sup> as compared to 14.4% of North Carolina residents<sup>iv</sup>.

Educational attainment of residents also impacts health, since often education has a direct relationship with income status, opportunity, and personal skills, amongst other factors<sup>v,vi</sup>.

Crime is another factor relevant to health, since actual or perceived rates of high crime can lead to feelings of stress and anxiety. In addition to the negative health impact of fear and anxiety itself, the fear and anxiety can cause residents to avoid recreational activity, which is sometimes correlated with weight management troubles and other chronic conditions. Caswell County is fortunate to experience lower reported crime rates than the state. Crime rates are reported per 100,000 residents. The data is collected by the North Carolina State Bureau of Investigation and based upon Uniform Crime Reporting Data. These rates can be viewed in the table above<sup>vii</sup>. Index crime refers to the total of both violent and property crimes. Violent crime includes murder, forcible rape, robbery, and aggravated assault. Property crime includes burglary, larceny, and motor vehicle theft. Arson is considered an index crime, but is not included in the crime index tables.

## Major Mortality and Morbidity Information

In simplified terms, mortality is another term for death and morbidity is another term for disease or illness. Due to the small population size of the county, this report utilizes five-year rates whenever available to increase statistical reliability.

### Life Expectancy

Caswell County has slightly lower life expectancy as compared to the state for several demographic groups, with the exception of African-Americans, where the average life expectancy is higher for Caswell County residents<sup>viii</sup>.

### Mortality

Caswell County has higher rates of death for all leading causes as compared to the state rates<sup>ix</sup>. The table to the right highlights the top ten causes of death for Caswell County and North Carolina residents. As noted in this table, Caswell County has higher death rates for each of the top ten causes of death, and a higher death rate overall when compared to the state. Motor vehicle injuries are not one of the top ten causes of death for the state.

Residents with income below Federal Poverty Level	Caswell County	NC
All ages	22.1%	16.8%
Under 18 years	34.7%	23.9%
18-64 years	19.9%	15.9%
65+ years	16.1%	9.7%

Source: 2012-16 ACS, U.S. Census Bureau<sup>iii,iv</sup>

Educational Attainment	Caswell County	NC
Age 25+ HS grad or higher	76.2%	86.3%
Age 25+ bachelor's degree or higher	13.2%	29%
Source: 2012-16 ACS, U.S. Census Bureau <sup>vi,vii</sup>		

2017 Crime Rates per 100,000					
Index Crime		Violent Crime		Property Crime	
Caswell County	NC	Caswell County	NC	Caswell County	NC
1967.7	3061.5	200.2	383.7	1767.5	2677.8

Source: NC Department of Public Safety<sup>viii</sup>

### Average Life Expectancy (2014-16)

Demographic Group	Caswell County	NC
Males	74.6	74.8
Females	78.8	79.9
Caucasians	76.4	78.3
African-Americans	77.8	74.9
Total Population	76.8	77.4

Source: NC State Center for Health Statistics<sup>viii</sup>

### Top 10 Causes of Death for Caswell County Unadjusted Death Rates per 100,000 (2012-2016)

Cause of Death	Caswell County	NC
Cancer	291.0	191.5
Heart Disease	227.8	179.9
Chronic Lower Respiratory Disease	65.8	51.1
Stroke	52.8	47.3
Alzheimer's Disease	46.8	34.0
Diabetes	45.0	26.2
Unintentional Injuries	39.0	33.1
Pneumonia & Influenza	32.0	19.5
Kidney Disease	31.2	18.2
Motor Vehicle Injuries	24.2	**
Total Deaths All Causes	1179.5	865.0

\*\*indicates not a leading cause of death

Source: NC State Center for Health Statistics<sup>x</sup>

Another way to look at death rates is to use age-adjusted death rates. Age-adjusted death rates control for differences due to age distribution. Utilizing this type of data is especially helpful for an older population, like Caswell County, since this controls for differences associated with advanced age. Even when controlling for age, Caswell County still has higher death rates than the state of North Carolina for most causes of death, with the exception of stroke related deaths<sup>x</sup>. Unintentional deaths comprise deaths due to accidents or other causes, for example, falls, unintentional firearm discharge, and drug overdoses.

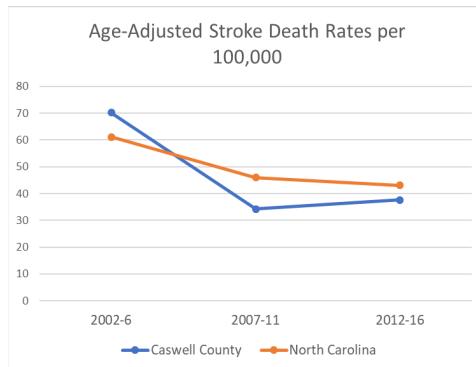
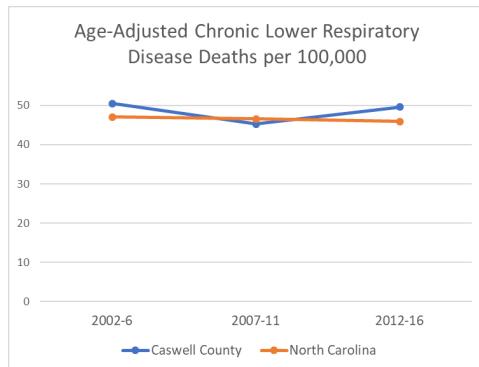
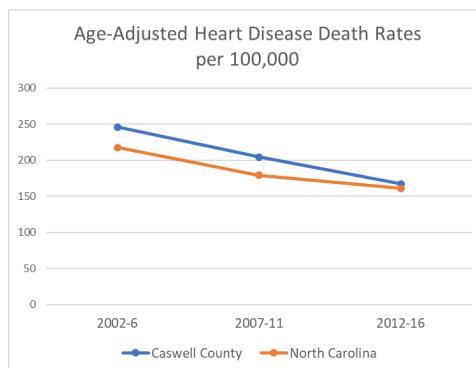
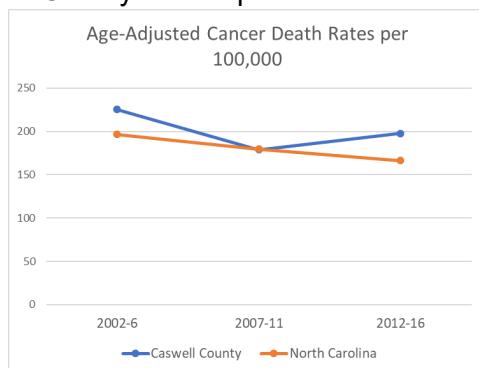
Age-Adjusted Death Rates per 100,000 (2012-2016)		
Cause of Death	Caswell County	NC
Cancer	197.7	166.5
Heart Disease	167.2	161.3
Chronic Lower Respiratory Disease	46.5	45.6
Stroke	37.6	43.1
Alzheimer's Disease	35.9	31.9
Diabetes	33.4	23.0
Unintentional Injuries	32.9	31.9
Pneumonia & Influenza	24.0	17.8
Kidney Disease	22.3	16.4
Motor Vehicle Injuries	20.5	14.1
Total Deaths All Causes	866.1	781.8

Source: NC State Center for Health Statistics<sup>x</sup>

Some factors that may contribute to these higher death rates include a greater percentage of minorities, lower income, less formally educated, and older populations combined with decreased access to health care. In addition to limited outpatient health care providers within the county, there is no hospital within the county. Since both health care and transportation are limited within the county, the most challenged populations may delay care, which may lead to uncontrolled chronic conditions, more complications, and even death.

## Trends in Mortality Rates

Mortality rates can also be viewed in comparison to prior years. This information can help identify any changes in rates to see if things are improving, getting worse, or staying the same. This data is collected and reported by the NC State Center for Health Statistics. The below graphs show some trends in age-adjusted death rates for Caswell County as compared to the state<sup>x,xi,xii</sup>.



## Morbidity

As mentioned previously, morbidity refers to disease or illness. This section reviews cancer incidence rates and communicable disease data. Pregnancy and birth data is also included in this section. Due to the small population size, limited data is available for Caswell County. Additionally, the lack of a hospital and the fact that the closest hospital for many residents is in Virginia create additional challenges in assessing full burden of health conditions. Some of the data used by the state is limited to data collected in North Carolina hospitals.

Cancer incidence rates include persons who are living with or are in remission from cancer. Previous sections of this report discussed *death* rates of cancer. For the 2010-14 time period, Caswell County had a cancer *incidence* rate of 465.3 as compared to the state rate of 480.4<sup>xiii</sup>. These rates are per 100,000 and this information is available through the NC State Center for Health Statistics.

## Pregnancy and Birth Data

All of the following pregnancy and birth data is for the year period of 2012-16. Caswell County has a pregnancy rate of 68 per 1,000 as compared to 71.9 for the state for women ages 15-44, with 1,187 pregnancies in Caswell County<sup>xiv</sup>. Due to small population size, most infant mortality related data is unavailable, such as low birthweight data. Caswell County had a total of 4 infant deaths; due to this low number, a rate cannot be calculated.<sup>xv</sup> North Carolina had a total of 4,332 infant deaths, or a rate of 7.2 per 1,000 live. Infant deaths are deaths of liveborn children before their first birthday. In regards to child deaths, Caswell County had a rate of 72.4 deaths per 100,000 compared to the state rate of 58.1 per 100,000. Child deaths include all children from 0-17 years of age<sup>xvi</sup>.

## Communicable Disease

Communicable disease statistics provide some insight into the health of a population. Caswell County Health Department (CCHD) records communicable disease data. The communicable disease incidence data reported in the table is for January 1 to December 31, 2018, which is the most current available data.

In addition to the data CCHD collects, the state collects data on sexually transmitted infections. These infections include HIV, AIDS, syphilis, gonorrhea, and chlamydia. The rates of these infections are lower in Caswell County as compared to the state, as can be viewed in the table on the next page. This may be due to a closed population that mingles less with outside groups and transportation barriers that reinforce the closed nature of the community. Another factor may be that exposed and/or infected persons may not seek care or diagnosis, so the cases are not recorded. As mentioned in other areas of this report, the small population size reduces the statistical reliability of numbers for Caswell County.

2018 Caswell Communicable Disease Incidences	
Disease/Condition	Confirmed Case Counts
Campylobacter	1
Cat bites	1
Chlamydia	91
Creutzfeldt-Jakob Disease	0
Dog bites	42
E. coli	0
Exotic Animal bites	1
Ehrlichiosis	0
Gonorrhea	26
Hepatitis A	1
Hepatitis B, acute	2
Hepatitis B, chronic	0
Hepatitis C, acute	0
Legionellosis	0
Lyme's Disease	0
Non-gonococcal urethritis	3
Pertussis (Whooping Cough)	1
Rabies in animals	0
Rocky Mountain Spotted Fever	9
Salmonella	5
Shigellosis	0
Strep Group A	0
Syphilis	4
Tuberculosis	0

Data source: Caswell County Health Department

The STI rates table provides average rates for the 2015-17 period for newly diagnosed HIV, AIDS, and early syphilis<sup>xvii</sup>. Caswell County shows lower rates of these illnesses as compared to the state. According to the NC Communicable Disease Branch data, there are 60 adults and adolescents who have been diagnosed with HIV and 25 diagnosed with AIDS in Caswell County<sup>xvii</sup>. For the state, there are 35,045 residents diagnosed with HIV and 15,999 diagnosed with AIDS<sup>xvii</sup>. These numbers are as of December 31, 2017, which is the most current available data<sup>xvii</sup>.

Average STI (new diagnosis) Rates per 100,000 for 2015-17		
Infection	Caswell County	NC
HIV	10.1	15.8
AIDS	5.1	7.5
Early Syphilis	8.8	18.2

Source: NC Communicable Disease Branch<sup>xvii</sup>

## Environmental Health Information

The Environmental Health Division of the Caswell County Health Department is responsible for the local water quality program and inspecting restaurants and other facilities. **Environmental Health may be reached at 336-694-9731.**

## Water Quality Program

From January 1 to December 31, 2018, Environmental Health staff tested 48 water samples for chemical contaminants, which are naturally occurring inorganic compounds. Of these samples, 38 met NC minimum quality standards and 11 (or 23%) did not meet these standards. The most common outliers were iron and manganese. Even at slightly elevated levels, these metals do not normally pose a substantial health risk. Environmental Health staff also tested 126 water samples for bacteriological contaminants. Of these samples, 94 had no contamination and 32 (25%) tested positive for coliform contamination. None of those included fecal coliform contamination.

## Restaurants and Facilities

For 2018, 209 facilities were inspected. Of these facilities, 194 received grade A and 8 received grade B scores. Examples of facilities include day cares, camps, lodging establishments, residential care homes, and swimming pools. Facilities are inspected at least once per year.

## Childhood Lead Investigations

There were no lead investigations conducted in 2018.

### How often should I test my well?

- Every year for total and fecal coliform bacteria
- Every 2 years for heavy metals, nitrates, nitrites, lead, copper, and volatile organic compounds.
- Every 5 years for pesticides, unless you know specific pesticides are being applied. In that case test for that specific pesticide yearly.
- If you are pregnant or have an infant in the home, test your water for nitrates.

For well testing questions or other concerns, Environmental Health may be reached at 336-694-9731.

## Progress on Priority Health Concerns

The 2015 Community Health Assessment (CHA) is the most recent CHA for Caswell County. Through the collaborative process, which involved the general public and community stakeholders, three priority areas were identified by the community. These three priority areas are **obesity, mental health, and substance use**. Due to the lack of full-time health education staff, much of the work focused around these priorities focuses on environmental and policy level work, and collaborating with other community agencies and organizations as much as possible. As a reminder, if you would like to be more involved in any of these health concerns, please contact the health department at 336-694-4129.

## Obesity

In the area of obesity, the primary areas of focus for the health department are related to adult obesity. The two evidence-based strategies identified by the health department are worksite wellness for county employees and increased access to fresh produce within the county.

- In 2018, the Caswell County Local Foods Council (CCLFC) decided to discontinue the Semora Farmer's Market after 8 weeks of operation to allow more focus on the Yanceyville Farmer's Market. The Yanceyville Farmer's Market is expected to continue in the warmer months of 2019. Additional information about the markets can be found on the CCLFC Facebook page.
- CCHD worked with CCLFC and the Second Harvest Foodbank of Northwest North Carolina to increase access to produce. As a result, double bucks were offered to SNAP recipients at the farmer's markets.
- Another program is the "2 Bite Club" where children attending the market sampled two bites of a produce item and received \$5 in market dollars.
- These groups worked with local farmers to increase fresh produce in area food pantries.
- Caswell County Government continued the worksite wellness initiative. This initiative and wellness committee are led by Paula Seamster, clerk to the Board of Commissioners.

## Mental Health and Substance Use

To maximize efficiency, these two issues are combined in both this report and in many community efforts, since these two issues often interrelate. CCHD has formed a joint mental health and substance use coalition with a wide range of community partners in order to better address these issues. **Please contact the health department at (336) 694-4129 if you would like to participate in this coalition.**

- There is a medication disposal dropbox housed in the Sheriff's Office. The box is available 24 hours a day, 7 days a week, and is open to the public, no questions asked.
- Naloxone is a drug that can reverse the effects of an opioid overdose, such as those found in commonly prescribed pain medications. Naloxone is available to the public in limited quantities free of charge at the health department. Cardinal Innovations Healthcare also provided Naloxone for Caswell County Sheriff's deputies.
- Cardinal Innovations Healthcare provided Mental Health First Aid trainings in the fall of 2018. These trainings were available to the public and local health care providers free of charge.
- A screening of the *Resilience* documentary was held in October 2018. The audience included various local and regional agencies that serve children, as well as parents and other interested individuals. A panel discussion immediately followed the documentary. The documentary focuses on Adverse Childhood Experiences (ACEs) and toxic stress in childhood and the lifelong implications as a result.
- **As a reminder for anyone experiencing a mental health crisis, the crisis line is 800-939-5911.**

## New Initiatives, Emerging Concerns and Other Projects

### New Initiatives

In addition to the programs mentioned earlier in this report, the health department has started or participated in other new projects.

- The health department partnered with Caswell Family Medical Center, and the Health Collaborative of the Dan River Region to explore a school-based health center in the county.
- Caswell County's WIC program rolled out eWIC services starting in July of 2018.
- Caswell County Health Department offered the first local ServSafe training in July of 2018. CCHD's Environmental Health program has also enrolled in FDA retail standards, which is a program designed to reduce or eliminate foodborne illnesses at the retail level, for example, restaurants and grills.
- According to the 2018 FDA update, non-typhoidal salmonella is now part of the list of communicable diseases that food-serving establishments and institutions are required to report to local Environmental Health. Previously, only typhoidal salmonella had to be reported. Other reportable conditions include shigellosis, norovirus, hepatitis A virus, and E.coli. Employees with any of these conditions must be removed from food service duties to avoid further spreading these serious illnesses.

### Emerging Concerns

#### Dog Bites

Caswell County Health Department has noticed an increase in dog bites from 29 bites in 2017 to 42 bites in 2018. Please remember any dog can bite, and over half of dog bites occur at home and from familiar dogs<sup>xviii</sup>. As the number of dogs in the home increases, so does the likelihood of being bitten. Adults with two or more dogs in the household are five times more likely to be bitten than those living without dogs at home<sup>xviii</sup>.

#### How to Prevent Dog Bites:

##### Do:

- Always ask before petting someone else's dog.
- Remain still when approached by an unfamiliar dog

##### Don't:

- Don't approach an unfamiliar dog.
- Don't run from a dog.
- Don't panic or make loud noises.
- Don't disturb a dog that is sleeping, eating, or caring for puppies.
- Don't pet a dog without allowing it to see and sniff you first.
- Don't encourage your dog to play aggressively.
- Don't let small children play with a dog unsupervised.

## Opioid and Other Drug Use

Across the U.S., rural communities have experienced skyrocketing rates of opioid use. This may be related to social factors and/or higher rates opioid prescribing due to higher rates of disability and chronic conditions, advanced age, or other factors. Reliable data is not available for Caswell County to demonstrate the true burden of this issue. To the right is the Injury Iceberg which illustrates that deaths, hospital visits, and emergency calls comprise a *small* percentage of the true burden.

As mentioned earlier in this report, unintentional deaths were the seventh leading cause of death with a total of 45 deaths for Caswell County residents for the 2012-16 period. For this same period, there were 10 (or 22% of deaths) unintentional poisoning deaths<sup>xix</sup>.

Caswell County newborns experience a higher rate of hospitalization due to drug withdrawal syndrome than Region 5 and the state<sup>xx</sup>. The rates are per 1,000 and are shown in the table to the right. Region 5 includes Rockingham, Caswell, Person, Durham, Orange, Alamance, Chatham, and Guilford counties.

Emergency Department visits also demonstrate some of the burden of substance use. Unfortunately, data collected by the state does not include North Carolina residents seen in Virginia hospitals, which especially impacts border counties like Caswell County. Some substance use related Emergency Department data is shown in the tables below<sup>xxi,xxii</sup>. This is the most current available data.



**Newborn hospitalization rates associated with drug withdrawal syndrome 2012-16 (per 1,000)**

Caswell County	11.2
Region 5	6.4
North Carolina	9.0

Source NC Injury and Violence Prevention Branch<sup>xvii</sup>

Emergency Department visits associated with Substance Abuse Diagnosis				
Year	Caswell County		North Carolina	
	Number	%	Number	%
2008	138	2.10	114,339	2.83
2009	241	2.25	117,157	2.75
2010	185	2.63	126,656	2.96
2011	186	1.49	136,012	3.04
2012	195	2.51	138,657	2.95
2013	208	2.77	137,240	2.93
2014	174	2.54	150,916	3.18

Source: NC Detect<sup>xviii</sup>

Emergency Department visits associated with Medication or Drug Overdose				
Year	Caswell County		North Carolina	
	Number	%	Number	%
2008	21	0.32	21,359	0.53
2009	22	0.21	21,124	0.50
2010	34	0.48	21,200	0.49
2011	36	0.29	22,005	0.49
2012	39	0.50	21,072	0.45
2013	31	0.41	20,633	0.44
2014	29	0.42	21,876	0.46

Source: NC Detect<sup>xix</sup>

## Other Projects

- The health department offers a Diabetes Prevention Program for individuals at risk for developing diabetes, but who have not yet been diagnosed with diabetes.
- A free flu clinic was offered on October 31, 2018 to test out a drive-through clinic model for vaccinating the public. This is one model that could be utilized in the event of a public health emergency. The event included staff from Caswell County Health Department and partners from the region and state. As a result of this clinic, 161 vaccinations were given to children and adults.
- Caswell County Health Department also partnered with Caswell Family Medical Center and Providence Baptist Church to provide free flu shots at this church in January of 2018.
- Caswell County Health Department and Caswell Family Medical Center both provide the Reach Out and Read Program for children 0-5 years of age who are seen in the clinic.
- As part of the Safe Kids program, Caswell County Health Department provided 12 car seats free of charge to eligible families. Caswell County Health Department has the only Certified Child Safety Technician in the county.

# For Your Information

**Did you know you can receive routine health care services at the health department?** The health department clinic accepts Medicaid and private insurance (for example, Blue Cross Blue Shield, United Healthcare, and Cigna). The health department accepts children and adults for well and sick visits. The clinic is open Monday-Friday from 8am-5pm, and until 7pm on Tuesdays. **To schedule an appointment with the clinic, please call 336-694-4129.**

In addition to Medicaid and private insurance, Home Health also accepts Medicare for patients with home care needs. The Home Health section of the health department offers home care services to residents of Alamance, Orange, Rockingham, Guilford, and Person Counties, in addition to those here in Caswell County. **Home Health can be reached at 336-694-9592.**

The health department also offers WIC services. **WIC may be reached at 336-694-7141.**

**Environmental Health may be reached at 336-694-9731.**

## References

- <sup>i</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Demographic and Housing Estimates 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/DP05/0500000US37033](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/DP05/0500000US37033)
- <sup>ii</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Demographic and Housing Estimates 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/DP05/0400000US37](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/DP05/0400000US37)
- <sup>iii</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Selected Economic Characteristics 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/DP03/0500000US37033](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/DP03/0500000US37033)
- <sup>iv</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Selected Economic Characteristics 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/DP03/0400000US37](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/DP03/0400000US37)
- <sup>v</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Educational Attainment 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/S1501/0500000US37033](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/S1501/0500000US37033)
- <sup>vi</sup> U.S. Census Bureau (2017). American Community Survey 5-Year Estimates. Educational Attainment 2012-16. Retrieved from [https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16\\_5YR/S1501/0400000US37](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/16_5YR/S1501/0400000US37)
- <sup>vii</sup> NC State Bureau of Investigation (2017). Crime in North Carolina 2017. Retrieved from <http://www.ncsbi.gov/Services/SBI-Statistics/SBI-Uniform-Crime-Reports/2017-Annual-Summary.aspx>
- <sup>viii</sup> NC State Center for Health Statistics (2017). 2016 State of North Carolina and 2014-16 County Life Expectancy at Birth. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html>
- <sup>ix</sup> NC State Center for Health Statistics (2017). 2012-16 Ten Leading Causes of Death by County of Residence. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD11A%20lead%20causes%20of%20death%20by%20age.rtf>
- <sup>x</sup> NC State Center for Health Statistics (2017). 2012-16 NC Resident Age-Adjusted Death Rates. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD12B%20racespecific%20and%20sexspecific%20rates.rtf>
- <sup>xi</sup> NC State Center for Health Statistics (2007). 2002-06 NC Resident Age-Adjusted Death Rates. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2008/CD21A%20racesexspecific%20rates.rtf>
- <sup>xii</sup> NC State Center for Health Statistics (2012). 2007-11 NC Resident Age-Adjusted Death Rates. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2013/CD21A%20racesexspecificrates.rtf>
- <sup>xiii</sup> NC State Center for Health Statistics (2017). 2010-14 Cancer Incidence Rates for Selected Sites. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD13A%20leadingcancers.xlsx>
- <sup>xiv</sup> NC State Center for Health Statistics (2017). 2012-16 NC Resident Pregnancy Rates per 1,000 Population. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD2C%20preg%20rates%201544.rtf>
- <sup>xv</sup> NC State Center for Health Statistics (2017). 2012-16 NC Resident Infant Death Rates per 1,000 live births. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD9C%20inf%20death%20rates.rtf>
- <sup>xvi</sup> NC State Center for Health Statistics (2017). Unadjusted Child Death Rates per 100,000 Population, 2012-16. Retrieved from [https://schs.dph.ncdhhs.gov/data/databook2018/CD9D%20Child%20\(0-17\)%20death%20rates.html](https://schs.dph.ncdhhs.gov/data/databook2018/CD9D%20Child%20(0-17)%20death%20rates.html)
- <sup>xvii</sup> NC HIV/STD/Hepatitis Surveillance Unit (2018). 2017 NC HIV/STD/Hepatitis Surveillance Report. Retrieved from [https://epi.publichealth.nc.gov/cd/stds/figures/std17rpt\\_rev12142018.pdf](https://epi.publichealth.nc.gov/cd/stds/figures/std17rpt_rev12142018.pdf)
- <sup>xviii</sup> Centers for Disease Control (2018). Preventing Dog Bites. Retrieved from <https://www.cdc.gov/features/dog-bite-prevention/index.html>
- <sup>xix</sup> NC State Center for Health Statistics (2017). Unintentional Poisoning Mortality Rates 2012-16. Retrieved from <https://schs.dph.ncdhhs.gov/data/databook2018/CD11C%20Unintentional%20Poisoning%20deaths%20&%20rates.html>
- <sup>xx</sup> NC Injury and Violence Prevention Branch (2017). Medication and Overdose in Caswell County 1999-2006. Retrieved from [https://drive.google.com/drive/folders/1FoPWdpAttKWomDzE\\_a6uj3XqZtcEvp\\_9](https://drive.google.com/drive/folders/1FoPWdpAttKWomDzE_a6uj3XqZtcEvp_9)
- <sup>xxi</sup> NC DETECT (2018). NC DETECT Annual Reports Substance Abuse Diagnoses 2008-14. Retrieved from [https://www.ncdetect.com/ncd/secure/downloadAnnualExcel.action?fileName=NC\\_DETECT\\_ED\\_Visits\\_DMHDDSAS\\_SubstanceAbuse.xls](https://www.ncdetect.com/ncd/secure/downloadAnnualExcel.action?fileName=NC_DETECT_ED_Visits_DMHDDSAS_SubstanceAbuse.xls)
- <sup>xxii</sup> NC DETECT (2018). NC DETECT Annual Reports Medication or Drug Overdose Diagnoses 2008-14. Retrieved from [https://www.ncdetect.com/ncd/secure/downloadAnnualExcel.action?fileName=NC\\_DETECT\\_ED\\_Visits\\_Overdose.xls](https://www.ncdetect.com/ncd/secure/downloadAnnualExcel.action?fileName=NC_DETECT_ED_Visits_Overdose.xls)