



# Chronic Disease 2021

## Wake County Health and Human Services Public Health Report

Nannette M. Bowler, JD, Health and Human Services Director  
Rebecca A. Kaufman, MS, Public Health Division Director

Editor-in chief: Nicole Mushonga, MD, MS, Assistant Physician Director and Epidemiology Program Director

Content Editor: Morgan Poole, MPH, Field Epidemiology Program Manager



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Cover photo: Health Promotion Chronic Disease Prevention Program nurse checks blood pressures at a community health screening.

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## 1.0 Overview

In July 2021, *ConnectAmerica* summarized the chronic disease epidemic in the United States by stating the following:

“The leading cause of death and disability in the United States, chronic disease kills more than 1.7 million Americans every year. Not only does it adversely impact the health of our country, but it also has an enormous burden on the economy. Chronic diseases such as diabetes, COPD, heart disease, and cancer account for approximately 90% of the nation’s \$3.8 trillion in annual health expenditures. By 2050, chronic disease costs are projected to hit a whopping \$6 trillion in the U.S. unless more preemptive measures are taken to prevent this growing epidemic.

Individuals with chronic diseases are associated with higher mortality rates, increased use of health services, significantly higher fall rates, and five times the health care costs compared to those without chronic diseases. Sometimes referred to as “frequent flyers,” people with chronic conditions are the greatest users of health care in the U.S., accounting for 81% of hospital admissions; 91% of all prescriptions filled; and 76% of all physician visits.

Today, more than half of all Americans have at least one chronic disease, and a quarter of all adults suffer from two or more. These numbers are expected to increase dramatically as obesity rates climb and the nation’s baby boomer generation grows older.” (1)

This report contains information on the burden of chronic diseases in Wake County including:

- The leading causes of death attributed to chronic diseases (eight out of ten in 2020)
- Detailed analysis for cancer, since the five most common types of cancer that lead to death differ in their impact on the population
- Wake County Health & Human Services (WCHHS) programs working to prevent these diseases and their health impacts

*One limitation of this report is that, except for overall mortality data for cancer and heart disease, the small number of deaths for Wake County’s non-Hispanic American Indians, non-Hispanic other races and Hispanics do not allow for death rate calculations among these populations in most of the figures and tables. As a result, comparison can only be made between white and African American males and females.*

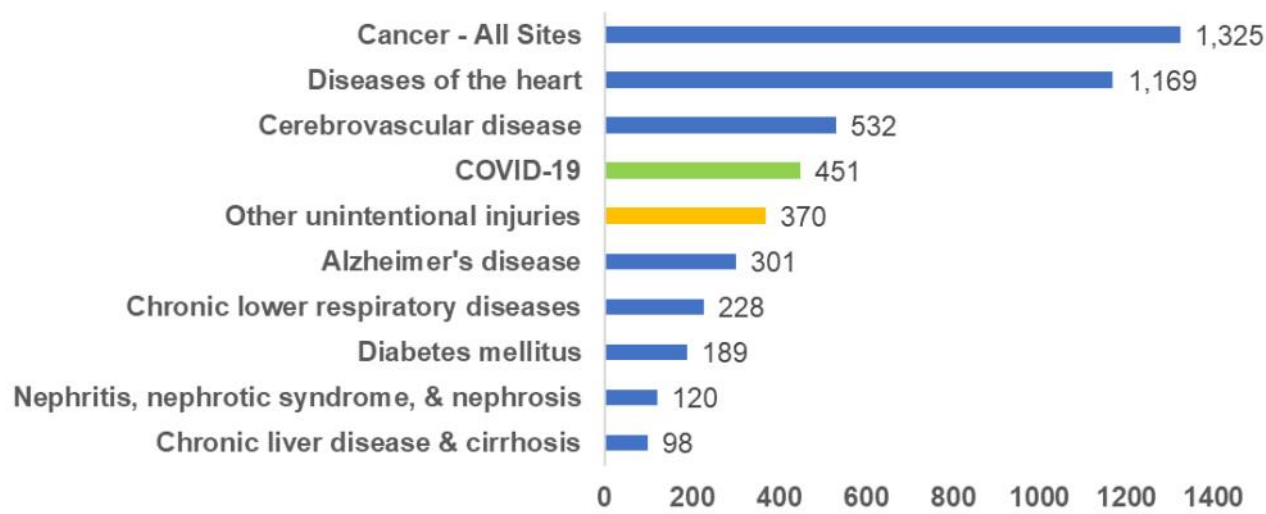
## 2.0 Leading Causes of Death

Mortality rates are regarded as accurate indicators of the overall health of a jurisdiction's population and its subgroups. They reflect quantity of life (in terms of life years gained for populations with low mortality rates and life years lost for those with high mortality rates), while links between mortality and morbidity also reflect quality of life.

In 2020, eight of the ten leading causes of death in Wake County were chronic diseases (Figure 1). Cancer, diseases of the heart, and cerebrovascular disease (stroke) again ranked #1, #2, and #3 respectively. Alzheimer's disease, chronic lower respiratory diseases, diabetes mellitus, nephritis, nephrotic syndrome and nephrosis, and chronic liver disease and cirrhosis ranked #6, #7, #8, #9 and #10 respectively.

There were 6,714 deaths in Wake County in 2020. The 1,931 deaths not shown in Figure 1 were from residual causes (residual death data not shown). "Residual causes" are all other causes of death not categorized here. There were 256 different residual causes of death in Wake County in 2020. None of those causes represented more than 3.5% of all causes of death.

**Figure 1: Ten Leading Causes of Death, Wake County, 2020**  
(N=4,783)



Source: Special report prepared by NC State Center for Health Statistics (NC SCHS), 2/4/2022

## 2.1 Cancer

As in previous years, cancer remains the leading cause of death in Wake County. But just like in previous years, Wake County's all cancer mortality rate continues to fall over time (Figure 2) and has decreased 11.1% over the last five years. Figure 3 shows the 5-year trend in all cancer mortality rates by race/ethnicity and gender in Wake County.

Hispanic women had the largest increase (26.7%) in cancer death rates in the time period from 2012-16 to 2016-20. Figure 3 shows that men continue to have higher cancer death rates than women in almost all groups. African American men had the largest decrease (21.2%) in cancer death rates in the time period from 2012-16 to 2016-20. Despite this decrease, Figure 3 also shows a significant and persistent disparity in cancer death rates between African-American men and all other racial and ethnic groups.

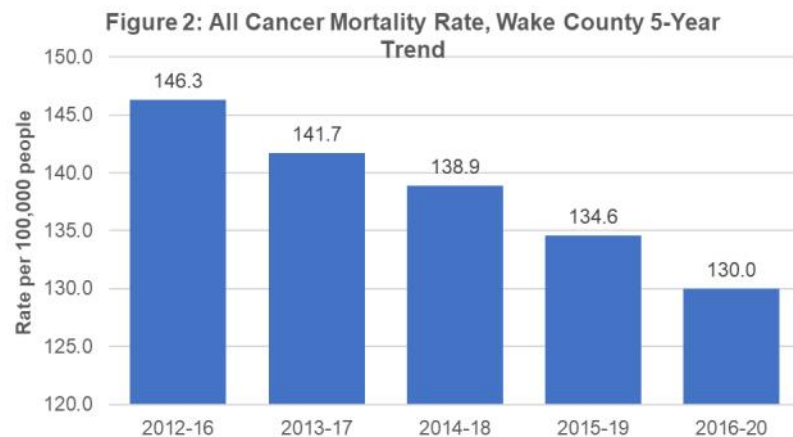
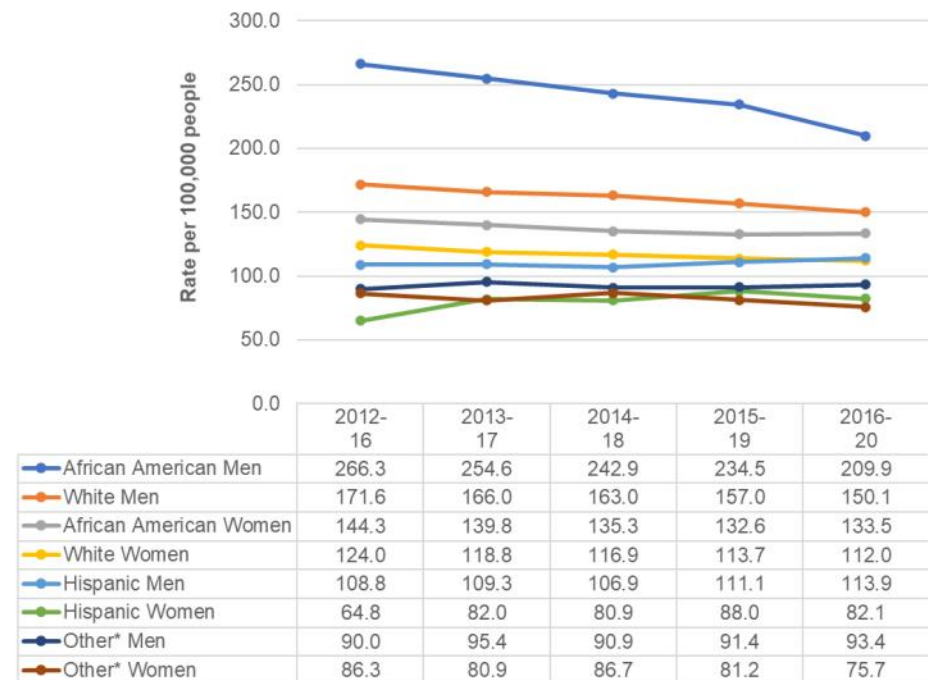


Figure 2. Sources: "Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

Figure 3. Sources: "Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 3: All Cancer Mortality Rates by Race/Ethnicity and Gender, Wake County, 5-Year Trend**



\*"Other" includes Asian and Pacific Islander but excludes Hispanic and American Indian (the number of American Indian deaths was too small to calculate a rate).



## 2.1a Trachea/Bronchus/Lung Cancer

Trachea/bronchus/lung cancer remained the leading cause of cancer-related deaths in Wake County during 2016-2020. From 2012-16 to 2016-20, the overall trachea/ bronchus/lung cancer death rate decreased 19.2% (Figure 4). Although African American and white men had higher death rates than African American and white women, death rates decreased for both groups of men by 29.7% and 25.6%, respectively.

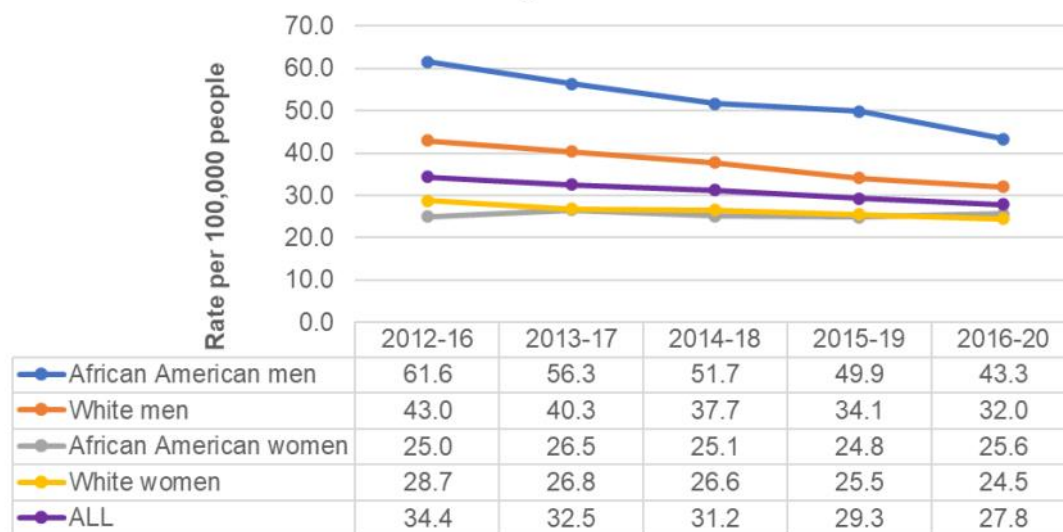
### 2.1aa Tobacco Use: Smoking and Electronic Cigarettes

#### Smoking

Smoking is the leading cause of preventable death and disability in the United States. The 2021 County Health Rankings reported that 14% of Wake County adults smoke every day (or most days), and have smoked at least 100 cigarettes in their lifetime (2). The percentage of adults who smoke cigarettes in Wake County was lower than in North Carolina (18%). Smoking is attributed to premature death and:

- Can cause more than twelve types of cancer
- Increases risk of cardiovascular disease
- Causes respiratory conditions, such as chronic obstructive pulmonary disease (COPD) and emphysema
- Increases risk of low birth weight
- Other adverse health outcomes (3)

Figure 4: Trachea/Bronchus/Lung Cancer Mortality Rates, Wake County, 5-Year Trend



Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

## Electronic Cigarettes (e-cigarettes)

E-cigarettes are known by many different names, including vapes, vape pens, and e-hookah (Image 1). They are generally composed of a battery, a heating element, and a place to hold a liquid. When used, they produce an aerosol by heating the e-liquid solution. The aerosol then exposes users to:

- Potentially harmful substances, such as nicotine
- Ultrafine particles that can be inhaled deep into the lungs
- Flavorings such as diacetyl, a chemical linked to a serious lung disease
- Volatile organic compounds
- Cancer-causing chemicals
- Heavy metals, such as nickel, tin, and lead (4)

Bystanders also become exposed to the same chemical-containing aerosol when the user exhales, also known as secondhand aerosol. E-cigarettes are not an FDA-approved cessation aid and can be modified to deliver marijuana and other drugs, as described in the CDC's E-cigarette, or vaping products visual dictionary (5).

E-cigarettes continue to be the most commonly used tobacco products among youth. In the United States, youth are more likely to use e-cigarettes than adults. According to the 2021 *National Youth Tobacco Survey*, approximately 2.1 million youth were estimated to be current e-cigarette users, compared to 5 million in 2019 and 3.6 million in 2018 (6,7,8,9). The U.S. has seen a decrease in e-cigarette use; however, e-cigarette use among youth continues to be a public health crisis. The 2021 *National Youth Tobacco Survey* also showed that 85% of youth reported vaping flavored e-cigarettes (6).

The 2021 *Monitoring the Future Report*, conducted by the National Institutes of Health (NIH) and the Federal Drug Administration (FDA), showed that nearly 1 in 5 high school seniors vaped in the past month (10). While cigarette smoking among youth is down in North Carolina, there was a 1,129% increase in the use of e-cigarettes among youth from 2011 to 2019 (11). Over 20% of high school students from the Central Region of North Carolina, which includes Wake County, reported currently using an e-cigarette.

According to the 2019 *North Carolina Youth Tobacco Survey (NC YTS)*, 20.6% of high school students are considering using e-cigarettes within the next year (12). This figure represents a 2.7% decrease from the 2017 *NC YTS*, but is still an alarming indication of continued use. Optimistically, 42-45% of middle school and high school students that are currently using tobacco want to stop, and 66-74% have attempted to quit in the last year (11). The next NC Youth Tobacco Survey will take place in 2022.

### Image 1 Examples of E-cigarettes

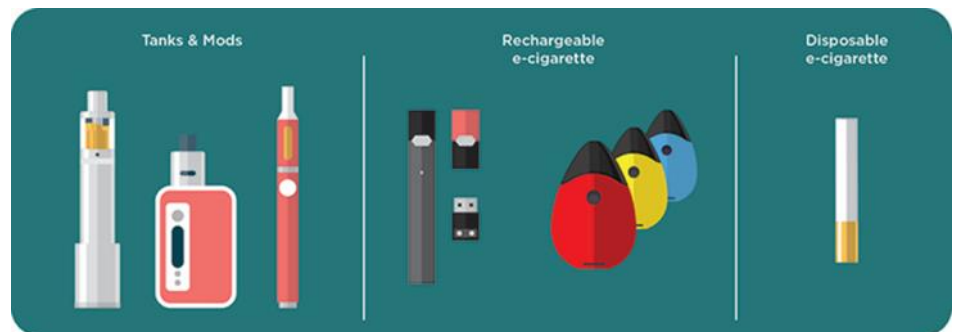


Image source: "Electronic Cigarettes" Centers for Disease Control and Prevention. [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/about-e-cigarettes.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html), 3/4/22.

Conducted in spring 2021, the *Monitoring E-cigarette Among Youth Survey*, administered by the North Carolina Department of Health and Human Services (NC DHHS) in partnership with the National Foundations of the Centers for Disease Control and Prevention (CDC), found that 40% of NC youth e-cigarette users vaped more than they did before the COVID-19 pandemic (13).

Most NC youth think vaping among their peers (13-17 years old) is about as common, or more common, than before the COVID-19 pandemic. JUUL and Puff Bar are the two most popular brands of e-cigarettes used by young people (14). Youth indicated the top 3 reasons they used an e-cigarette were:

- 1) in social situations (45.5%),
- 2) friends or family members use them (45.2%), and
- 3) availability of flavors, such as mint, candy, fruit, or chocolate (33.1%).

Seven out of ten current e-cigarette users show signs of nicotine dependence (15). Consistent with the findings from the 2019 NC Youth Tobacco Survey, two out of three young people who currently use e-cigarettes are seriously thinking about quitting.

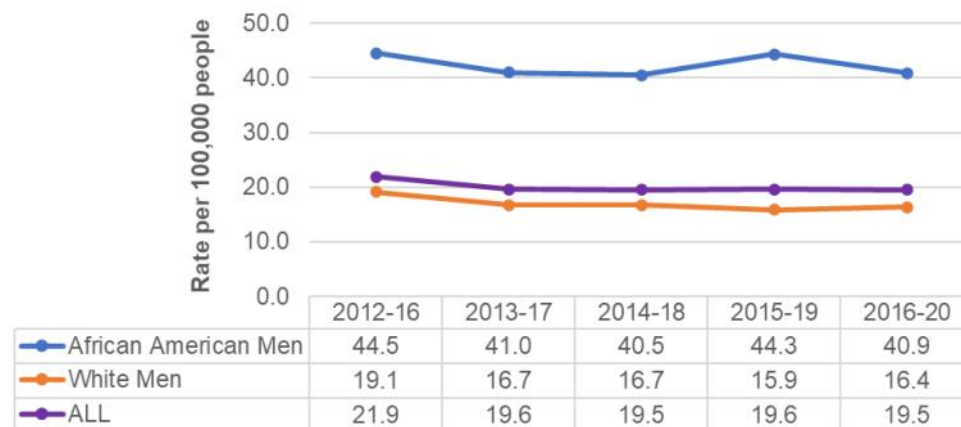
In December 2019, the Federal Food, Drug, and Cosmetic Act (FD&C Act) was amended to raise the federal minimum age of sale of tobacco products from 18 to 21 years. It is now illegal under federal law for a retailer to sell any tobacco product – including cigarettes, cigars, and e-cigarettes – to anyone under the age of 21 (16). However, under current North Carolina law, the purchase age of 18 remains. This creates difficulty in enforcing the law for the Office of Alcohol Law Enforcement (ALE), and could potentially jeopardize substance use disorder treatment dollars should the underage buy rate increase above 20%.

In summer 2021, the State of North Carolina and e-cigarette giant, JUUL, settled a lawsuit against the company for \$40 million over the next six years. Monies from the settlement will go towards litigation costs from the lawsuit, tobacco prevention and tobacco use treatment media campaigns for youth and young adults, tobacco use treatment among youth and young adults, e-cigarette research, and a document repository. North Carolina was the first state to sue JUUL.

## 2.1b Prostate Cancer

Prostate cancer was the second leading cause of cancer-related death in Wake County during 2016-20. The death rate for African American men decreased, while the death rate for white men increased slightly (Figure 5). A significant disparity in prostate cancer mortality persists between African American men and white men.

**Figure 5: Prostate Cancer Death Rates by Race, Wake County, 5-year Trend**



Sources: "Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.



## 2.1c Breast Cancer

Breast cancer was the third leading cause of cancer-related death in Wake County during 2016-20. The death rates for both African American and white women decreased slightly (Figure 6). A disparity in breast cancer death rates persists between African American and white women.

Figure 6. Source: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

## 2.1d Pancreatic Cancer

Pancreatic cancer was the fourth leading cause of cancer-related death in Wake County during 2016-20. While there was a decrease in death rates for African American men from 2015-19 to 2016-20, this group continues to show the highest death rates from pancreatic cancer (Figure 7).

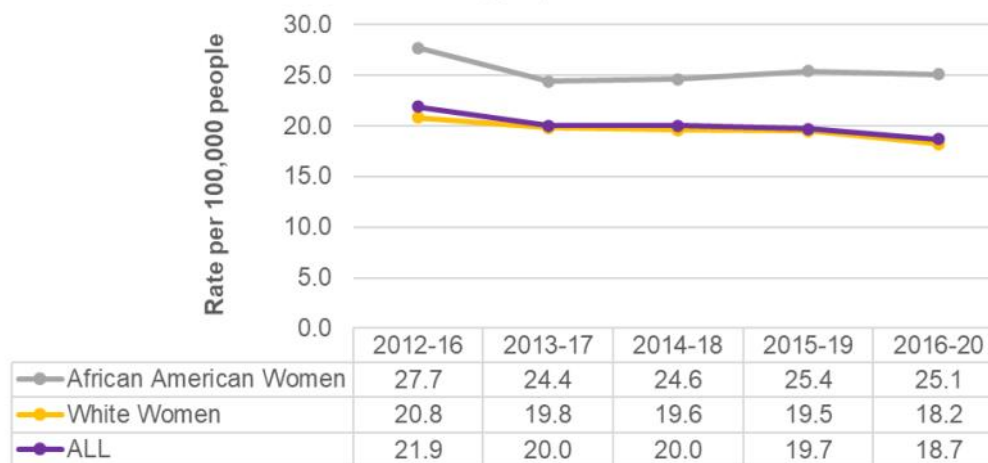
Figure 6. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

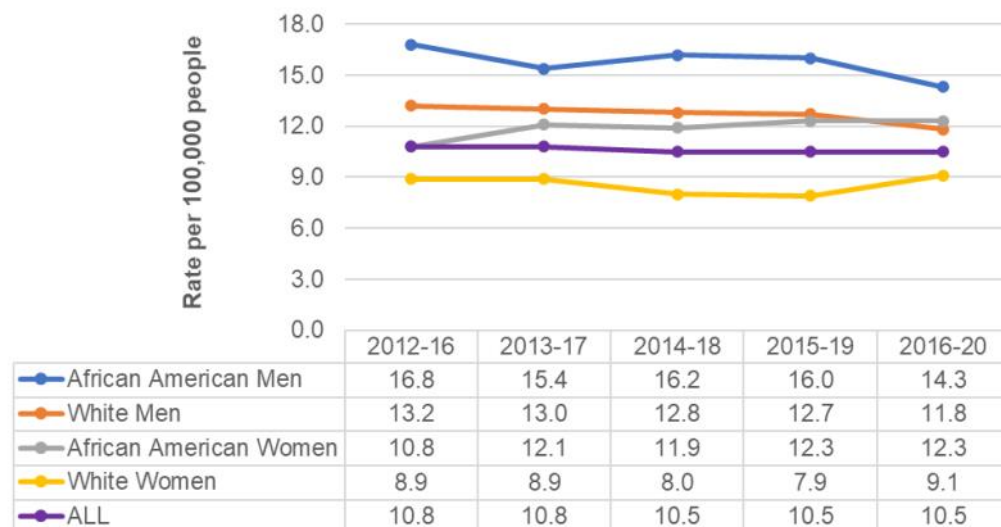
Figure 7. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 6: Breast Cancer Death Rates by Race, Wake County, 5-year Trend**



**Figure 7: Pancreatic Cancer Death Rates by Race and Gender, Wake County, 5-Year Trend**

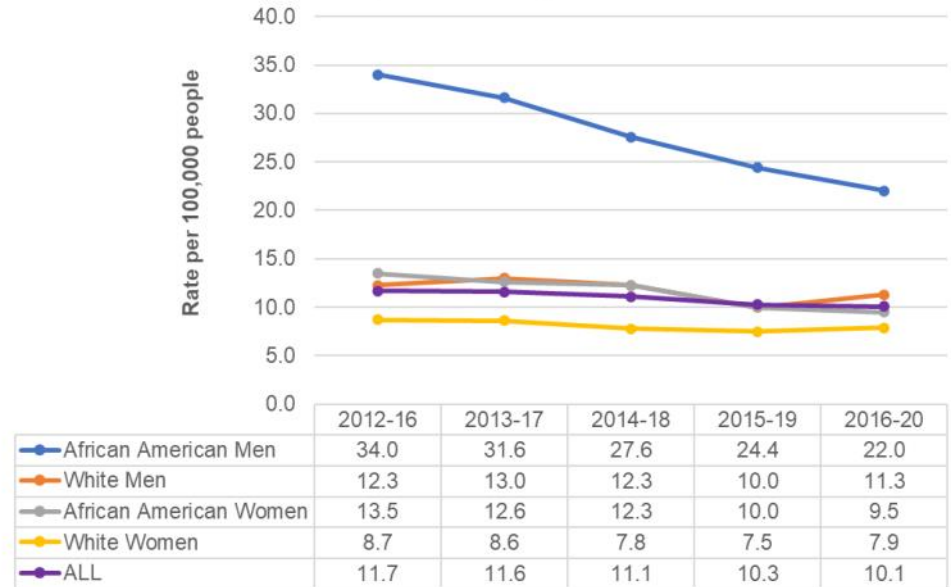


## 2.1e Colon/Rectum/Anal Cancer

Colon/rectum/anal cancer was the fifth leading cause of cancer-related death in Wake County during 2016-20. Figure 8 shows:

- A significant gap in colon/rectum/anal cancer death rates persists between African American men and other groups, though the African American male death rate decreased 35.3%
- The death rate for African American women continues to decline
- Death rates for white men and women remained stable

Figure 8: Colon/Rectum/Anal Cancer Mortality Rates by Race and Gender, Wake County, 5-Year Trend



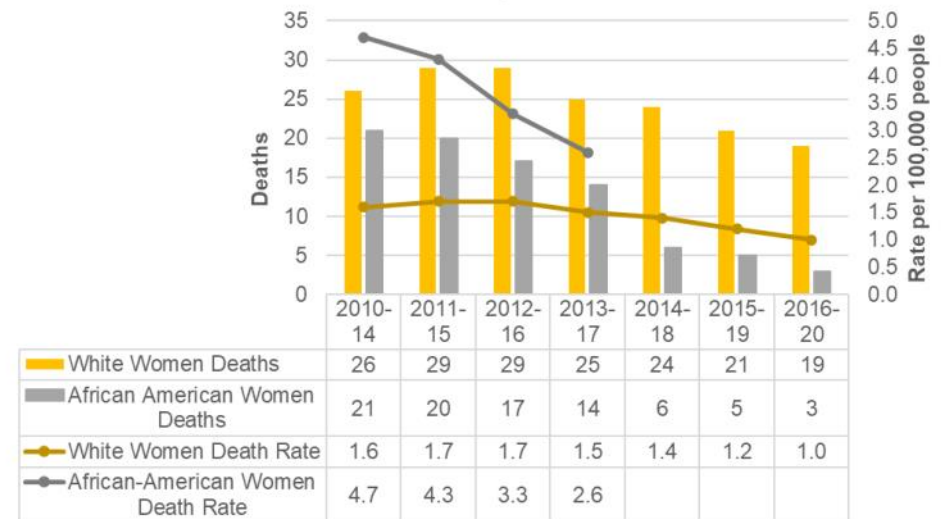
## 2.1f Cervical Cancer

For the third year in a row, the number of cervical cancer deaths in African American women remained so low that a stable death rate could not be calculated (Figure 9).

Figure 8. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

Figure 9. Source: Special Report by NC Central Cancer Registry, 2/15/22.

Figure 9: Cervical Cancer Deaths and Death Rate Comparison, White vs. African American, 7-Year Trend, Wake County



## 2.2 Heart Disease

Heart disease was again the second leading cause of death in Wake County during 2016-20. The term “heart disease” comprises conditions such as coronary artery disease, heart attack, arrhythmia, atrial fibrillation, heart valve disease, heart failure, and congenital heart disease. Figure 10 shows that Wake County’s heart disease death rate continues to decline year after year.

Figure 11 shows the following heart disease mortality trends:

- Men of all racial/ethnic groups died at higher rates than women
- Rates remained steady for the four largest population groups, yet African American men still died at higher rates than white men, and African American women died at higher rates than white women
- The death rate for Hispanic men increased slightly; their death rate has doubled over the five-year period

Sources:

Figure 10. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates”. County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

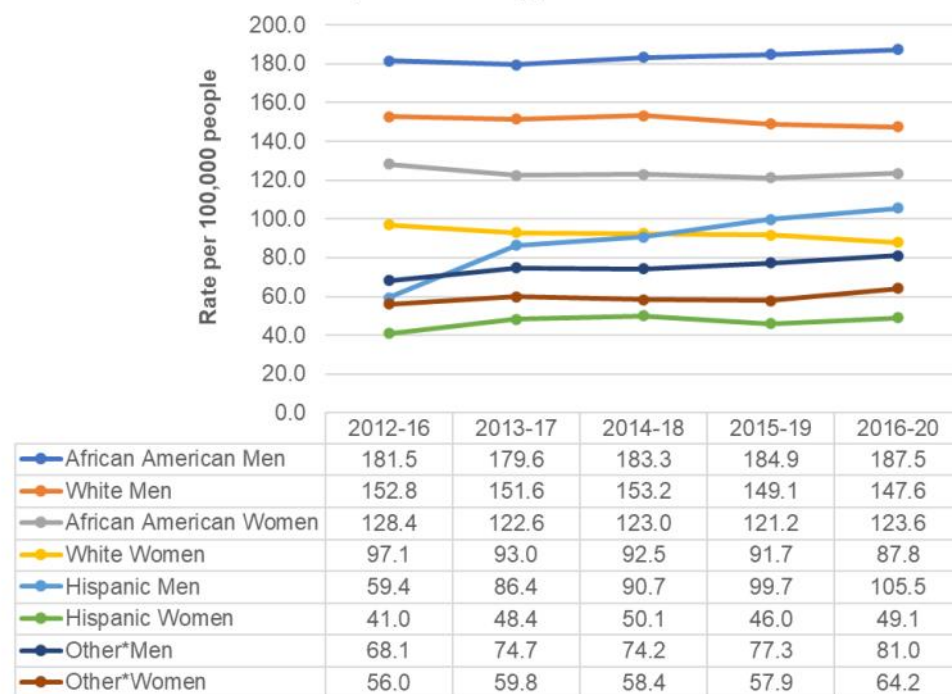
Figure 11. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates”. County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 10: Heart Disease Mortality Rate, Wake County, 5-Year Trend**



**Figure 11: Heart Disease Mortality Rates by Race/Ethnicity and Gender, Wake County, 5-Year Trend**



\*“Other” includes Asian and Pacific Islander but excludes Hispanic and American Indian (the number of American Indian deaths was too small to calculate a rate).

From 2012-16 to 2016-20, heart attack death rates fell for men and women of both races, with African American women experiencing the largest decrease (33.3%). Men of both races continued to die at higher rates than women. The overall heart attack death rate fell 23.7% in Wake County (Figure 12).

Figure 12. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

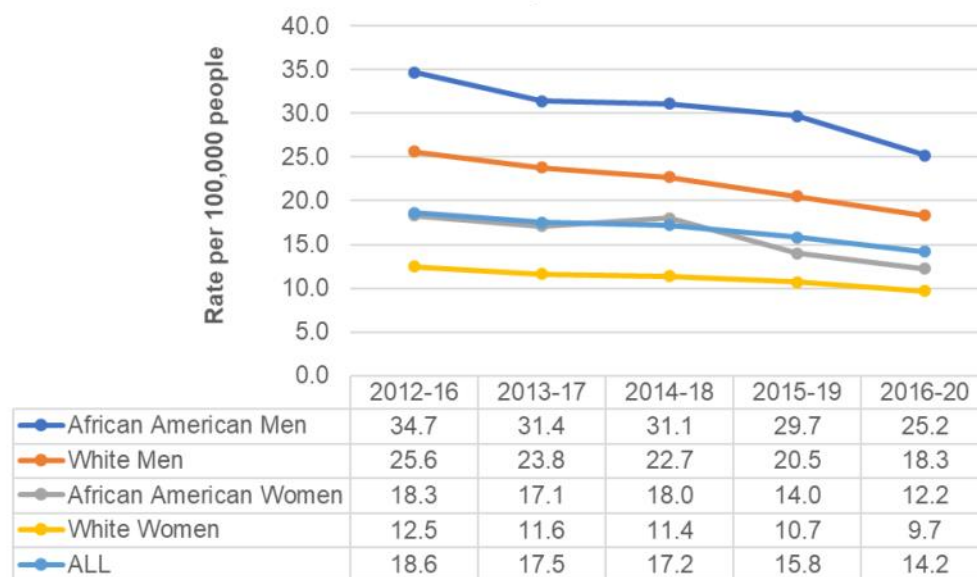
## 2.3 Cerebrovascular Disease (Stroke)

Cerebrovascular disease was the third leading cause of death in Wake County during 2016-20. The overall stroke death rate in Wake County was stable between 2012-16 and 2016-20, yet a significant racial disparity persists in the death rate between African American and white men and women. (Figure 13).

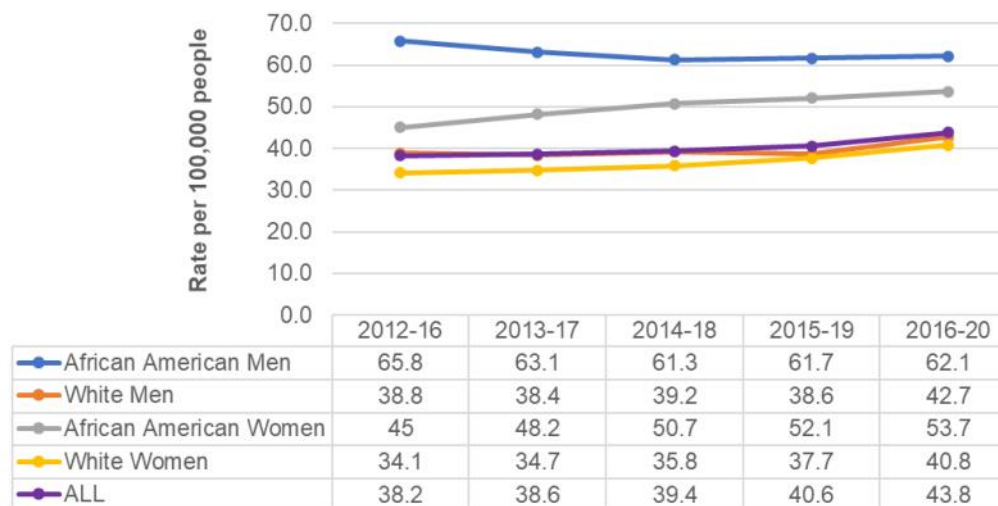
Figure13, Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 12: Heart Attack Mortality Rates by Race and Gender, Wake County, 5-Year Trend**



**Figure 13: Stroke Mortality Rates by Race and Gender, Wake County, 5-Year Trend**





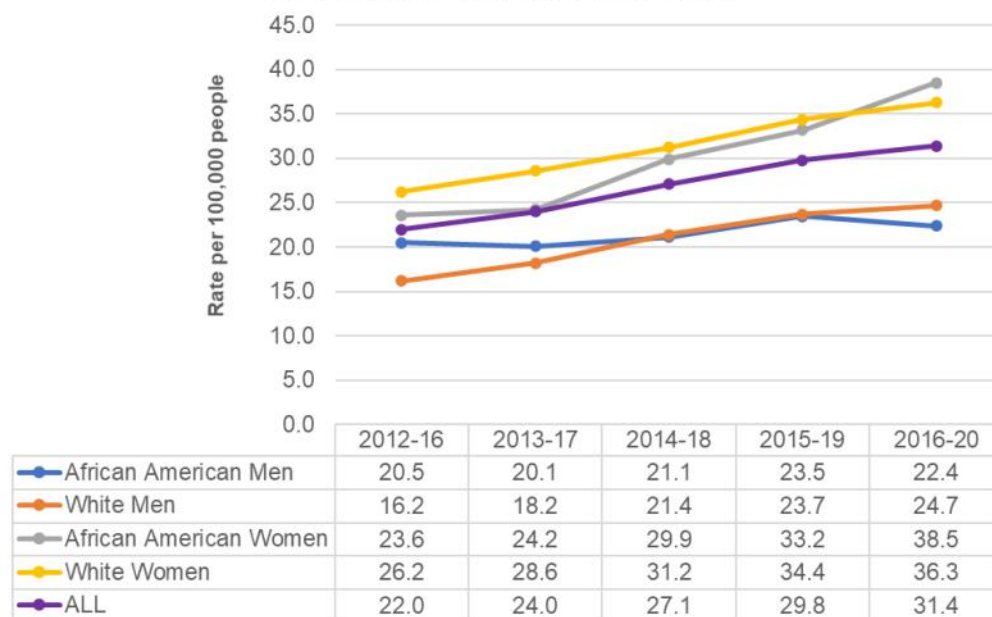
## 2.4 Alzheimer's Disease

Alzheimer's disease was the fourth leading cause of death in Wake County during 2016-20. Figure 14 shows women died at higher rates from Alzheimer's disease than men. The overall death rate rose 42.7%.

Figure 14. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 14: Alzheimer's Disease Mortality Rates by Race and Gender, Wake County, 5-Year Trend**



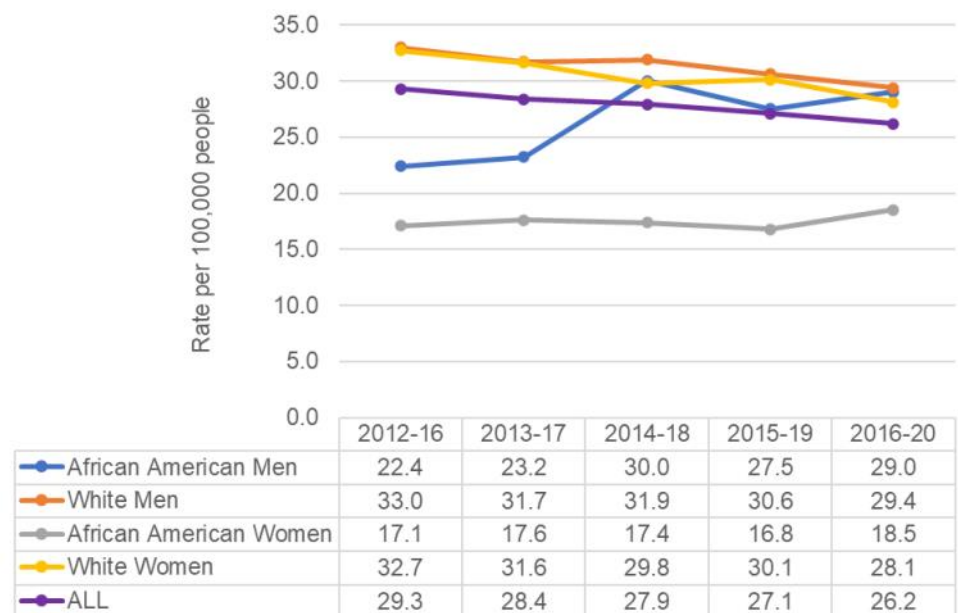
## 2.5 Chronic Lower Respiratory Disease

Chronic lower respiratory disease was the fifth leading cause of death in Wake County during 2016-20. The overall chronic lower respiratory disease death rate decreased slightly from year to year (Figure 15). White men and women died at higher rates than African American men and women, and African American women died at a lower rate than white women.

Figure 15. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>.

2016-20 data provided in NC SCHS special report on 2/4/2022.

**Figure 15: Chronic Lower Respiratory Disease Mortality Rates by Race and Gender, Wake County, 5-Year Trend**



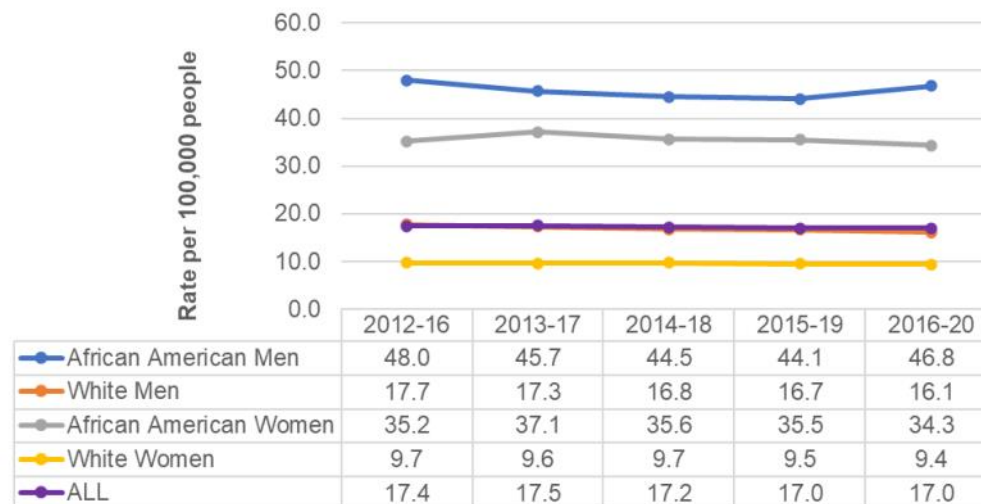


## 2.6 Diabetes

Diabetes was the sixth leading cause of death in Wake County during 2016-20. Figure 16 shows that the most significant and persistent death rate disparity is attributed to diabetes, when comparing African American men and women and white men and women. The overall death rate remained stable.

Figure 16. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

Figure 16: Diabetes Mortality Rates by Race and Gender, Wake County, 5-Year Trend

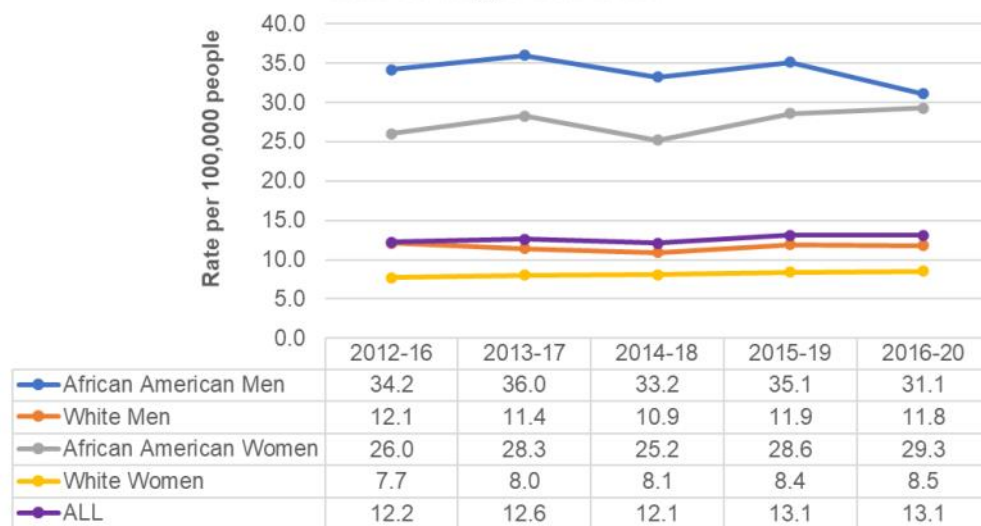


## 2.7 Nephritis, Nephrotic Syndrome and Nephrosis

Nephritis, nephrotic syndrome and nephrosis (kidney disease) was the seventh leading cause of death in Wake County during 2016-20. Figure 17 shows that (similar to diabetes) there is a persistent disparity in death rates between African American men and women and white men and women.

Figure 17. Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

Figure 17: Kidney Disease Mortality Rates by Race and Gender, Wake County, 5-Year Trend



## 2.8 Chronic Liver Disease and Cirrhosis

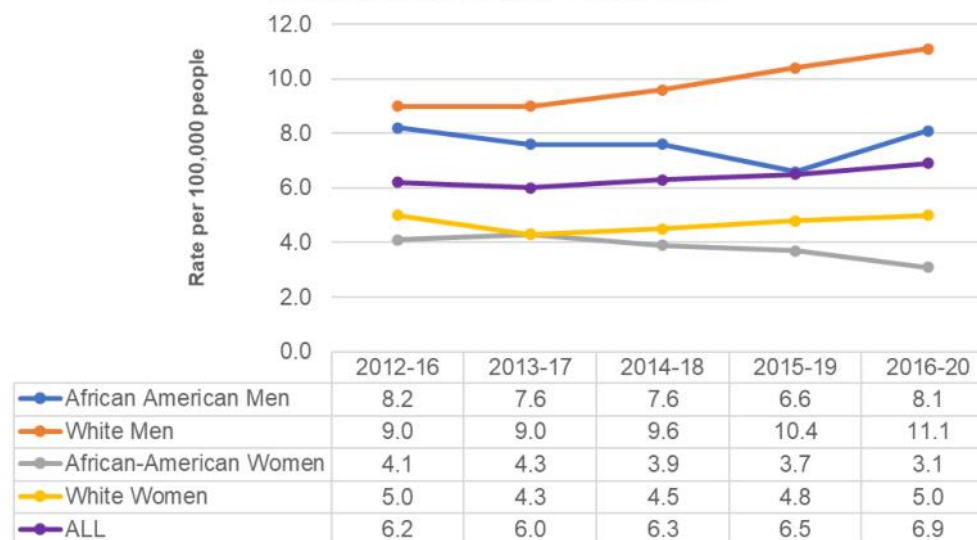
Chronic Liver Disease and Cirrhosis was the eighth leading cause of death in Wake County during 2016-20. Figure 18 shows the death rate for African American women continued to decline from 2015-2019 to 2016-2020 while mortality rates for white women and African American men have remained relatively stable over the 5-year trend. Men suffer higher mortality rates from chronic liver disease than women in both groups.

## 2.9 Data Summary

The preceding figures illustrate that the all cancer and heart disease mortality rates have continued to fall for Wake County residents over the past five years. Prostate cancer replaced breast cancer as the second leading cause of cancer-related death. Alzheimer's disease was the one condition with a significant overall increase in the mortality rate, and women were drastically affected.

Across the leading causes of death, African American men had the highest death rates, and white women the lowest. The all cancer death rate increased significantly for Hispanic women, and the heart disease mortality rate continued to increase for Hispanic men. Cervical cancer deaths for African American women consistently declined over the last seven years.

Figure 18: Chronic Liver Disease Mortality Rates by Race and Gender, Wake County, 5-Year Trend



Sources: Race/Ethnicity and Sex-Specific Age-Adjusted Death Rates". County Health Data Books 2020, 2019, 2018, and 2017, NC State Center for Health Statistics. <http://www.schs.state.nc.us/data/databook/>. 2016-20 data provided in NC SCHS special report on 2/4/2022.

### 3.0 Service Matrix

#### Health Promotion Chronic Disease Prevention (HPCDP) Section Public Health Division, Wake County Health and Human Services (WCHHS)

**Mission:** In partnership with the community, Wake County Health Promotion Chronic Disease Prevention provides a set of chronic disease and injury prevention and management services to populations and communities experiencing disparities.

**Staff:** County Funded: 9.25 FTE      Grant Funded: 6.875 FTE

Programs and Services			Results Fiscal Year 2020-2021
Clinical Services	Breast and Cervical Cancer Control Program (BCCCP)	Wake County BCCCP provides free or low cost breast and cervical cancer screenings and follow up services to eligible women in Wake County. Eligible women are uninsured or underinsured, between the ages of 40-64 for breast screening services and 21-64 for cervical screening services, and have a household income at or below 250% of the federal poverty level.	<ul style="list-style-type: none"> <li>435 women served</li> <li>501 mammography services provided</li> <li>21 breast cancers detected and referred for treatment</li> <li>28 cervical screenings provided</li> <li>No cervical cancers detected</li> </ul>
	WISEWOMAN	Wake County WISEWOMAN provides free cardiovascular health screenings to the women enrolled in BCCCP. Women are screened for blood pressure, cholesterol, diabetes, and BMI. Participants receive counseling on physical activity and nutrition. Women with abnormal lab values are referred to a medical provider for treatment.*	<ul style="list-style-type: none"> <li>37 women received services including screening, health coaching and referrals to a medical provider for follow-up care.</li> </ul>

\* Limited programming and services due to staff involved with COVID-19 relief efforts.

Programs and Services			Results Fiscal Year 2020-2021
<b>Clinical Services</b>	<b>Medical Nutrition Therapy</b>	Nutrition counseling provided to patients of WCHHS Women's Clinic and Child Health Clinic.*	<ul style="list-style-type: none"> <li>• Child Health Clinic: 197 clients seen; 20% show positive health change</li> <li>• Women's Clinic: 18 clients seen; 100% show positive health change</li> </ul>
<b>Community Health Education and Physical Activity Programs</b>	<b>Movin' and Groovin'</b>		<ul style="list-style-type: none"> <li>• 1 series with 61 adult participants</li> <li>• 85% of participants reported increased physical activity and healthy eating behaviors as a result of the program</li> </ul>
	<b>Couch to 5K</b>		<ul style="list-style-type: none"> <li>• 33 participants; 100% feel they benefited physically and plan to continue a physical fitness regimen</li> </ul>
	<b>Public Health Education Campaigns</b>		<ul style="list-style-type: none"> <li>• Breast Cancer Awareness Month</li> <li>• Heart Health Month</li> <li>• National Nutrition Month</li> </ul>

\* Limited programming and services due to staff involved with COVID-19 relief efforts.

Programs and Services			Results Fiscal Year 2019-2020
<b>Food Security and Local Food Systems</b>	<b>Farmer's Markets</b>	<p>Health Promotion provides technical support to farmer's markets to increase access to fresh, local food among low resource individuals.</p> <p>Health Promotion promotes the use of EBT at farmer's markets throughout the community.*</p>	<ul style="list-style-type: none"> <li>15 farmer's markets in Wake County (3 accept EBT payments, WIC and Senior vouchers)</li> </ul>
	<b>Summer Food Service Program</b>	The Sunnybrook meal site provided meals, along with activities, for the children.	<ul style="list-style-type: none"> <li>Sunnybrook meal site served 3,274 meals to children over 46 days</li> </ul>
<b>Drug Overdose Prevention Initiative</b>	<p>This initiative is a coordinated effort to reduce opioid overdoses through a partnership with Wake County EMS and Certified Peer Support Specialists (CPSS). Wake County partners with the NC Harm Reduction Coalition (NCHRC) which encourages individuals who use substances toward harm reduction. This initiative also coordinates trainings for Recovery Court team members and certified peer support specialists to improve participant health outcomes.</p>		<ul style="list-style-type: none"> <li>Distributed 240 Narcan kits to individuals struggling with substance use.</li> <li>Healing Transitions received funding for additional staff and supplies to enhance their work with the goal of reducing drug overdose deaths.</li> <li>Certified peer support specialists provided enhanced support to overdose survivors and individuals struggling with drug use</li> <li>91 food bags were distributed to individuals struggling with substance use</li> </ul>
<b>Tobacco Prevention and Control (TPC)</b>	<p>The Tobacco Prevention and Control (TPC) regional project provides technical expertise to guide policy development to move forward tobacco-related policy in Wake County. TPC also provides tobacco cessation resources and professional training.*</p>		<ul style="list-style-type: none"> <li>Facilitated the Wake County Tobacco-Free Forum, with 122 participants, resulting in efforts to create the Wake County Tobacco-Free Coalition to move smoke-free and tobacco-free policies forward in Wake County.</li> </ul>

\* Limited programming and services due to staff involved with COVID-19 relief efforts.



Programs and Services		Results Fiscal Year 2020-2021
<b>Tobacco Prevention and Control (TPC)</b> <i>continued</i>		<ul style="list-style-type: none"> <li>• Presentations made to: <ul style="list-style-type: none"> <li>* Wake County Board of County Commissioner Initiative - Community Health, Social &amp; Economic Vitality and Education on fiscal year progress made in tobacco prevention and control</li> <li>* Wake County Public Health Committee on vaping and population health as a continuation of discussion surrounding consideration for stronger written vaping regulations in Wake County.</li> </ul> </li> <li>• Presented the results of the 2019 NC Youth Tobacco Survey (YTS) to the Wake County School Health Advisory Council to reinforce strategies to combat youth tobacco use and support the 100% Tobacco-Free School compliance.</li> <li>• Quitline NC - 662 registered callers; 127 uninsured Wake County residents received free nicotine replacement therapy (NRT)</li> </ul>
<b>Safe Routes to School (SRTS)</b>	<p>This initiative is a comprehensive approach to making it safer and easier for K-8 students to walk and bike to school. This is accomplished by creating and maintaining a wide variety of partnerships across different sectors with both local and regional and state-level partners.*</p>	<ul style="list-style-type: none"> <li>• Facilitated 6 International Walk to School Day events at Wake County Public School System (WCPSS) elementary schools</li> <li>• Facilitated 8 National Bike to School Day events at WCPSS elementary and middle schools</li> <li>• Drafted project plan with CAMPO (Capital Area Metropolitan Planning Organization) and NC Department of Transportation Traffic Safety Unit to develop a school focused bike/ped Road Safety Audit</li> <li>• Chair CAMPO's Safe Routes to School Subcommittee</li> <li>• Chair NC Alliance for Health's Active Transportation Work Group</li> </ul>

\* Limited programming and services due to staff involved with COVID-19 relief efforts.

## 4.0 References

1. Addressing the Chronic Disease Epidemic with Connected Health Technology. www.connectamerica.com. Connect America. July 21, 2021. Web. 3/27/2022. <https://www.connectamerica.com/insights/addressing-the-chronic-disease-epidemic-with-connected-health-technology/>.
2. North Carolina, Wake. countyhealthrankings.org. County Health Rankings and Roadmaps. Web. 3/14/21. <https://www.countyhealthrankings.org/app/north-carolina/2021/rankings/wake/county/outcomes/overall/snapshot>.
3. Health effects of cigarette smoking. cdc.gov. Centers for Disease Control and Prevention. October 29, 2021. Web. 3/14/21. [https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/health\\_effects/effects\\_cig\\_smoking/](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/).
4. About Electronic Cigarettes (E-Cigarettes). cdc.gov. Centers for Disease Control and Prevention. September 20, 2021. Web. 3/14/21. [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/about-e-cigarettes.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html).
5. E-cigarette, or vaping, products visual dictionary. cdc.gov. Centers for Disease Control and Prevention. Web. 3/14/21. [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/pdfs/ecigarette-or-vaping-products-visual-dictionary-508.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/ecigarette-or-vaping-products-visual-dictionary-508.pdf).
6. Park-Lee E, Ren C, Sawdey MD, et al. Notes from the Field: E-Cigarette Use Among Middle and High School Students — National Youth Tobacco Survey, United States, 2021. MMWR Morb Mortal Wkly Rep 2021;70:1387–1389. Web. 3/14/21. DOI: <http://dx.doi.org/10.15585/mmwr.mm7039a4>.
7. 6.2 Million middle and high school students used tobacco products in 2019. cdc.gov. Centers for Disease Control and Prevention. December 5, 2019. Web. 3/14/21. <https://www.cdc.gov/media/releases/2019/1205-nyts-2019.html>.
8. 2019 National Youth Tobacco Survey Shows Youth E-Cigarette use at Alarming Levels. fda.gov. U.S. Food and Drug Administration. Web. 3/14/21. <https://www.fda.gov/media/132299/download>.
9. Results from 2018 National Youth Tobacco Survey show dramatic increase in e-cigarette use among youth over past year. fda.gov. U.S. Food and Drug Administration. 11/15/2018. Web. 3/15/21. <https://www.fda.gov/news-events/press-announcements/results-2018-national-youth-tobacco-survey-show-dramatic-increase-e-cigarette-use-among-youth-over>.

## 4.0 References *continued*

10. 2021 Monitoring the Future Survey Shows Youth E-Cigarette Use Remains a Serious Problem – FDA Must Act Now to Eliminate the Flavored Products Addicting Kids. [www.tobaccofreekids.org](http://www.tobaccofreekids.org). Campaign for Tobacco Free Kids. Web. 3/14/21. [https://www.tobaccofreekids.org/press-releases/2021\\_12\\_15\\_monitoring-the-future](https://www.tobaccofreekids.org/press-releases/2021_12_15_monitoring-the-future).
11. 2019 NC Youth Tobacco Survey Middle and High School Fact Sheet. 2/2021. <https://tobaccopreventionandcontrol.ncdhhs.gov>. NC DHHS Tobacco Prevention and Control Branch. Web. 3/14/21. <https://www.tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/YouthTobaccoSurveyFactSheet-2019.pdf>.
12. Heck, Courtney. “2019 North Carolina Youth Tobacco Survey—Results”. NC DHHS Tobacco Prevention and Control Branch, August 2020. Virtual presentation to NC Tobacco Prevention and Control Branch and state grantees.
13. Youth Tobacco Use During COVID-19. 8/2021. Fact Sheet . [tobaccopreventionandcontrol.ncdhhs.gov](https://tobaccopreventionandcontrol.ncdhhs.gov). NC DHHS Tobacco Prevention and Control Branch. Web. 3/14/21. <https://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/CDCF-2021FactSheet-TobaccoUseDuring-Covid19.pdf>.
14. Tobacco Use Initiation & Access Among Young People. 8/2021. Fact Sheet. [tobaccopreventionandcontrol.ncdhhs.gov](https://tobaccopreventionandcontrol.ncdhhs.gov). NC DHHS Tobacco Prevention and Control Branch. Web. 3/14/21. <https://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/CDCF-2021FactSheet-TobaccoAccess-Initiation.pdf>.
15. Young People Want to Quit Tobacco. Fact Sheet. 8/2021. [tobaccopreventionandcontrol.ncdhhs.gov](https://tobaccopreventionandcontrol.ncdhhs.gov). NC DHHS Tobacco Prevention and Control Branch. Web. 3/14/21. <https://tobaccopreventionandcontrol.ncdhhs.gov/data/yts/docs/CDCF-2021FactSheetYoungPeopleWant-to-QuitTobacco.pdf>.
16. Selling Tobacco Products in Retail Stores. 04/29/2021. [www.fda.gov](http://www.fda.gov). U.S. Food and Drug Administration. Web. 3/14/22. <https://www.fda.gov/tobacco-products/retail-sales-tobacco-products/selling-tobacco-products-retail-stores>.

## 5.0 Acknowledgements

Justin Arcury, NC State Center for Health Statistics

Matt Avery, NC State Center for Health Statistics

Meghan Malka, Wake County Health and Human Services

Michelle Mulvihill, Wake County Health and Human Services

Michelle Ricci, Wake County Health and Human Services