Wake County Human Services
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Special Edition: Cancer, Heart Disease and Diabetes Trends and Disparities

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Introduction

Wake County Human Services monitors 36 key indicators to provide information on health factors and socio-economic and environmental conditions for the general population of Wake County (available by contacting WCHS epidemiologist, Edie Alfano-Sobsey ). However, to gain insight into particular health conditions of specific sub-populations, more detail is needed than is provided by the data for these indicators.

This report presents trend data and highlights disparities for:
- Cancer (pages 1—4)
- Heart disease (pages 5—6)
- Stroke (pages 6—7)
- Diabetes (pages 7—8)

Wake County data is compared with North Carolina and Mecklenburg County data. Mecklenburg County was selected because of its similar population size to Wake County.

CANCER

According to the NC Department of Health and Human Services State Center for Health Statistics, cancer is the leading cause of death in Wake County. The Centers for Disease Control and Prevention states that a person’s cancer risk can be reduced by:
- receiving regular medical care
- avoiding tobacco
- limiting alcohol use
- avoiding excessive exposure to ultraviolet rays from the sun and tanning beds
- eating a diet rich in fruits and vegetables
- maintaining a healthy weight, and
- being physically active.

In addition, screening for cervical, colorectal, and breast cancers helps find these diseases at an early, often highly treatable stage (Centers for Disease Control and Prevention , cdc.gov/cancer/dcpc/prevention).

The overall cancer mortality rate in Wake County has declined 12% from 178.3 per 100,000 population in 2002-2004 to 156.4 in 2008-2012. The Wake County cancer mortality rate is 11% lower than the state rate (175.9) (see Figure 1).
In 2008-2012, Wake County had lower mortality rates for all cancers, colon, lung and pancreas cancer but higher mortality rates for female breast and prostate cancers compared to Mecklenburg County and North Carolina as a whole. The mortality rates for trachea, bronchus and lung cancer is significantly higher than for prostate, breast, colon/rectum/anus and pancreas cancer in North Carolina as well as both Wake and Mecklenburg counties (see Table 1).

**TABLE 1**

<table>
<thead>
<tr>
<th>Residence</th>
<th>Trachea, Bronchus, and Lung</th>
<th>Prostate</th>
<th>Breast</th>
<th>Colon, Rectum, and Anus</th>
<th>Pancreas</th>
<th>All Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake</td>
<td>40.4</td>
<td>26.3</td>
<td>22.7</td>
<td>11.5</td>
<td>10</td>
<td>156.4</td>
</tr>
<tr>
<td>Mecklenburg</td>
<td>43.2</td>
<td>25.4</td>
<td>21.9</td>
<td>13.9</td>
<td>10.5</td>
<td>161.4</td>
</tr>
<tr>
<td>North Carolina</td>
<td>52.8</td>
<td>23.4</td>
<td>22.2</td>
<td>14.9</td>
<td>10.4</td>
<td>175.9</td>
</tr>
</tbody>
</table>

Source: North Carolina Department of Health and Human Services, 2014 County Health Data Book, 2008-2012 Race-Sex-Specific Age-Adjusted Death Rate by County

In Wake County, the mortality rate for colon, rectum and anus cancer decreased 31% from 2000-2004 (16.7 per 100,000) to 2008-2012 (11.5 per 100,000) (see Figure 2).

The Healthy NC 2020 target is to reduce the colon cancer mortality rate (per 100,000 population) to 10.1. Wake County is 4% higher than the NC Healthy 2020 Health Outcome Target.

**FIGURE 2**
Screenings
According to the 2013 Community Health Opinion Survey, approximately 3 out of 4 residents aged fifty or older (78%) reported that they had a colonoscopy. For males aged 40 or older, 59% have annual prostate exams. Approximately 61% of females aged 40 and over have a mammogram every year, and 78% of females over 21 have a pap smear at least every other year. (Source: 2013 Wake County Community Assessment).

Disparities
In 2008-2012, African American non-Hispanic males in Wake County had the highest mortality rate from cancer (287.8 per 100,000 population) compared to other races in the County (see Figure 3).

FIGURE 3

In 2008-2012, African American, non-Hispanic males in Wake County had the highest mortality rate (27.1 per 100,000 population) from colon, rectum and anus cancer, 2.3 times that of white non-Hispanic males. The rate for African American non-Hispanic females is 1.6 times greater than that of white non-Hispanic females (see Figure 4).
In Wake County, the overall mortality rate for trachea, bronchus, and lung cancer decreased 20% from 2000-2004 (16.7 per 100,000) to 2008-2012 (11.5 per 100,000). However, African American, non-Hispanic males had the highest mortality rate (69.4 per 100,000 population) from these cancers, 1.4 times that of white non-Hispanic males (See Figure 5).

**FIGURE 4**

Colon, Rectum, and Anus Cancer Mortality Rates in Wake County 2008-2012 Racial Disparities

Note: Other non-Hispanic Males and Females; Hispanic Males and Females and American Indian, non-Hispanic, Males and Females are not shown as rates calculated on fewer than 20 cases are not reliable.

**FIGURE 5**

Trachea, Bronchus and Lung Cancer Mortality Rates in Wake County 2008-2012 Racial Disparities

Note: Other non-Hispanic Male and Female; Hispanic Male and Female and American Indian, non-Hispanic, Male and Female are not shown as rates calculated on fewer than 20 cases are not reliable.
Heart disease is the second leading cause of death for residents in Wake County according to the NC Department of Health and Human Services State Center for Health Statistics. The risk for heart disease also 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 Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: NC Institute of Medicine; 2011).

The heart disease mortality rate decreased dramatically in Wake County, 32% from 196.5 per 100,000 population in 2000-2004 to 134 per 100,000 population in 2008-2012. The 2008-2012 heart disease mortality rate in Wake County is 23% lower than the state rate (174.4 per 100,000 population) (see Figure 6).

The Healthy NC 2020 target is to reduce the cardiovascular disease mortality rate (per 100,000) population to below 161.5. With a rate of 134 (per 100,000 population), Wake County has met the Healthy NC 2020 target.

**FIGURE 6**

Heart Disease Rate
Trend 2000-2012

Disparity

In 2008-2012, African American non-Hispanics in Wake County had the highest mortality rate from heart disease (215.8 per 100,000 population), 1.3 times higher than white non-Hispanic males. African American, non-Hispanic women’s heart disease mortality rate was also 1.3 times higher than white, non-Hispanic women (see Figure 7).
STROKE

Stroke is the 3rd leading cause of death in Wake County. The risk for stroke can be greatly reduced through lifestyle changes and, in some cases, medication. (Source: Wake County Community Health Assessment, 2013)

The stroke mortality rate in Wake County declined 37% from 68.6 per 100,000 population in 2000-2004 to 43.3 per 100,000 population in 2008-2012 (see Figure 8). While Wake County rates are slightly lower than NC as a whole, they are higher than those of Mecklenburg County.

FIGURE 8

Cerebrovascular Disease (Stroke)
Mortality Rate Trend 2000-2012
Rate per 100,000 population

Source: NC State Center for Health Statistics, County Health Data Books (2006-21014), Mortality Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates.
Disparity

During 2008-2012, the stroke mortality rate among African-American, non-Hispanic males (68.5 per 100,000 population) was 1.6 times higher than the rate among white non-Hispanic (42.5 per 100,000 population). Similarly, the mortality rate among African American non-Hispanic females (51 per 100,000 population) was 1.3 times higher than white non-Hispanic females (39.2 per 100,000 population) (see Figure 9).

FIGURE 9

Cerebrovascular Disease (Stroke) Mortality Rates in Wake County 2008-2012 Racial Disparities

Note: Other non-Hispanic Males and Females, Hispanic Males and Females and American Indian, non-Hispanic, Males and Females are not shown as rates calculated on fewer than 20 cases are not reliable.

DIABETES

Diabetes is the 7th leading cause of death for residents in Wake County. The Wake County diabetes mortality rate has decreased 32%, from a high point of 25.4 per 100,000 population in 2001-2004 to 17.0 per 100,000 population in 2008-2012 (see Figure 10). The majority (90-95%) of all people diagnosed with diabetes have type 2 diabetes.

According to hospital data for Wake County residents, an increasing number of patients have been discharged from Wake County Emergency Departments with diabetes-related diagnoses. In the 2012 fiscal year, more than 1,700 Wake County patients were seen in Wake County Emergency Departments for diabetes (types 1 and 2) related issues, a 17% increase since 2010 (1,478 patients) (Truven Health Analytics, prepared by WakeMed Health and Hospitals, 2013).

Being overweight, obese and older are risk factors for diabetes (NC Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: NC Institute of Medicine; 2011). Diabetes can lead to serious and costly health problems such as heart disease, stroke, and kidney failure.
Approximately 5.2% of Wake County residents reported that they have ever had diabetes, compared to 8.8% in Mecklenburg County and 9.8% statewide.

The Healthy NC 2020 target is to reduce the percentage of adults with diabetes to 8.6%. Wake County has met the Healthy NC 2020 target.

Disparity

The mortality rate among African American, non-Hispanic females (35.9 per 100,000 population) is almost 4 times the rate among white, non-Hispanic females (9.4 per 100,000 population). The diabetes mortality rate among African American non-Hispanic males (50.4 per 100,000 population) is nearly 3 times higher than the rate among White non-Hispanic males (17.7 per 100,000 population) (see Figure 11). In 2008-2012, there were too few deaths attributed to diabetes among “Other Races” and Hispanic residents in Wake County to compute stable mortality rates.