

Cancer in North Carolina

2013 Report

January 2014

Updated by N.C. Central Cancer Registry

Cancer in North Carolina

Purpose

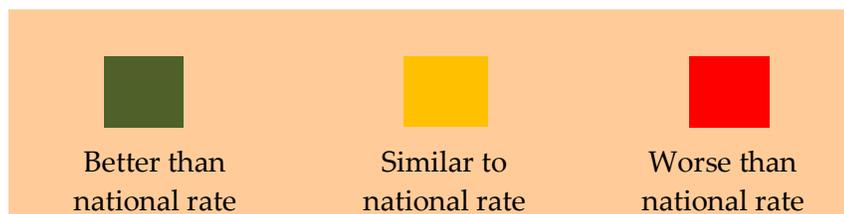
Cancer is the leading cause of death in North Carolina even though cancer mortality rates have been decreasing in the past 10 years (Figure 1). Since the last report in 2007, the number of incident cancer cases has increased by nearly 7 percent. Moreover, cancer incidence rates in North Carolina have been slowly increasing since 1998 (Figure 1). In 2013, the absolute number of cancer cases is projected at 56,164.

This report provides updates for both key indicators for cancer in North Carolina and prevention measures. The findings are presented in four sections: 1) Deaths, 2) New Cases, 3) Screening and 4) Prevention. Within each section, the report examines cancer sites or factors that contribute to the burden of cancer. In addition to all cancers combined, the focus is on five cancer sites: female breast, cervical, colon-rectum, lung-bronchus and prostate. These five cancers account for the majority of North Carolina's cancer deaths and new cases. These sites are also associated with screening and/or preventive behaviors for reducing cancer deaths and/or new cancer cases.

Data and Methods

Data were obtained from publicly available sources: 1) Cancer Control PLANET: State Cancer Profiles; 2) CDC WONDER – National Program of Cancer Registries; 3) SEER; 4) the N.C. Central Cancer Registry (N.C. CCR); 5) the N.C. Behavioral Risk Factor Surveillance System (N.C. BRFSS 2008, 2010); 6) the Behavioral Risk Factor Surveillance System (BRFSS) and 7) Youth Risk Behavioral Surveillance System (YRBSS). Data provided by Cancer Control PLANET are from 2004 and 2010. Data from CDC WONDER – National Program of Cancer Registries are from 2004 and 2009. Data from the N.C. Central Cancer Registry are from 1998 through 2009. Data provided by the National BRFSS survey are from 2004, 2005, 2009, 2010 and 2011. Data from the YRBSS are from 2005 and 2011.

When possible, this report compares North Carolina's rates to the national rates based on 95 percent confidence intervals. For example, in 2009, breast cancer mortality rates are 21.4 per 100,000 in North Carolina and 22.2 per 100,000 in the United States respectively. One may erroneously conclude that the state rate is lower. However, the 95 percent confidence intervals for the state rate and the national rate overlap, which means that the difference between the North Carolina rate and the United States rate is not statistically significant. Therefore, they are similar. Only when the 95 percent confidence intervals do not overlap, the two rates are statistically different. Color coding indicates North Carolina's rates relative to the national rates: Green = Better than national rate; Orange = Similar to national rate; and Red = Worse than national rate.



Findings

Overall, North Carolina scores fair. In 2009, the death rates for female breast, cervical, colorectal and prostate cancers, as well as the incidence rates for cervical and colorectal cancers in North Carolina were similar to national rates. However, the death rate from lung and bronchus cancer in North Carolina was higher than the national rate. Cancer screening rates in North Carolina were either similar or higher than national rates.

Nevertheless, the state fared worse than the nation overall in terms of preventive behaviors such as adult smoking, having at least five servings of fruits/vegetables per day, physical activity and maintaining a healthy weight.

Conclusion

This report surveys key areas and indicators for measuring progress in reducing North Carolina’s cancer burden. North Carolina has been a leader in cancer screening but improvement in other areas is still much needed. By focusing attention on key areas and indicators, this report can help North Carolina sustain and enhance its effectiveness in addressing the cancer problem.

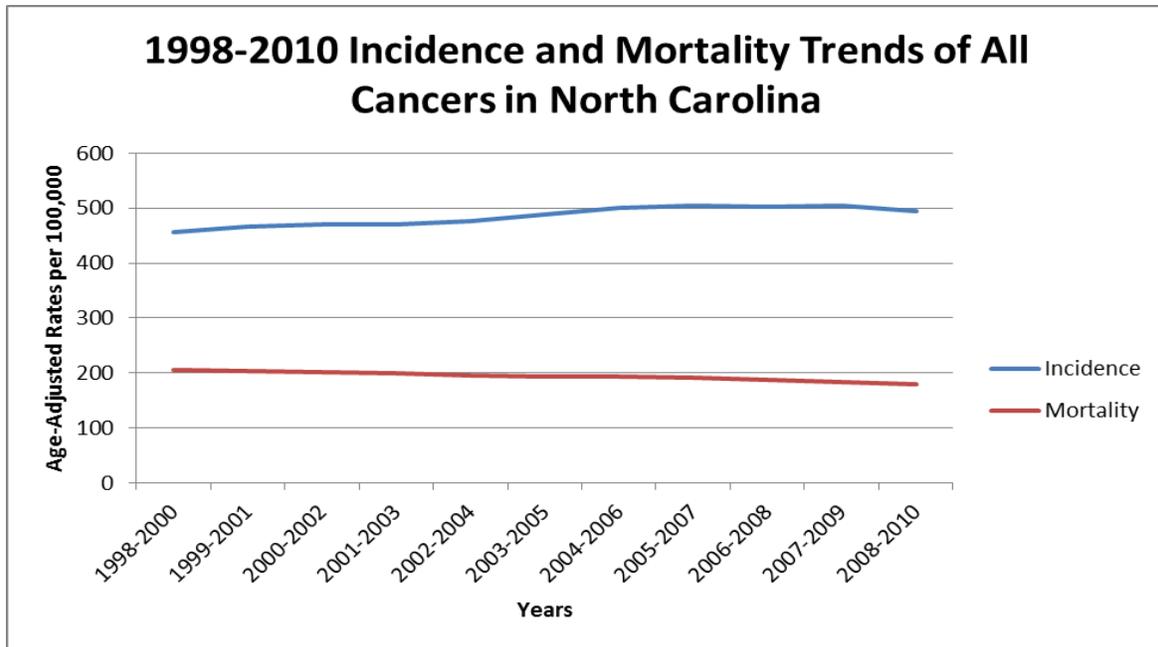


Figure 1. Cancer Incidence and Mortality Trends in North Carolina

Cancer Deaths per 100,000 (2009)

All Cancers	178.2	173.1
Breast (female)	21.4	22.2
Cervical	2.2	2.3
Colon-Rectum	15.3	15.7
Lung-Bronchus	54.6	48.5
Prostate	23.5	22.0
	N.C.	U.S.

Notes: Data through 2009 from Cancer Control PLANET – State Cancer Profiles-Deaths (<http://statecancerprofiles.cancer.gov>); accessed 01/10/2013.

New Cancer Cases per 100,000 (2009)

All Cancers	496.8	457.6
Breast (female)	127.5	122.8
Cervical	6.9	7.9
Colon-Rectum	41.0	42.3
Lung-Bronchus	73.3	64.4
Prostate	147.6	137.1
	N.C.	U.S.

Notes: Data are from CDC WONDER – National Program of Cancer Registries, 1999-2009 Incidence Request (<http://wonder.cdc.gov/cancernpcr-v2009.html>); accessed 01/10/2013.



Cancer Screening (2010)

BREAST: Percentage of women ≥ 40 years reporting a mammogram in the past two years	77.2%	75.0%
CERVICAL: Percentage of women ≥ 18 years reporting a Pap smear in the past three years	84.0%	81.3%
COLON-RECTUM: Percentage of adults ≥ 50 years reporting a Home Blood Stool Test in the past year or a sigmoidoscopy or colonoscopy in the past five years	65.4%	61.0%
COLON-RECTUM: Percentage of adults ≥ 50 years reporting ever having a sigmoidoscopy or colonoscopy	69.6%	65.2%
PROSTATE: Percentage of men ≥ 40 years reporting having a prostate-specific antigen (PSA) test in the past 2 years	56.5%	53.2%
	N.C.	U.S.

Notes: Data are from: Cancer Control PLANET, State Profiles, Screening and Risk Factors (<http://statecancerprofiles.cancer.gov/>); accessed 01/10/2013. BRFSS Prevalence Data for 2010, States and D.C. (<http://apps.nccd.cdc.gov/brfss>); accessed 01/10/2013. U.S. figure represents median for all states reporting. NA-data are not available.



Cancer Prevention (2009/2011)

TOBACCO USE: Percentage of adults ≥18 years who are current smokers (BRFSS) ¹	21.8%	21.2%
TOBACCO USE: Percentage of high school students who used tobacco during the previous 30 days (YBRSS) ¹	17.7%	18.1%
DIET: Percentage of adults ≥18 years consuming five or more serving of fruits or vegetables each day (BRFSS) ²	20.6%	23.4%
PHYSICAL ACTIVITY: Percentage of adults ≥18 years engaging in leisure time physical activity during the past month (BRFSS) ¹	73.3%	73.8%
PHYSICAL ACTIVITY: Percentage of adults ≥18 years engaging in moderate physical activity (≥30 min, five times/week) or vigorous activity (≥20 min, three time/week) during the past month (BRFSS) ¹	18.3%	21.0%
WEIGHT: Percentage of adults ≥18 years who have healthy weight - body mass index <25.0 (BRFSS) ¹	34.9%	36.3%
SUN PROTECTION: Percentage of adults ≥18 years protecting their skin from the sun when outdoors for more than half hour during summer (N.C. BRFSS) ³	84.7%	NA
	N.C.	U.S.

¹Data from 2011.

²Data from 2009.

³Data only available in N.C. BRFSS 2008 and are not available from other states.

Notes : Data are from: BRFSS Prevalence Data for 2005, 2009 and 2011, States and D.C. (<http://apps.nccd.cdc.gov/brfss>); accessed 01/10/2013. N.C. BRFSS, 2008 (www.schs.state.nc.us/SCHS/brfss/2008); accessed 01/10/2013. Youth Behavioral Risk Surveillance System (YBRSS) 2005 and 2011: Youth Online: High School YBRSS (<http://apps.nccd.cdc.gov/youthonline/App/Default.aspx>); accessed 01/10/2013. U.S. figure represents median for all states reporting. NA-data are not available.



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Racial Disparities

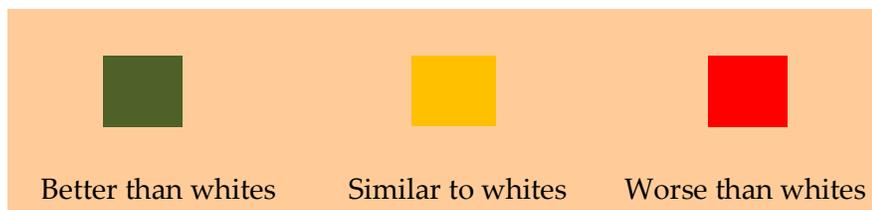
January 2014

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Purpose

This report presents key cancer indicators, comparing rates and proportions of these indicators among African Americans to those of whites in North Carolina. Color coding indicates the relative standing for African Americans: Green=better than whites; Orange=similar to whites; and Red=worse than whites. In addition to the sources used in the overall report, data were also obtained from the North Carolina Central Cancer Registry (N.C. CCR).



Findings

Compared to whites, African Americans still have higher rates of new cases (all, female breast, colon-rectum, lung-bronchus and prostate) and deaths (all, female breast, cervical, colon-rectum and prostate) since the last report in 2007. Similar to the last report, they are less likely to report leisure time physical activity. They also are less likely to use sun protection when outdoors and report higher rates of obesity than whites. However, improvements have been observed in the measures associated with breast and cervical cancer screening. African Americans report, for the first time, to have higher rates of having mammograms and Pap smears than whites. They also report lower rates of current smoking among high school youths.

Conclusion

Racial disparities in key North Carolina cancer indicators remain significant. Further investigation is necessary to understand the roles of poverty, access to healthcare and geography of residence in these disparities. Overall trends of cancer among African Americans are of serious concern. Efforts should be made to address these disparities to reduce cancer's effect on North Carolina.

Cancer Deaths per 100,000 (2011)

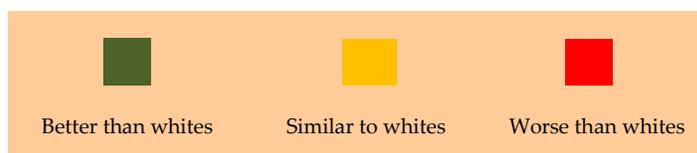
All Cancers	204.7	168.5
Breast (female)	29.7	20.2
Cervical	3.0	1.7
Colon-Rectum	21.4	12.8
Lung-Bronchus	53.1	52.4
Prostate	49.3	17.9
	N.C. African American	N.C. White

Source: North Carolina Central Cancer Registry and Vital Statistics.

New Cancer Cases per 100,000 (2010)

All Cancers	492.5	475.2
Breast (female)	155.0	151.8
Cervical	7.1	6.3
Colon-Rectum	48.1	36.7
Lung-Bronchus	73.1	71.4
Prostate	207.0	120.9
	N.C. African American	N.C. White

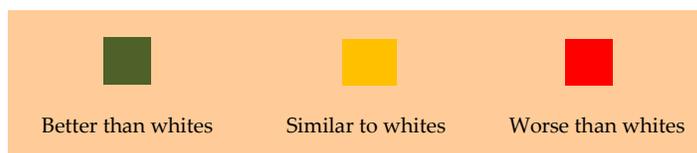
Source: North Carolina Central Cancer Registry.



Cancer Screening (2010)

BREAST: Percentage of women ≥ 40 years reporting a mammogram in the past two years	85.0%	80.6%
CERVICAL: Percentage of women ≥ 18 years reporting a Pap smear in the past three years	87.9%	83.3%
COLON-RECTUM: Percentage of adults ≥ 50 years reporting a home blood stool test in the past two years	24.1%	21.0%
COLON-RECTUM: Percentage of adults ≥ 50 years reporting ever having a sigmoidoscopy or colonoscopy	68.3%	70.7%
PROSTATE: Percentage of men ≥ 40 years reporting having a prostate-specific antigen (PSA) test within the past two years	59.3%	57.5%
	N.C. African American	N.C. White

Notes: Data are from: N.C. BRFSS, 2010 (www.schs.state.nc.us/SCHS/brfss/2010); accessed 01/11/2013.



Cancer Prevention (2008/2009/2010/2011)

TOBACCO USE: Percentage of adults ≥18 years who are current smokers (N.C. BRFSS) ¹	21.8%	19.6%
TOBACCO USE: Percentage of high school students who used tobacco during the previous 30 days (YBRSS) ²	12.1%	19.0%
DIET: Percentage of adults ≥18 years consuming five or more serving of fruits or vegetables each day (BRFSS) ³	18.3%	21.1%
PHYSICAL ACTIVITY: Percentage of adults ≥18 years engaging in leisure time physical activity during the past month (N.C. BRFSS) ¹	69.9%	75.2%
PHYSICAL ACTIVITY: Percentage of adults ≥18 years engaging in moderate physical activity (≥30 min, five times/week) or vigorous activity (≥20 min, three time/week) during the past month (BRFSS) ²	17.9%	18.6%
WEIGHT: Percentage of adults ≥18 years who have healthy weight - body mass index <25.0 (N.C. BRFSS) ²	26.4%	37.4%
SUN PROTECTION: Percentage of adults ≥18 years protecting their skin from the sun when outdoors for more than half hour during summer (N.C. BRFSS) ⁴	80.5%	86.3%
	N.C. African American	N.C. White

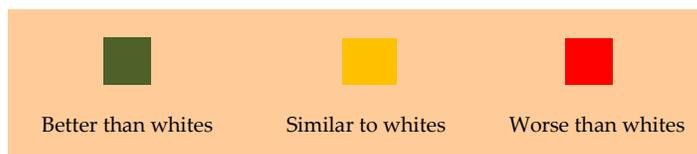
¹Data from 2010.

²Data from 2011.

³Data from 2009.

⁴Data from 2008.

Notes: Data are from: N.C. BRFSS, 2008 and 2010 (www.schs.state.nc.us/SCHS/brfss/); accessed 01/11/2013. Youth Behavioral Risk Surveillance System (YBRSS) 2011: Youth Online: High School YBRSS (<http://apps.nccd.cdc.gov/youthonline/App/Default.aspx>); accessed 01/11/2013.



CDC Cancer Screening Guidelines

Cancer Screening means looking for cancer before it causes symptoms. This helps to find cancer at an early stage when it may be easier to treat. This chart lists the recommended screening guidelines for the five priority cancers. For more detailed information on screening guidelines visit the Centers for Disease Control and Prevention website, www.cdc.gov/cancer/dcpc/prevention/screening.htm or the American Lung Association website, www.lung.org.

Prostate Cancer	Colorectal Cancer	Breast Cancer	Cervical Cancer	Lung Cancer
<p>Two tests are commonly used to screen for prostate cancer</p> <p>Digital rectal exam (DRE): A doctor or nurse will insert a gloved, lubricated finger into the rectum to feel the prostate. This allows the examiner to estimate the size of the prostate and feel for any lumps or other abnormalities.</p> <p>Prostate specific antigen test (PSA): The PSA test is a blood test that measures the level of PSA in the blood. PSA is a substance made by the prostate. The levels of PSA in the blood can be higher in men who have prostate cancer. The PSA level may also be elevated in other conditions that affect the prostate.</p> <p>CDC and other federal agencies follow the prostate cancer screening recommendations set forth by the U.S. Preventive Services Task Force, which recommends against PSA-based screening for men that are asymptomatic, normal-risk individuals.</p>	<p>Regular screening, beginning at age 50, is the key to preventing colorectal cancer.</p> <p>Recommended screening tests and intervals are:</p> <p>High-sensitivity fecal occult blood test (FOBT), that checks for hidden blood in three consecutive stool samples, should be done every year.</p> <p>Flexible sigmoidoscopy, should be done every five years.</p> <p>Colonoscopy, should be done every 10 years.</p> <p>Colonoscopies can be used as screening tests or as follow-up diagnostic tools when the results of another screening test are positive.</p> <p>For more information, read the current colorectal cancer screening guidelines from the U.S. Preventive Services Task Force (USPSTF) website.</p>	<p>Three main tests are used to screen the breasts for cancer.</p> <p>Mammogram. Women aged 50 to 74 years, should have a screening mammogram every two years.</p> <p>Women aged 40 to 49 years, need to talk to their doctors about when and how often they should have a screening mammogram.</p> <p>Clinical breast exam. A clinical breast exam is an examination by a doctor or nurse, who uses his or her hands to feel for lumps or other changes.</p> <p>Breast self-exam. A breast self-exam is when you check your own breasts for lumps, changes in size or shape of the breast or any other changes in the breasts or underarm (armpit).</p> <p>Which tests to choose: Keep in mind that, at this time, the best way to find breast cancer is with a mammogram. If you choose to have clinical breast exams and to perform breast self-exams, be sure you also get regular mammograms.</p>	<p>Cervical cancer is the easiest female cancer to prevent, with regular screening tests and follow-up. Two screening tests can help prevent cervical cancer or find it early.</p> <p>The Pap test (or Pap smear) looks for precancerous cell changes on the cervix that might become cervical cancer if they are not treated appropriately.</p> <p>The HPV test looks for the virus (human papillomavirus) that can cause these cell changes.</p> <p>If you are getting the HPV test in addition to the Pap test, the cells collected during the Pap test will be tested for HPV at the laboratory. Talk with your doctor, nurse, or other health care professional about whether the HPV test is right for you.</p> <p>When to get screened You should start getting regular Pap tests at age 21.* The Pap test, which screens for cervical cancer, is one of the most reliable and effective cancer screening tests available. The only cancer for which the Pap test screens is cervical cancer. It does not screen for ovarian, uterine, vaginal or vulvar cancers.</p> <p>*Recommended screening age changed from 18 to 21 effective July 2012.</p>	<p>New research shows early detection using low-dose spiral computed tomography (CT) scans can reduce lung cancer deaths in select populations.</p> <p>Low-dose CT screening is recommended for those meeting the National Lung Screening Trial (NLST) criteria.</p> <p>Annual screenings should be offered for:</p> <ul style="list-style-type: none"> • -Current or former smokers aged 55 to 74 years. • -A smoking history of at least 30 pack-years, either continuing to smoke or having quit within past 15 years. • -No history of lung cancer. <p>Other NLST recommendations include:</p> <ul style="list-style-type: none"> • -Individuals should NOT receive a chest x-ray for lung cancer screening. • -Low-dose CT screening is not recommended for everyone. • -Patients should be referred to a facility that uses “best practices” for CT screening. <p>(American Lung Association and American Society of Clinical Oncology, Inc.)</p>