

2011 Cuyahoga County Board of Health Comprehensive Cancer Report Overview

One of the core functions of public health is to conduct and disseminate regional assessments focused on population health status and public health issues. To that end, the Cuyahoga County Board of Health had produced a first of its kind report about cancer in our community. We are hopeful that this report will serve as an important community resource for many different audiences and purposes.

It is important to recognize that because of the complex nature of cancer and its causes, along with the limited data available for each case of cancer, it is not possible to address specific causes or reasons for the observed number or rates of cancer. Additionally, the presentation of this report is not meant to be an environmental assessment of the community.

Cancer is a multifactorial disease. Behavior choices, like tobacco use, level of physical activity and diet may play a role, in addition to family history/genetics and environmental exposures throughout our lives. Given these complexities, it is important to note that this report is not intended to identify the reasons why cancer rates may be elevated in one community or neighborhood versus another.

What You Will Find

- The annual number of newly diagnosed cancer cases
- The number of cancer deaths
- Differences in stage at diagnosis, a vital factor in overall prognosis
- Chances of survival for many types of cancer
- Data described at the individual community level for 24 different types of cancer

The report describes differences in the cancer burden across many different levels including gender, race, and geography. Where possible, it compares the amount of cancer in our community with statewide and nationwide levels. Also included are the number of cases diagnosed and/or the number of related deaths from 2002-2006, the most recent data available at the time of analysis.

How the Report Can Be Applied

- The local public health and medical community use the report to inform prospective preventive services and programming
- The academic community uses the report to help guide future research initiatives
- Community service agencies can use the report to help plan for existing and future resource needs
- The public gains a better understanding of the amount of cancer that exists within their community
- The public will be presented with positive lifestyle modifications and screening information that may reduce their risk of cancer.

Our Outlook for the Report

We hope the collective use of the information will help lead to:

- Improved care due to early detection and enhancements to clinical practice guidelines
- Better outcomes related to incidence and mortality rates and elimination of disparities
- Lower costs of providing necessary care

Overall Summary

- There are approximately 7,500 new cases of invasive cancer of all types diagnosed each year among Cuyahoga County residents with an age-adjusted rate of 477 per 100,000 people.

This rate is 2% **higher** than the rate for Ohio (466 per 100,000) and 3% **higher** than the nation (463 per 100,000).

- There are approximately 3,300 cancer deaths of all types each year among Cuyahoga County residents with an age-adjusted rate of 204 per 100,000 people.

This rate is 1% **higher** than the rate for Ohio (201 per 100,000) and 9% **higher** than the nation (187 per 100,000).

The top five most diagnosed cancer types were:

- Lung and bronchus - 17%
- Breast - 15%
- Prostate - 15%
- Colon and rectum - 12%
- Bladder - 5%
- All other types of cancer – 36%

This is consistent with the top most diagnosed cases in Ohio and the nation.

Comparing diagnosis rates to the state and nation

- The rates of lung cancer diagnoses were 6% **lower** than the state and 12% **higher** than the nation.
- The rates of breast cancer diagnoses were 1% **higher** than the state and 1% **lower** than the nation.
- The rates of prostate cancer diagnoses were 9% **higher** than the state and 4% **higher** than the nation.
- The rates of colon cancer diagnoses were 2% **lower** than the state and 4% **higher** than the nation.
- The rates of bladder cancer diagnoses were <1% **lower** than the state and 2% **higher** than the nation.

Comparing mortality rates to the state and nation

- The rates of lung cancer deaths were 8% **lower** than the state and 4% **higher** than the nation.
- The rates of breast cancer deaths were 2% **higher** than the state and 12% **higher** than the nation.
- The rates of prostate cancer deaths were 25% **higher** than the state and 32% **higher** than the nation.
- The rates of colon cancer deaths were 2% **lower** than the state and 8% **higher** than the nation.
- The rates of bladder cancer deaths were 2% **higher** than the state and 19% **higher** than the nation.

Stage at Diagnosis is a key element in prognosis:

- 44% of the cancer cases of all types were diagnosed at the early stage (*In situ* or localized).
- 41% were diagnosed at the late stage (regional or distal).
- 15% were unstaged.

This is similar to the staging distribution of diagnosed cases in Ohio.

- In Ohio (2002-2006)
 - 49% of cases were staged early
 - 38% of cases were staged late
 - 13% of cases were unstaged.

Differences Among the Top Five Most Diagnosed Cancer Sites (Rates)

Health disparities among all groups were indicated within the county by race, gender, and geography.

Breast, Prostate, Colon, and Lung Cancer Incidence Rates

- The rates of blacks being diagnosed with breast, prostate, and colon cancer were **higher** than whites when comparing males and females from Cleveland, the Inner Ring suburbs (communities that share a common land border with the City of Cleveland), the Outer Ring suburbs (communities that do not share a common land border with the City of Cleveland) and Cuyahoga County.
- The disparities mentioned above were consistent with the state and nation with one exception. For breast cancer in Ohio, white and black females are being diagnosed at the same rate, whereas nationally, white females are being diagnosed at slightly **higher** rates than black females.

Breast Cancer - This disparity ranged from 13-27% with the biggest disparity seen in the Inner Ring.

Comparing disparities to the state and nation

- White females in Cuyahoga County had 2% **lower** rates of breast cancer than Ohio and 8% **lower** rates than the nation.

- Black females in Cuyahoga County had 11% **higher** rates than Ohio and 13% **higher** rates than the nation.

Prostate Cancer - This disparity ranged from 101-146% with the biggest disparity seen in Cleveland.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 9% **lower** rates of prostate cancer than Ohio and 20% **lower** rates than the nation.
- Black males in Cuyahoga County had 13% **higher** rates than Ohio and 2% **higher** rates than the nation.

Colon Cancer - This disparity ranged from 18%-54% with the biggest disparity seen in the Outer Ring. For males, this disparity ranged from 14-34% and for females, this disparity ranged from 24-86%, with the biggest disparities occurring in the Inner Ring and the Outer Ring respectively.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 5% **lower** rates of colon cancer than Ohio and 1% **higher** rates than the nation.
- Black males in Cuyahoga County had 5% **higher** rates than Ohio and 4% **higher** rates than the nation.
- White females in Cuyahoga County had 13% **lower** rates of colon cancer than Ohio and 9% **lower** rates than the nation.
- Black females in Cuyahoga County had 10% **higher** rates of colon cancer than Ohio and 5% **higher** rates than the nation.

Lung Cancer -The same disparities hold true for lung cancer rates with the exception of white females in Cleveland being diagnosed at slightly **higher** rates (1%) than black females which is consistent with national data.

- This disparity ranged from 11-63% with the biggest disparity occurring in the Outer Ring. For males, this disparity ranged from 23-63% and for females, this disparity ranged from 42-58%, with the biggest disparities occurring in the county overall and the Outer Ring respectively.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 15% **lower** rates of lung cancer than Ohio and 5% **higher** rates than the nation.
- Black males in Cuyahoga County had 9% **higher** rates than Ohio and 27% **higher** rates than the nation.
- White females in Cuyahoga County had 13% **lower** rates of lung cancer than Ohio and 5% **lower** rates than the nation.
- Black females in Cuyahoga County had 9% **higher** rates of lung cancer than Ohio and 35% **higher** rates than the nation.

Mortality Rates

- Blacks **dying** of breast, prostate, colon, and lung cancer in the state and nation were the same as that seen previously in the geographic areas (blacks displaying higher rates) with the exception that nationally, white females have slightly **higher** death rates than black females for lung cancer.

Breast Cancer -This disparity ranged from 11-78% with the biggest disparity in the Inner Ring.

Comparing disparities to the state and nation

- White females in Cuyahoga County had 4% **lower** rates of breast cancer deaths than Ohio and 6% **higher** rates than the nation.
- Black females in Cuyahoga County had 6% **higher** rates of breast cancer deaths than Ohio and 12% **higher** rates than the nation.

Prostate Cancer - This disparity ranged from 137-171% with the biggest disparity in the Inner Ring.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 8% **higher** rates of prostate cancer deaths than Ohio and 14% **higher** rates than the nation.
- Black males in Cuyahoga County had 28% **higher** rates of prostate cancer deaths than Ohio and 19% **higher** rates than the nation.

Colon Cancer - This disparity ranged from 36-82% with the biggest disparities occurring in the Inner Ring. For males, this disparity ranged from 58-113% and for females, this disparity ranged from 17-60% with the biggest disparities occurring in the Inner Ring for both sexes.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 4% **lower** rates of colon cancer deaths than Ohio and 4% **higher** rates than the nation.
- Black males in Cuyahoga County had 12% **higher** rates of colon cancer deaths than Ohio and 20% **higher** rates than the nation.
- White females in Cuyahoga County had 8% **lower** rates of colon cancer deaths than Ohio and 3% **higher** rates than the nation.
- Black females in Cuyahoga County had 5% **lower** rates of colon cancer deaths than Ohio and approximately the same rates as the nation.

Lung Cancer - This disparity ranged from 14-61% with the biggest disparities occurring in the Outer Ring. For males, this disparity ranged from 24-61% and for females, this disparity ranged from 5-63% with the biggest disparities occurring in the county and the Outer Ring respectively.

Comparing disparities to the state and nation

- White males in Cuyahoga County had 12% **lower** rates of lung cancer deaths than Ohio and 1% **lower** rates than the nation.
- Black males in Cuyahoga County had 8% **higher** rates of lung cancer deaths than Ohio and 24% **higher** rates than the nation.

- White females in Cuyahoga County had 14% **lower** rates of lung cancer deaths than Ohio and 8% **lower** rates than the nation.
- Black females in Cuyahoga County had 6% **higher** rates of lung cancer deaths than Ohio and 40% **higher** rates than the nation.

Bladder Cancer Incidence Rates

- The rates of whites being diagnosed with bladder cancer were **higher** than blacks when comparing residents of Cleveland, the Inner Ring, the Outer Ring and the county.
 - The incidence rate disparity ranged from 40-105% with the biggest disparity occurring in Cleveland. For males, the range was 28-148% and for females, the range was 30-75% with the biggest disparities occurring in Cleveland and the Inner Ring respectively.

Comparing disparities to the state and nation

- Whites had **higher** rates of being diagnosed with bladder cancer at the state and national level.
- White males in Cuyahoga County had 5% **higher** rates of bladder cancer than Ohio and 3% **higher** rates than the nation.
- Black males in Cuyahoga County had 3% **higher** rates than Ohio and 2% **lower** rates than the nation.
- White females in Cuyahoga County had 6% **higher** rates of bladder cancer than Ohio and 5% **higher** rates than the nation.
- Black females in Cuyahoga County had 12% **higher** rates of bladder cancer than Ohio and 4% **lower** rates than the nation.

Mortality Rates

- There were numerous disparities for bladder cancer deaths when comparing residents of Cleveland, the Inner Ring, the Outer Ring and the County.
 - White Males had **higher** rates (26-97%) of dying from bladder cancer, except for the Outer Ring, where black males had an 88% **higher** mortality rate.
 - Black Females had **higher** rates (3-82%) of dying from bladder cancer in Cleveland, the Inner Ring and the Outer Ring with the biggest disparity occurring in the Inner Ring.
 - Gender comparisons could not be made for all geographies due to low case numbers and rate instability.

Comparing disparities to the state and nation

- Black males have **lower** rates of dying from bladder cancer than white males; however, black females had **higher** rates of dying from bladder cancer than white females.
- White males in Cuyahoga County had 11% **higher** rates of bladder cancer deaths than Ohio and 32% **higher** rates than the nation.
- Black males in Cuyahoga County had 6% **lower** rates of bladder cancer deaths than Ohio and 27% **higher** rates than the nation.

- White females in Cuyahoga County had 3% **lower** rates of bladder cancer deaths than Ohio and 6% **higher** rates than the nation.
- Black females in Cuyahoga County had 11% **higher** rates of bladder cancer deaths than Ohio and 31% **higher** rates than the nation.

Statistically Significant Findings

Statistical analysis was done to compare rates of residents in one area to rates of those in Cuyahoga County overall. For example, white males living in Cleveland were compared to white males living in Cuyahoga County to see if the rates were significantly different from each other.

The results for the top 5 cancers are listed below.

Breast Cancer

- White females living in Cleveland had significantly **lower** rates (12%) of breast cancer diagnoses when compared to white females diagnosed with breast cancer in Cuyahoga County.

Prostate Cancer

- White males and black males living in Cleveland had significantly **lower** rates (15-31%) of being diagnosed with prostate cancer.
- White and black males living in the Outer Ring had significantly **higher** rates (11-32%) of being diagnosed with prostate cancer when compared to the respective rates for Cuyahoga County.
- Males in general living in Cleveland have significantly **higher** rates (30%) of dying from prostate cancer when compared to males in Cuyahoga County who died from prostate cancer.

Colon Cancer

- White males and females living in the Outer Ring had significantly **lower** rates (8%) of being diagnosed with colon cancer when compared to whites diagnosed with colon cancer in Cuyahoga County.

Lung Cancer

- White males living in the Outer Ring and white females living in the Inner Ring had significantly **lower** rates (16%) of being diagnosed with lung cancer when compared to the respective rates for Cuyahoga County.
- White males and females living in Cleveland had significantly **higher** rates (40-47%) of being **diagnosed and dying** from lung cancer when compared to the respective rates for Cuyahoga County.
- Black males living in the Inner Ring had significantly **lower** rates (25%) of dying from lung cancer when compared to the respective rates for Cuyahoga County.

Differences Among the Top Five Most Diagnosed Cancer Sites (Staging)

Health disparities were again seen among all groups where indicated within the county by race, gender, and geography when staging information was incorporated.

Breast Cancer

- In general, white females were staged **earlier** (7-10%) than black females, except white females living in the Outer Ring having **later** staging (22%) than black females living in the Outer Ring.
- In Ohio, black females are staged 18% **later** than white females.

Prostate Cancer

- Black males were staged **earlier** (4%) than white males in Cleveland and the Inner Ring, however white males were staged **earlier** (approximately 1%) than black males in the Outer Ring and county overall.
- In Ohio, black males are staged 17% **later** than white males.

Colon Cancer

- In general, blacks were staged **earlier** (6%) than whites in Cleveland and the Inner Ring, however whites were staged **earlier** (1-9%) than blacks in the Outer Ring, and county overall.
- Males, in general, were staged **earlier** (5-11%) than females with the exception of females living in Cleveland being staged <1% **earlier** than males in Cleveland.
- In Ohio, blacks are staged **later** (4%) than whites, and females are staged **later** (1%) than males.

Lung Cancer

- In general, whites were staged **earlier** (3-67%) than blacks, and males in general, were staged **later** (6-7%) than females at the geography levels of Cleveland, the Inner Ring, the Outer Ring, and Cuyahoga County.
- In Ohio, blacks are staged **later** (6%) than whites, and males are staged **later** (5%) than females.

Prevention and Contributing Factors^{1,2}

While specific, individual level data was not available for the cases analyzed for this report, national experts have identified the following ways to decrease the likelihood of being affected by known risk factors for cancer:

- Avoid tobacco use and exposure to secondhand smoke.
- Limit sun exposure and use sun screen with an SPF of at least 15.
- Avoid any use of sun tanning salons.
- Follow safety tips when using pesticides, solvents, paints, and petrochemicals at work and home.
- Do not have unprotected sex or share needles.
- Discuss risks and benefits of menopausal hormone therapy with your physician.

- Talk with your physician about genetic testing if there is a strong family history (two or more members) of any cancer.
- Drink alcohol only in moderation- No more than one drink a day for women and two drinks a day for men.
 - Alcohol is a risk factor for oral, pharynx, larynx, esophageal, liver, colorectal, female breast and possibly pancreatic cancer.³
- Consume a healthy diet low in fat and high in vegetables, nuts, and berries.
- Maintain a healthy weight with a Body Mass Index less than 27.
 - Obesity accounts for 14-20% of all cancer-related mortality.³
- Engage in physical activity for at least 45 minutes, 4 or more times a week.
 - Physical activity may reduce the risk of breast, colon, prostate, endometrial and potentially pancreatic cancer.³

Furthermore, using the most recent information available from the 2010 Behavioral Risk Factor Survey (BRFSS), a standardized annual national survey, we know the following about residents of Cuyahoga County:

Cancer Screening Prevention Behaviors

- 78% of women aged 40+ have had a mammogram within the past two years.
- 81% of women aged 50+ have had a mamogram within the past two years.
- 83% of women aged 18+ have had a pap test within the past three years.
- 53% of men aged 40+ have had a PSA test within the past two years.
- 62% of adults aged 50+ have had a sigmoidoscopy or colonoscopy at some point.
- 19% of adults aged 50+ have had a blood stool test within the past two years.

Lifestyle and Health Behaviors

- 21% of adults are current smokers who either smoke everyday or some days, 23% are former smokers, and 57% never smoked.
- 36% of respondents are overweight and 26% are obese.
- 74% of respondents had visited the dentist or dental clinic within the past year for any reason.
- 20% of respondents reported being either heavy or binge drinkers.
- 22% of adults have consumed fruits and vegetables five or more times per day (2009 data).

Additionally, in an article published in January 2012 by the American Cancer Society, the following community actions were recommended to help minimize barriers in order for individuals to adopt a healthy lifestyle:

- Increase access to affordable, healthy foods in communities, worksites, schools.
- Decrease access to and marketing of foods and beverages of low nutritional values, particularly to youth.
- Provide safe, enjoyable, and accessible environments for physical activity in schools and worksites, and for transportation and recreation in communities.

Based on this information, it is clear that there is opportunity and need for residents of Cuyahoga County to make positive changes related to these behaviors to help reduce their risk for cancer.

Please visit www.ccbh.net for additional information on this report.

Resources

1. The American Cancer Society. Learn about cancer. <http://www.cancer.org/Cancer/CancerBasics/what-is-cancer>. (Accessed December 13, 2010).
2. National Cancer Institute. What you need to know about cancer. <http://www.cancer.gov/cancertopics/wyntk/cancer>. (Accessed December 13, 2010).
3. Kushi L, Doyle C, McCullough M, Rock C, Demark-Wahnefried W, Bandera E, Gapstur S, Patel AV, Andrews K, Gansler T, and The American Cancer Society 2010 Nutrition and Physical Activity Guidelines Advisory Committee. American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention. Reducing the Risk of Cancer with Healthy Food Choices and Physical activity. *CA Cancer J Clin* 2012;62:30-67.
4. *Cancer Incidence and Mortality among Ohio Residents, 2002-2006*. Ohio Cancer Incidence Surveillance System, Ohio Department of Health and The Ohio State University, Columbus, Ohio, December 2009. http://www.odh.ohio.gov/ASSETS/79F9E92E210F477D885F8EAC864E2F27/0206Monograph_Final.pdf.
5. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: All Sites. <http://seer.cancer.gov/statfacts/html/all.html>. (Accessed December 13, 2010).