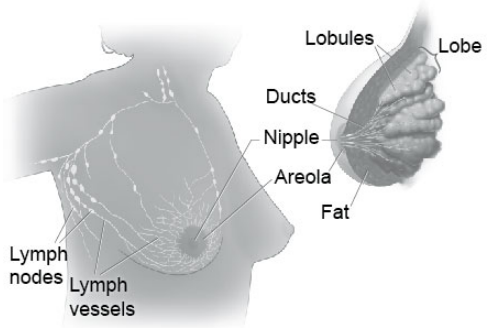
Breast Cancer

Figure 4



Definition: Breast cancer starts in the cells of the breast, and forms malignant tumors.[1] A malignant tumor is a group of cancer cells that can invade surrounding tissues and metastasize to other areas of the body.[1]

Background: From 2002 to 2006, there was a yearly average of approximately **8,092** newly diagnosed cases of breast cancer in Ohio for both males and females.[2] During this same time period, Ohio experienced approximately **1,906** deaths due to breast cancer.[2]

Breast cancer occurs predominately in women, but men can develop this cancer as well, with the disease being 100 times more common in women than men.[1]

Nationally, breast cancer incidence rates have declined by 2% each year from 1998 to 2007.[1] Death rates from breast cancer have also been decreasing since 1990, mostly due to the result of earlier detection through screening.[1]

Cuyahoga County Data:

- The average annual number of newly diagnosed female breast cancer cases from 2002-2006 was **1,056**, with an age-adjusted incidence rate of **122.2** per 100,000 people.
- This is **higher** than the **120.4** incidence rate for Ohio and **lower** than the **123.8** incidence rate for the Nation.
- The average annual number of female breast cancer deaths from 2002-2006 was **255**, with an age-adjusted mortality rate of **27.5** per 100,000 people.
- This is **higher** than the **27.0** mortality rate for Ohio and **higher** than the **24.5** mortality rate for the Nation.

Table 4a Breast Cancer
Average Annual Number of Cancer Cases and Age-Adjusted Incidence Rates* for 2002-2006

Incidence	Male		Female		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
Cuyahoga County	10	1.5	1,056	122.2	1,066	69.3
Ohio	63	1.2	8,030	120.4	8,092	66.1
National SEER		1.2		123.8		67.1

* Rate is calculated per 100,000 people.

Table 4b Breast Cancer
Average Annual Number of Cancer Deaths and Age-Adjusted Mortality Rates* for 2002-2006

Mortality	Male		Female		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
Cuyahoga County	1	0.2	255	27.5	256	16.1
Ohio	14	0.3	1,892	27.0	1,906	15.4
National SEER		0.3		24.5		13.8

* Rate is calculated per 100,000 people.

Figure 4a

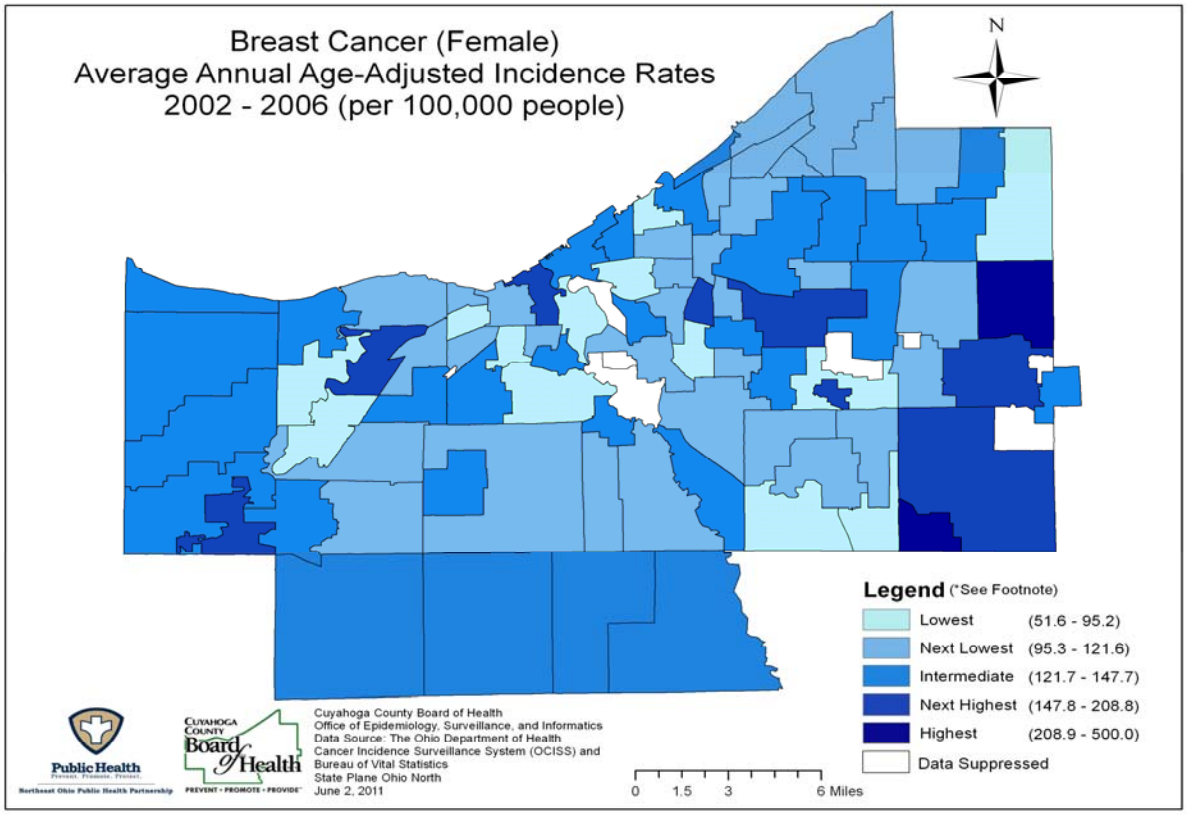
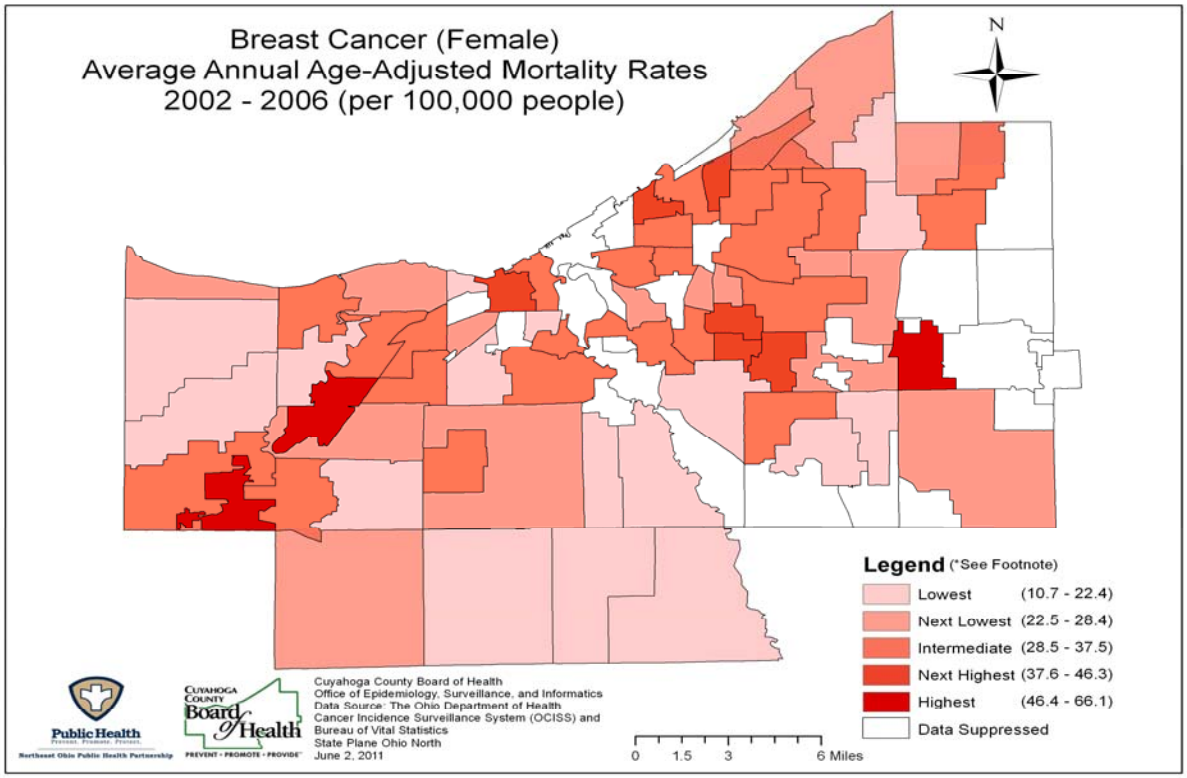


Figure 4b



*Data were suppressed to help maintain confidentiality and /or due to concerns over unstable numbers. See methods/limitations section for additional details.

Chart 4a

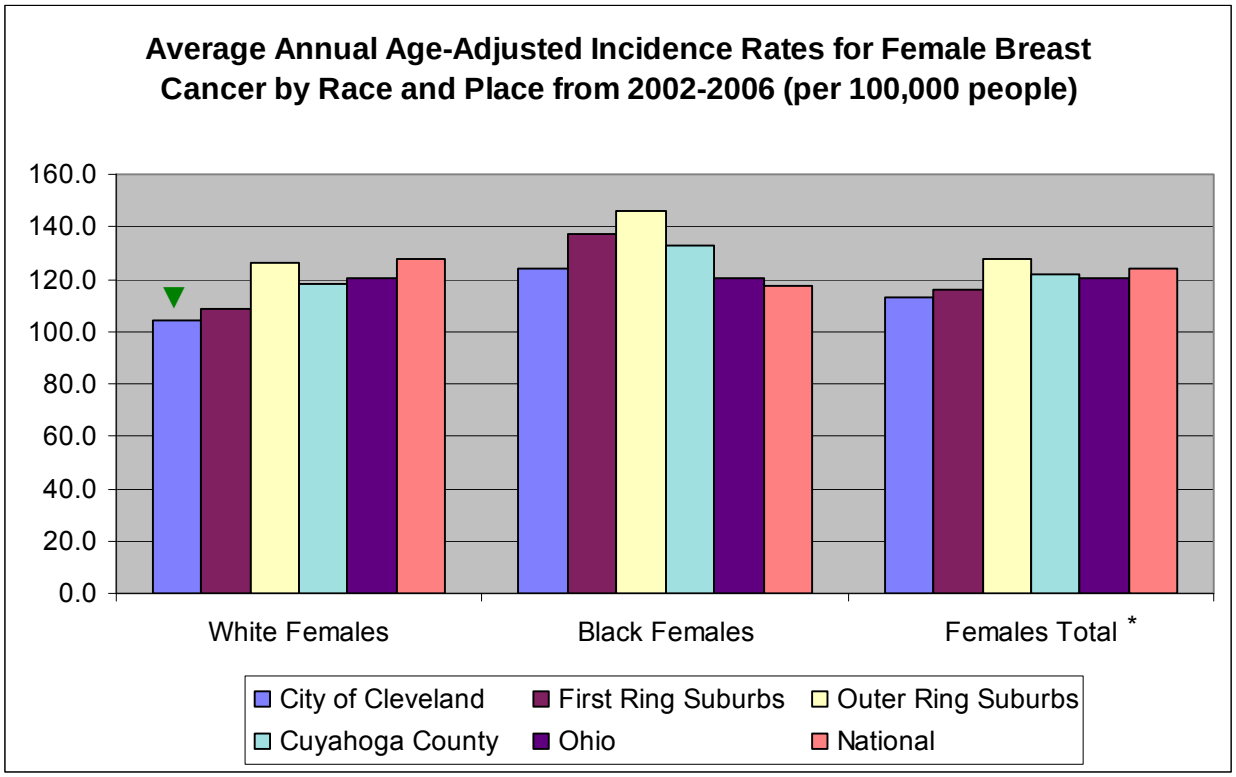
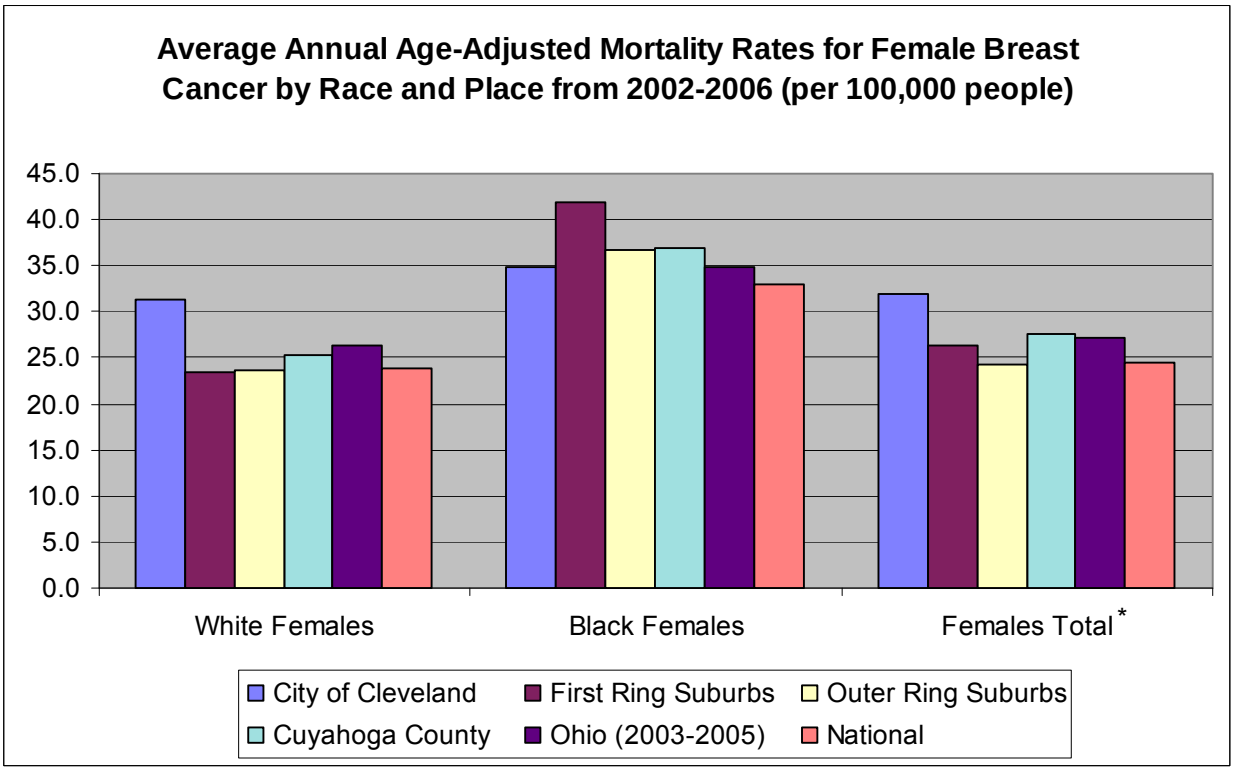


Chart 4b



▲ Rates are statistically significantly higher when compared to Cuyahoga County.
▼ Rates are statistically significantly lower when compared to Cuyahoga County.
■ Rates are not compared to Cuyahoga County when there are <20 cases total for 2002-2006 due to instability.
*All races are included in the age-adjusted rate calculations and confidence interval analyses for total females.

Risk Factors

Males: In the United States, 1 in 769 males will develop breast cancer and 1 in 3,333 will die from breast cancer.[3]

Females: In the United States, 1 in 8 females will develop breast cancer and 1 in 36 females will die from breast cancer.[3]

Several risk factors may contribute to the development of breast cancer. They include:[1]

- **Gender-** Being a woman is the main risk factor for breast cancer. The disease is 100 times more common in women than men.
- **Age-** Age increases the risk of developing breast cancer. 1 out of 8 invasive breast cancers are found in women less than 45 years of age, and 2 out of 3 invasive breast cancers are found in women age 55 and older.
- **Genetic risk factors-** 5 to 10% of breast cancer cases are considered to be hereditary, as the result of mutations in genes. The most common cause of hereditary breast cancer is a mutation in the BRCA1 and BRCA2 genes.
- **Family history of breast cancer**
- **Personal history of breast cancer**
- **Race and ethnicity-** White women are more likely to develop breast cancer than African-American women; however African-American women are more likely to die from breast cancer.
- **Dense breast tissue**
- **Certain benign breast conditions**
- **Lobular carcinoma in situ**
- **Menstrual periods-** Women who started menstruation early (before age 12) or went through menopause late (after age 55) have a higher risk of developing breast cancer.
- **Previous chest radiation as treatment of another cancer**
- **Diethylstilbestrol (DES) exposure**
- **Recent oral contraceptive use-** Studies have found that women using oral contraceptives have a slightly higher risk of developing breast cancer, however this risk declines back to normal over time once pills are stopped.
- **Hormone therapy after menopause-** Women who have used combined hormone therapy after menopause may have an increased risk of developing breast cancer.
- **Child-bearing status-**Women who have not had children or who had their first child after the age of 30, have increased breast cancer risk.
- **Breast feeding status-**Women who have breast fed may have a slightly lower breast cancer risk.
- **Alcohol-**The use of alcohol is linked to an increased risk of developing breast cancer, with risk increasing with the amount of alcohol consumed.
- **Being overweight or obese**
- **Physical activity-** Physical activity reduces breast cancer. The American Cancer Society recommends 45 to 60 minutes of activity 5 or more days a week.

Symptoms[1]

- Swelling of all or part of the breast (even if no distinct lump is felt)
- Skin irritation or dimpling
- Breast or nipple pain
- Nipple retraction (turning inward)
- Redness, scaliness, or thickening of the nipple or breast skin
- A nipple discharge other than breast milk
- Swollen lymph nodes

Screening, Prevention and Early Detection[1,4]

Screening:

The American Cancer Society (ACS) states that screening helps to decrease mortality due to early detection and subsequent treatment; therefore the following current guidelines are suggested for women by ACS:

- Women age 40 and older should have a screening mammogram and a clinical breast exam every year, modified by discussion with a physician for special clinical conditions or family history.
- Women in their 20s and 30s should have a clinical breast exam, as part of a regular health exam by a health professional, at least every three years.
- Self breast exam (starting around age 20) may benefit women and any breast changes should be reported to a physician.
- Women at high risk may be advised to get an MRI and mammogram every year. Talking with a physician can help evaluate an individual's risk.

Prevention:

To **lower** the risk of developing breast cancer, the American Cancer Society recommends following early detection guidelines (see above), limiting alcohol intake, exercising regularly, and maintaining a healthy body weight. Breast-feeding for several months and not using hormone therapy after menopause can also help reduce risk.

Staging

Stage at Diagnosis describes the severity of a person's cancer and the extent to which it has or has not spread throughout the body.[5] Cancer staging is important in helping physicians plan appropriate treatment, as well as to estimate a patient's prognosis.[5] Cancer diagnosed in the *in situ* and localized stages are generally referred to as early-stage tumors, whereas regional and distant tumors are referred to as late-stage tumors.[2] Detecting cancers at an early stage may increase long-term survival and can lead to a reduction in mortality.[2]

The National Cancer Institute groups staging into five main categories: [5]

- ***In situ***: Abnormal cells are present only in the layer of cells in which they developed. In this report, *in situ* cases are only included for bladder cancer.
- **Localized**: Cancer is limited to the organ in which it began, without evidence of spread.
- **Regional**: Cancer has spread beyond the primary site to nearby lymph nodes or organs and tissues.
- **Distant**: Cancer has spread from the primary site to distant organs or distant lymph nodes.
- **Unstaged/Unknown**: There is not enough information to determine the stage.

Chart 4c

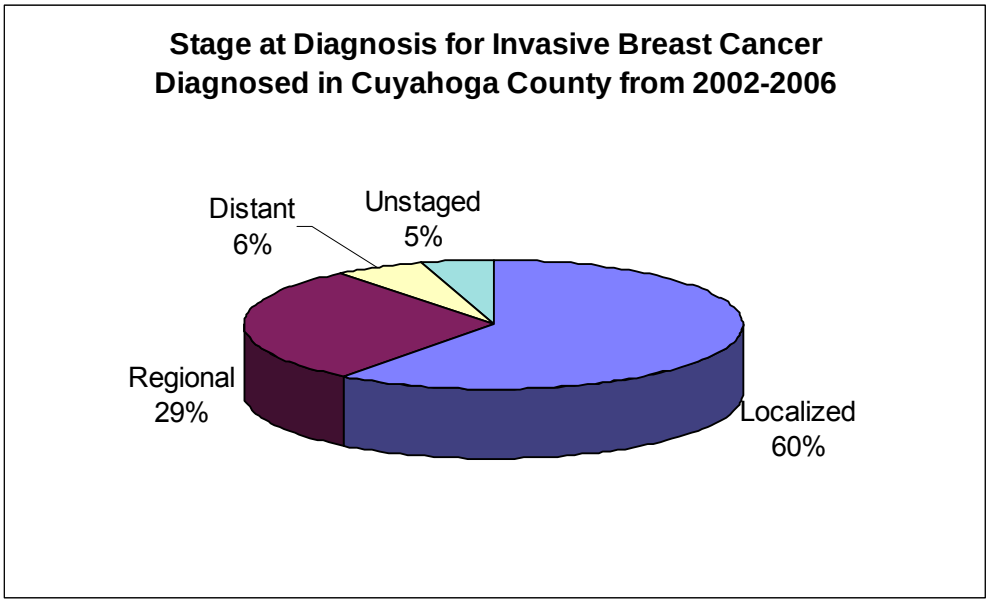


Table 4c

5-year Relative Survival* by Stage at Diagnosis for Breast Cancer in the United States for 1999-2006, All Races, Both Sexes[6]	
Stage at Diagnosis	**5-year Relative Survival (%)**
Localized (confined to primary site)	98.0
Regional (spread to regional lymph nodes)	83.6
Distant (cancer has metastasized)	23.4
Unknown/Unstaged	57.9

*Relative survival compares observed survival for those with cancer to the expected survival for those without cancer.

Figure 4c

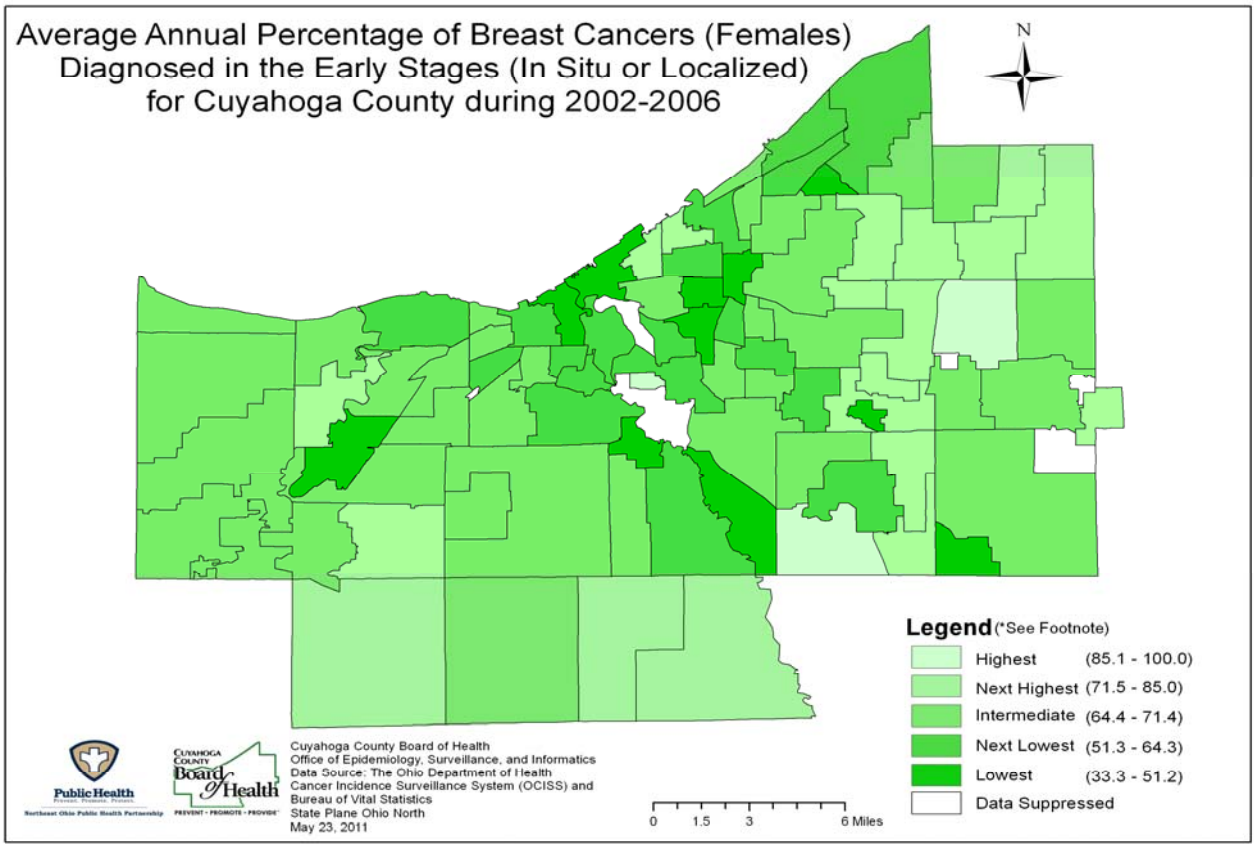


Figure 4d

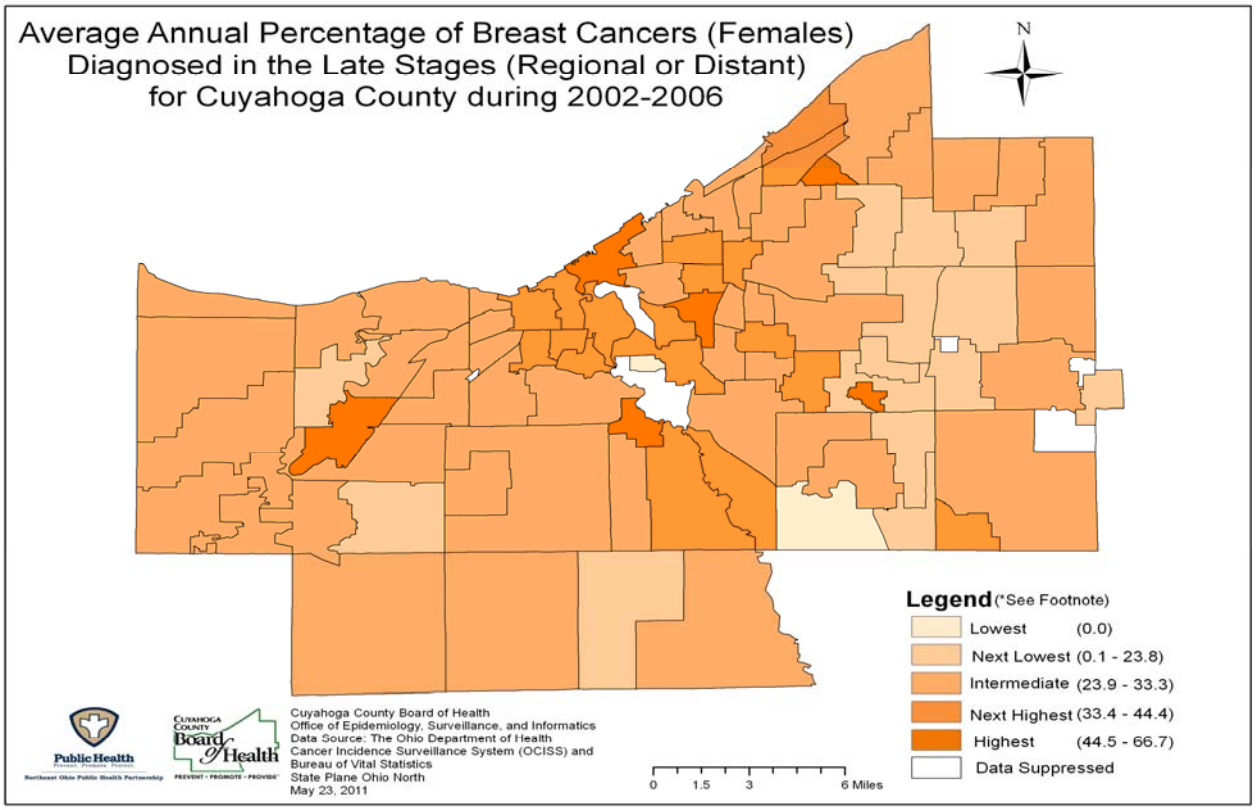


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Chart 4d

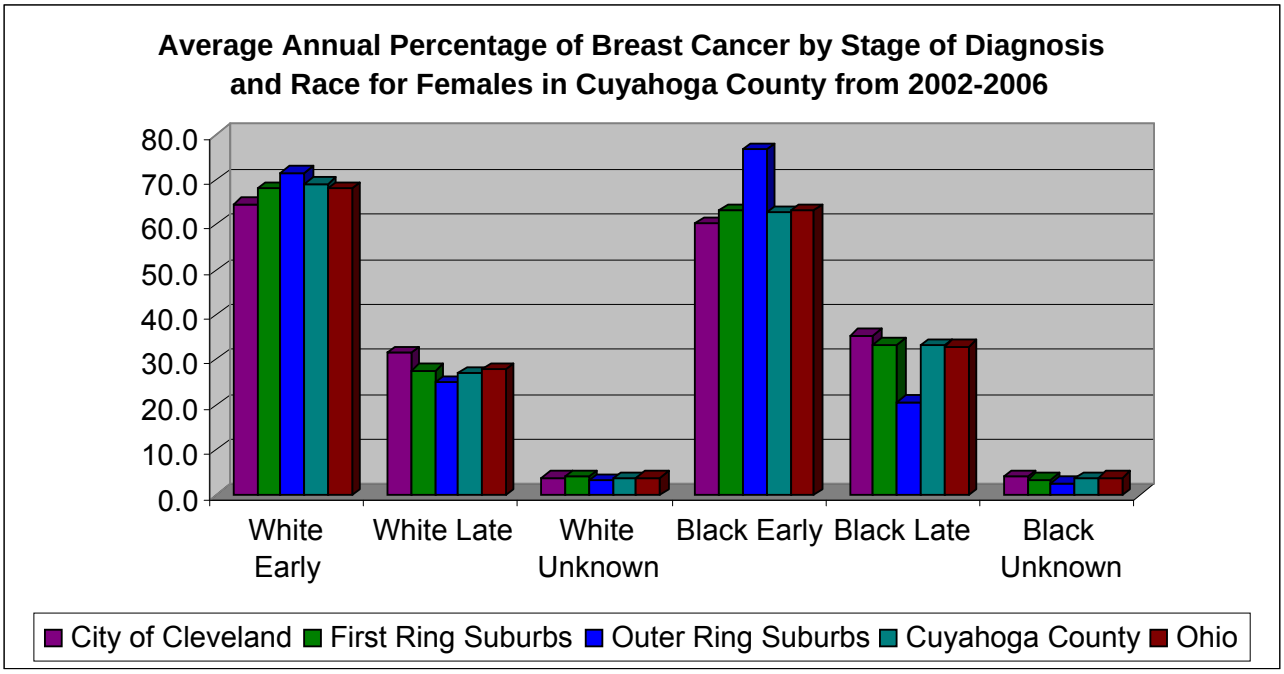
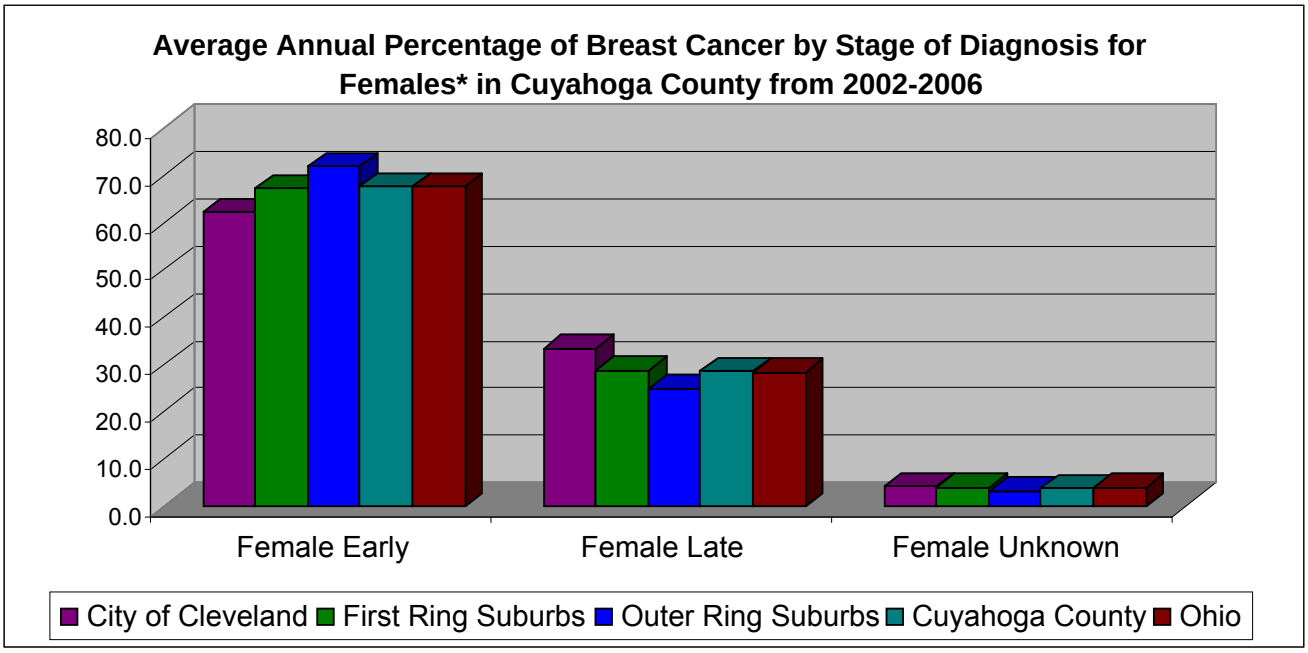


Chart 4e



*All races are included in staging calculations.

More Information

The Cuyahoga County Board of Health Breast and Cervical Cancer Project
http://www.ccbh.net/ccbh/opencms/CCBH/modules/services/BreastCervicalCancer.html
National Cancer Institute http://www.cancer.gov/
American Cancer Society http://www.cancer.org
Ohio Department of Health http://www.odh.ohio.gov/

Resources

1. The American Cancer Society. Breast Cancer Detailed Guide. http://www.cancer.org/Cancer/BreastCancer/DetailedGuide/index. (Accessed December 13, 2010).
2. *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.
3. The American Cancer Society. Lifetime Risk of Developing or Dying From Cancer. http://www.cancer.org/Cancer/CancerBasics/lifetime-probability-of-developing-or-dying-from-cancer. (Accessed January 10, 2011).
4. Case Comprehensive Cancer Center http://cancer.case.edu/ and Seidman Cancer Center Recommendations http://www.uhhospitals.org/irelandcancer/tabid/800/uhseidmancancercenter.aspx (February, 2011).
5. National Cancer Institute. Cancer Staging. http://www.cancer.gov/cancertopics/factsheet/Detection/staging. (Accessed December 23, 2010).
6. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Breast. http://seer.cancer.gov/statfacts/html/breast.html. (Accessed December 13, 2010).
7. National Cancer Institute. What you need to know about breast cancer. Breast image from http://www.cancer.gov/cancertopics/wyntk/breast/page2. (Accessed December 13, 2010).

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