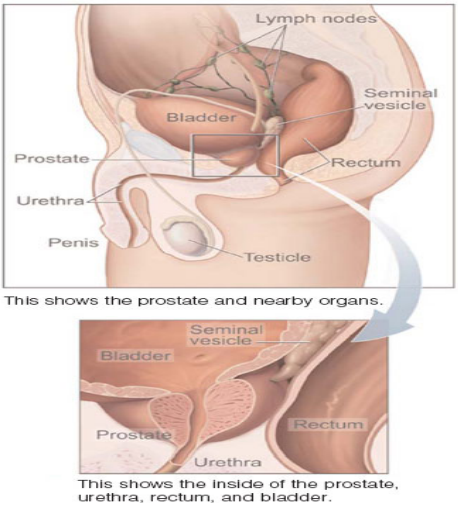
Prostate Cancer

Definition: Although there are several types of cells in the prostate, most cancers develop in the gland cells.[1] Gland cells are responsible for making the prostate fluid that is added to semen.[1] Cancers that form here are referred to as adenocarinomas.[1]

Background: From 2002 to 2006, there was a yearly average of approximately **7,774** newly diagnosed cases of prostate cancer in Ohio.[2] During this same time period, Ohio experienced approximately **1,243** deaths each year due to prostate cancer.[2]

In Ohio, prostate cancer is the most common cancer among men.[3] The mortality rate from prostate cancer has declined by 40% from 1991 to 2007.[3] In general, African American men have higher rates of prostate cancer than other races, are more likely to be diagnosed at an advanced stage, and are 2 times as likely to die from this cancer.[3]

Figure 21



This shows the prostate and nearby organs.

This shows the inside of the prostate, urethra, rectum, and bladder.

Cuyahoga County Data:

- The average annual number of newly diagnosed prostate cancer cases from 2002-2006 was **1,046,** with an age-adjusted incidence rate of **157.5** per 100,000 people.
- This is **higher** than the **144.7** incidence rate for Ohio and **lower** than the **159.3** incidence rate for the Nation.
- The average annual number of prostate cancer deaths from 2002-2006 was **207**, with an age-adjusted mortality rate of **33.7** per 100,000 people.
- This is **higher** than the **26.9** mortality rate for Ohio and **higher** than the **25.6** mortality rate for the Nation.

Table 21a Prostate 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	1,046	157.5			1,046	157.5
Ohio	7,774	144.7			7,774	144.7
National SEER		159.3				159.3

* Rate is calculated per 100,000 people.

Table 21b Prostate 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	207	33.7			207	33.7
Ohio	1,243	26.9			1,243	26.9
National SEER		25.6				25.6

* Rate is calculated per 100,000 people.

Figure 21a

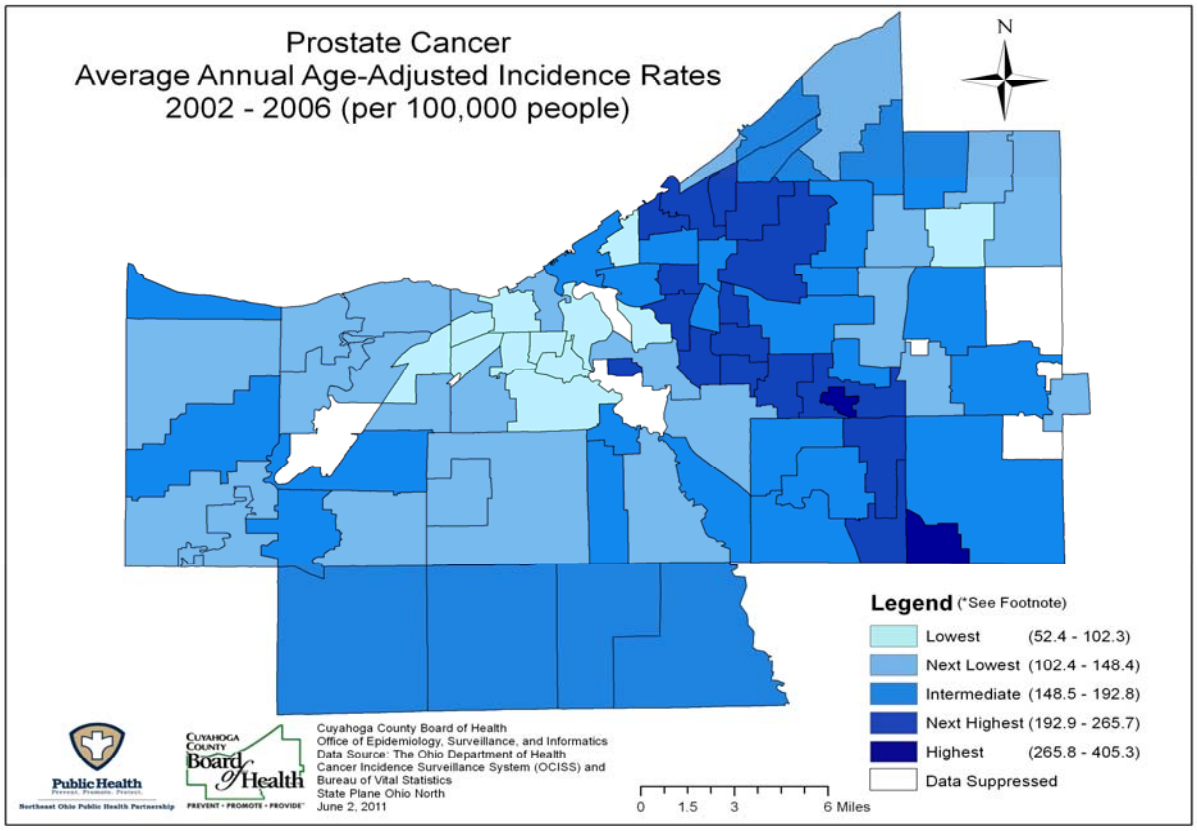
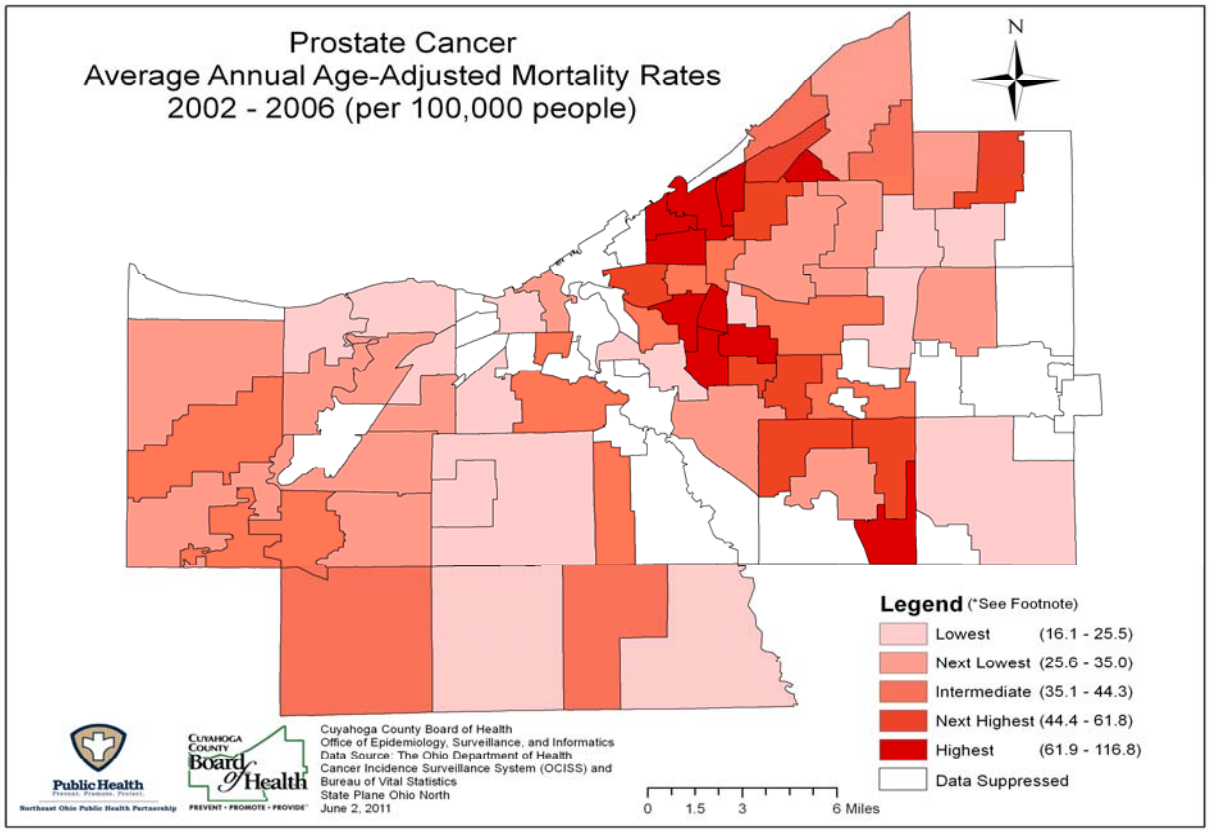


Figure 21b



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

Chart 21a

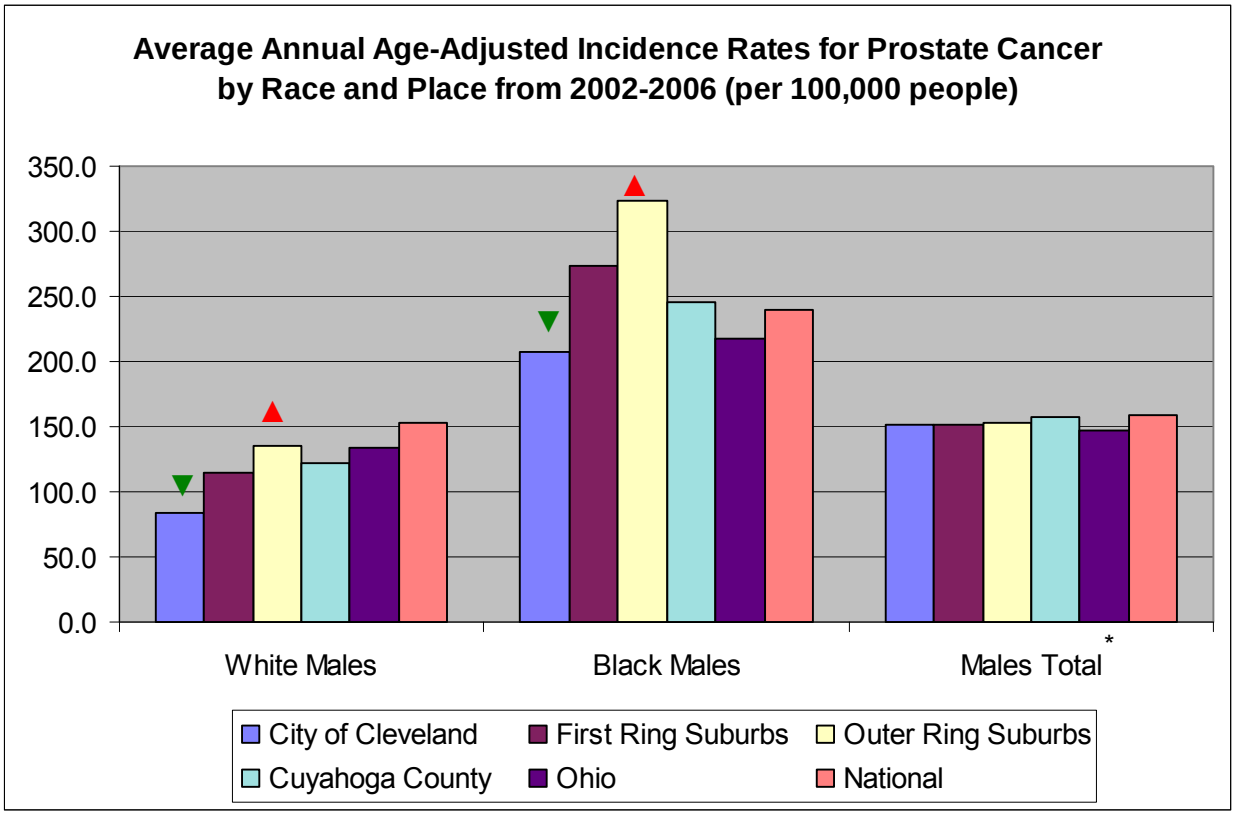
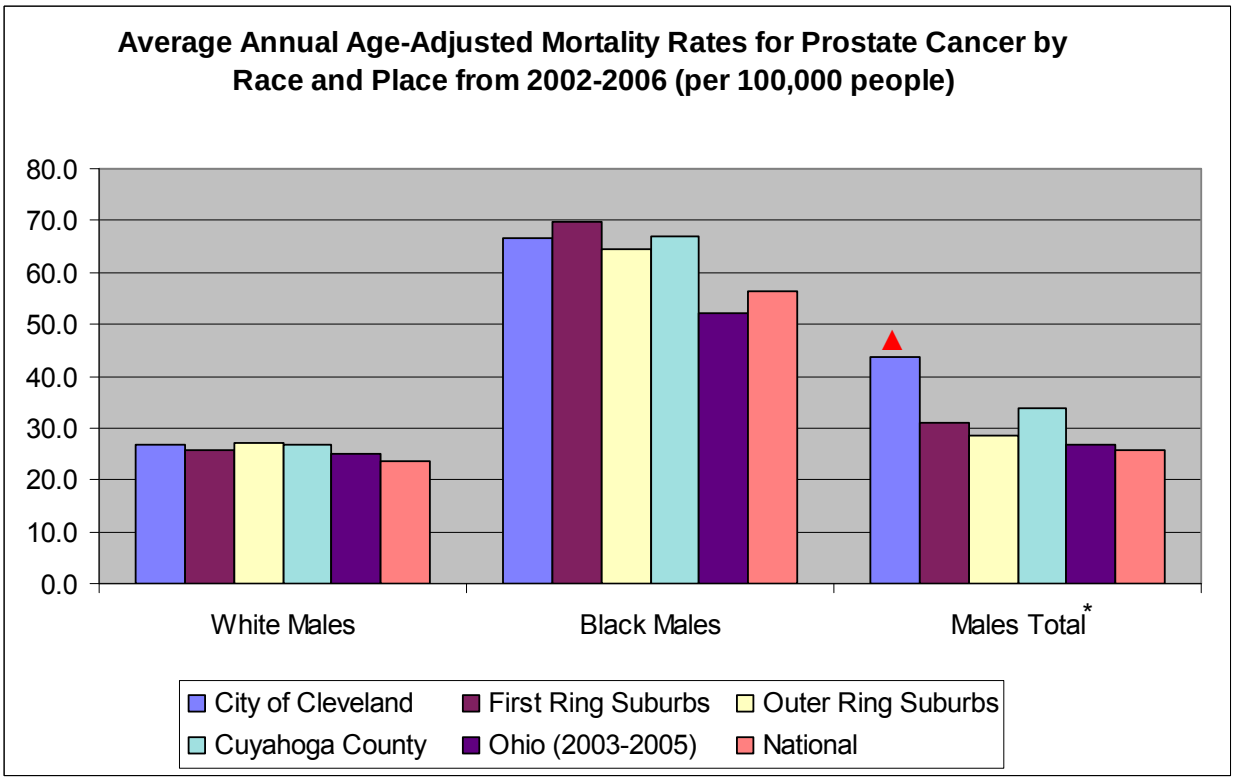


Chart 21b



▲ 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 males.

Risk Factors

Males: In the United States, 1 in 6 males will develop prostate cancer and 1 in 36 males will die from prostate cancer.[4]

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

- **Age-** Most prostate cancer is diagnosed in males over the age of 65.
- **Race-** African American men have higher rates of prostate cancer than other races, are more likely to be diagnosed at an advanced stage, and two times more likely to die from this cancer.
- **Family history**
- **Genetics-** Some inherited genes raise the risk for prostate cancer, but may only account for a small number of cases.
- **Diet**
- **Obesity**
- **Physical inactivity**
- **Smoking**
- **Inflammation of the prostate**
- **Vasectomy**

Symptoms[5]

- Urinary problems
    - Not being able to pass urine
    - Needing to urinate often
    - Weak flow of urine
    - Trouble starting or stopping urine flow
    - Pain or burning during urination
    - Urine flow that starts or stops
- Difficulty having an erection
- Blood in urine or semen
- Frequent pain in the lower back, hips, or upper thighs

Screening, Prevention and Early Detection

Screening: [1]

Prostate cancer can sometimes be detected early by testing for PSA (prostate-specific antigen) in the blood. Digital rectal exams are also important for finding prostate cancer early. These tests are not 100% accurate, but may be helpful in detecting prostate cancer. Patients and their physicians should make informed decisions about screening for prostate cancer.

Prevention: [1]

Prostate cancer may not be preventable at this time because the exact cause of this cancer is unknown. The risk factors of age, race, and family history cannot be controlled. Some cases may be prevented by lifestyle changes as indicated below by the American Cancer Society.

- **Diet**- A diet designed to maintain a healthy weight with an emphasis on eating a variety of plant-based sources, and limiting red meat consumption is recommended. Increasing intake of vitamin rich foods that contain lycopenes (tomatoes, pink grapefruit, and watermelon) may help prevent damage to DNA.
- **Vitamin and mineral supplements**- Physicians can recommend vitamins and supplements that may help lower risk of prostate cancer.
- **Medication**- Some medications, such as Finasteride, can help reduce the risk of prostate cancer.

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.[6] Cancer staging is important in helping physicians plan appropriate treatment, as well as to estimate a patient's prognosis.[6] 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:[6]

- ***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 21c

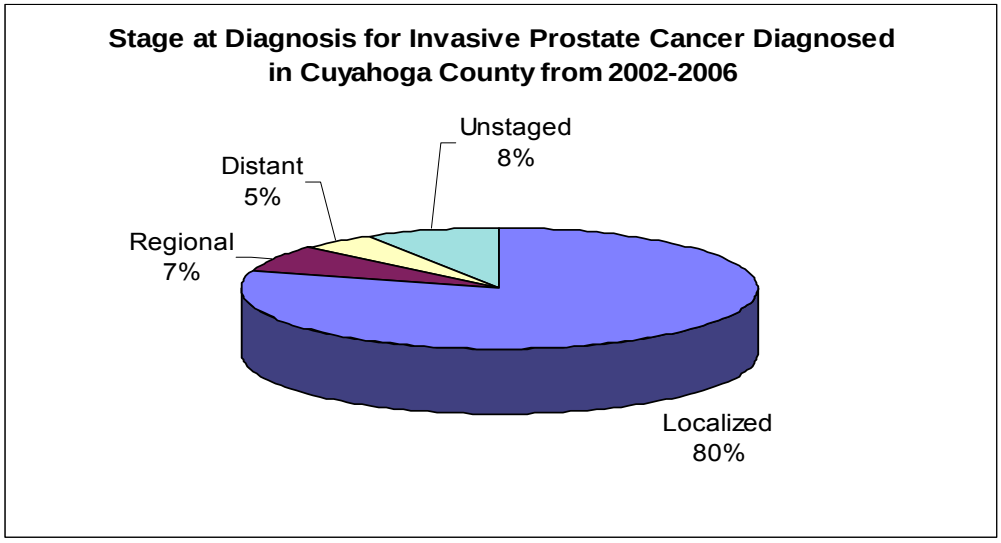


Table 21c

5-year Relative Survival* by Stage at Diagnosis for Prostate Cancer in the United States for 1999-2006, All Races, Both Sexes[7]	
Stage at Diagnosis	**5-year Relative Survival (%)**
Localized (confined to primary site)	100.0
Regional (spread to regional lymph nodes)	100.0
Distant (cancer has metastasized)	30.2
Unknown/Unstaged	75.0

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

Figure 21c

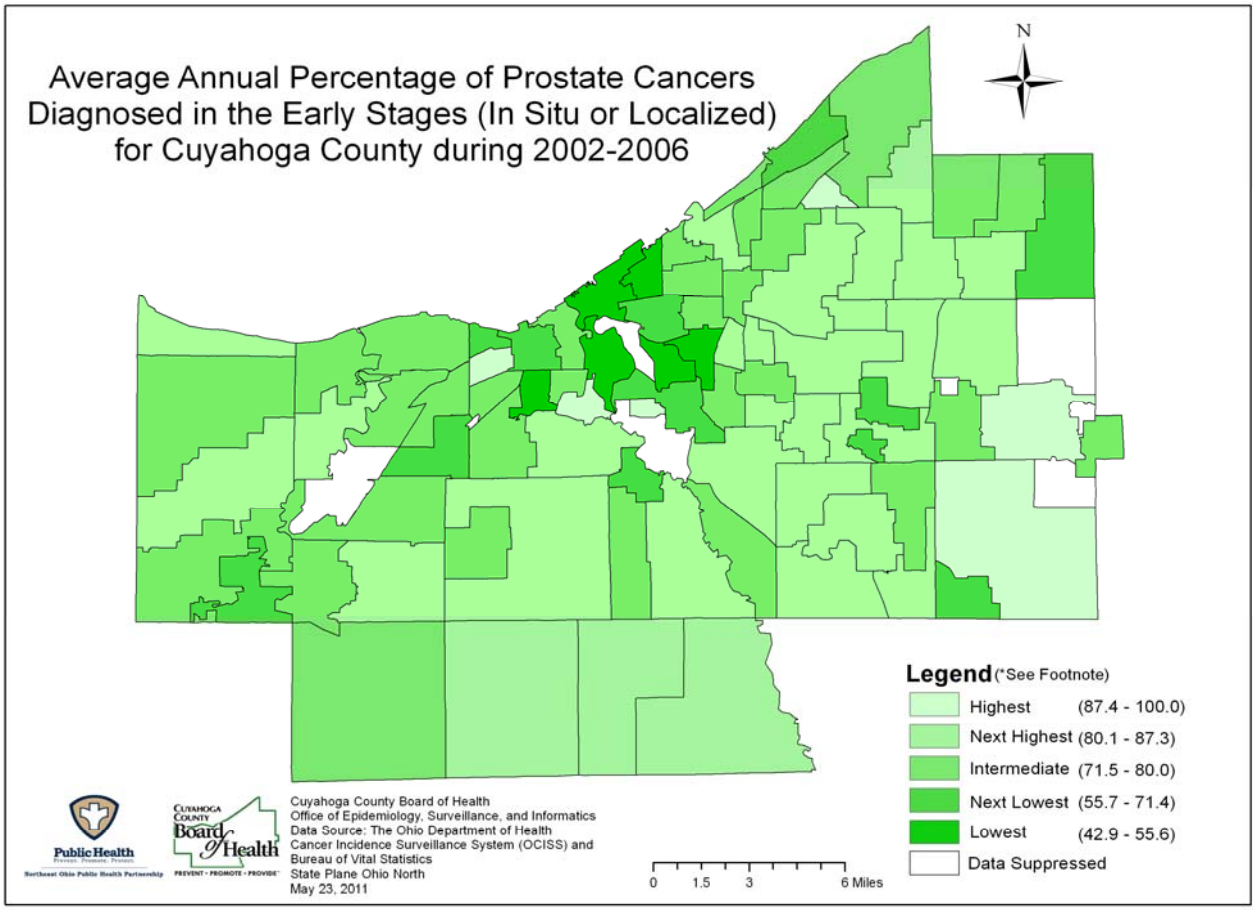
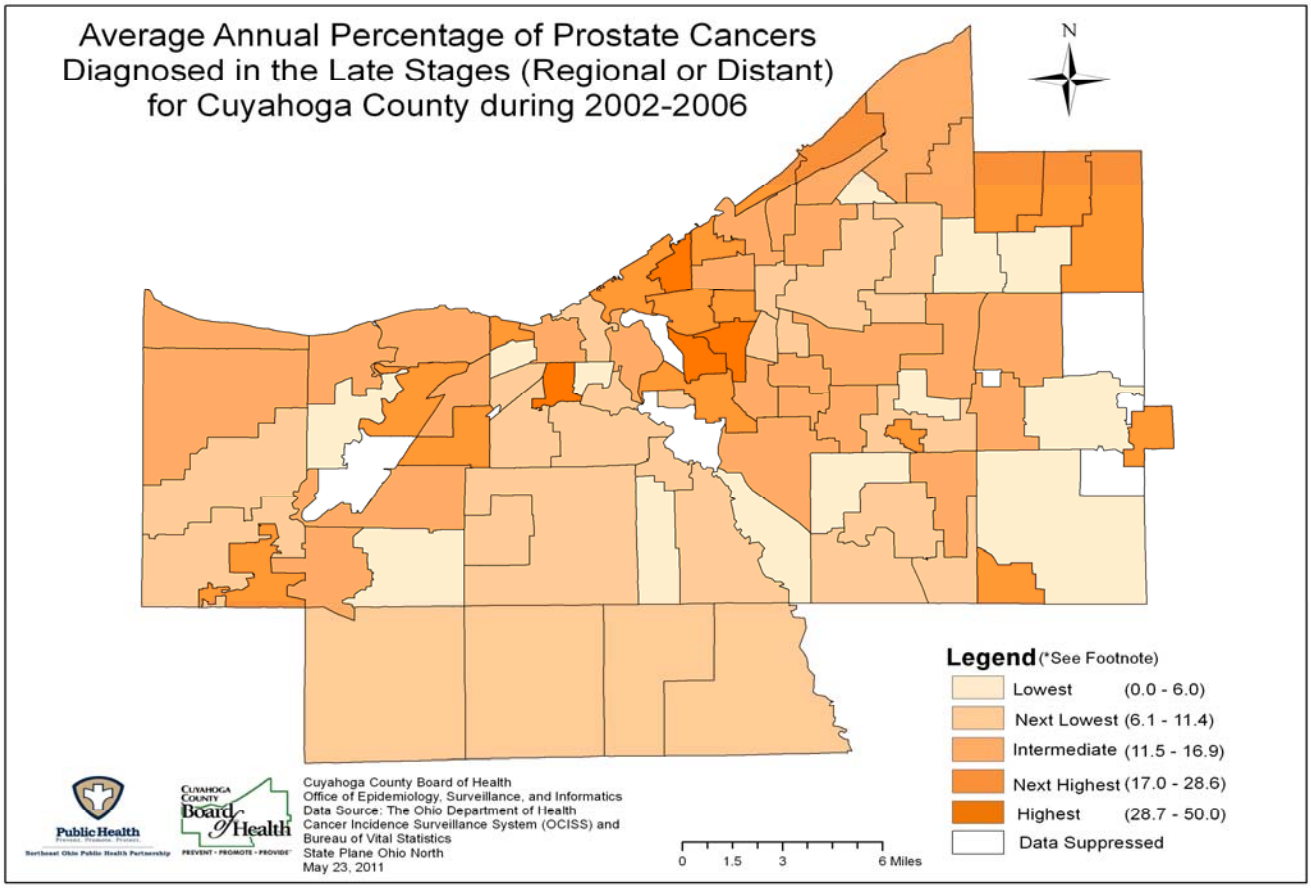


Figure 21d



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

Chart 21d

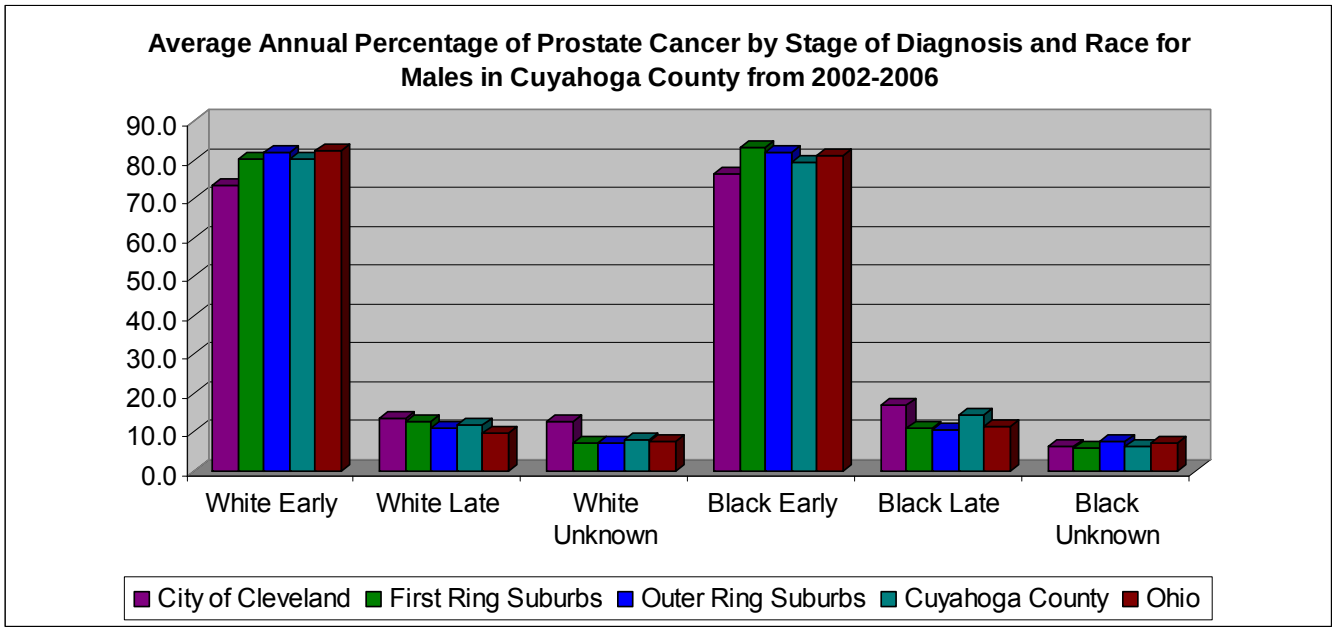
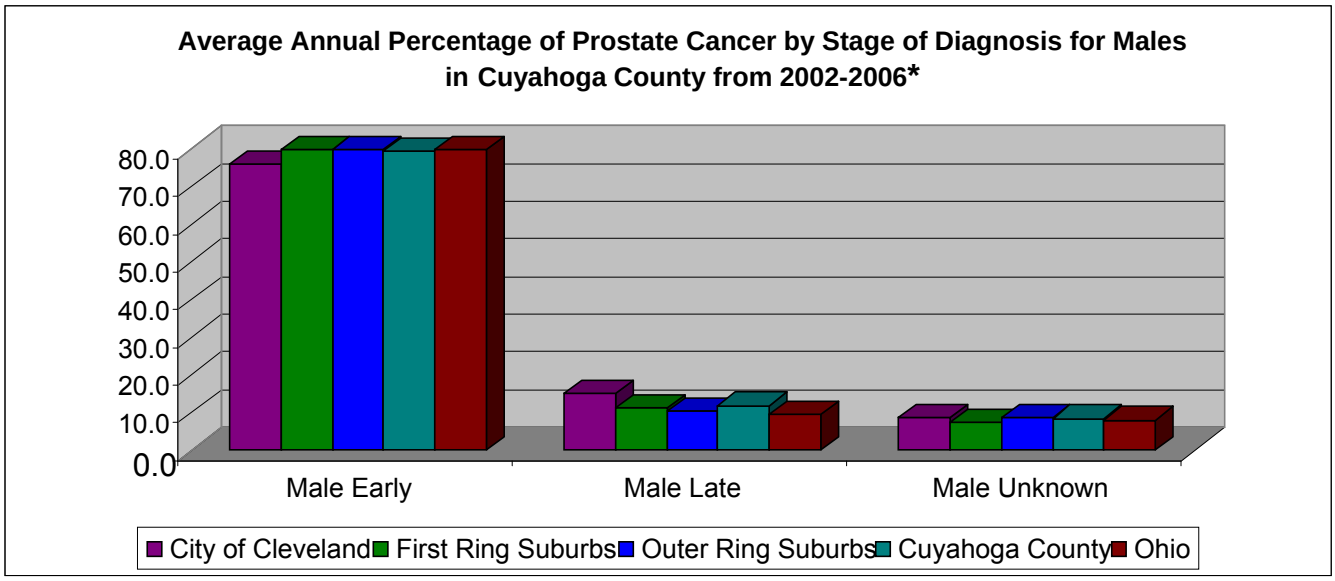


Chart 21e



*All races are included in staging calculations.

More Information

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. Prostate Cancer Detailed Guide. http://www.cancer.org/cancer/prostatecancer/index. (Accessed December 27, 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 Ohio Department of Health. Prostate Cancer. http://www.odh.ohio.gov/odhPrograms/pmlt/cancer/canctypes/prostatec.aspx. (Accessed December 27, 2010).
4. 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).
5. National Cancer Institute. What you need to know about prostate cancer. http://www.cancer.gov/cancertopics/wyntk/prostate/page2. (Accessed December 27, 2010).
6. National Cancer Institute. Cancer Staging. http://www.cancer.gov/cancertopics/factsheet/Detection/staging. (Accessed December 23, 2010).
7. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. http://www.odh.ohio.gov/odhPrograms/pmlt/cancer/canctypes/prostatec.aspx. (Accessed December 27, 2010).
8. National Cancer Institute. What you need to know about prostate cancer. Prostate images from http://www.cancer.gov/cancertopics/wyntk/prostate/page2. (Accessed December 27, 2010).